TERMS *of* TRADE

glossary

of International Economics

2nd Edition

Alan V. Deardorff

TERMS of TRADE

glossary of International Economics

2nd Edition

Have you ever wondered what a term in international economics means? This useful reference book offers a glossary of terms in both international trade and international finance, with emphasis on economic issues. It is intended for students getting their first exposure to international economics, although advanced students will also find it useful for some of the more obscure terms that they have forgotten or never encountered.

Besides an extensive glossary of terms that has been expanded about 50% from the first edition, there is a picture gallery of diagrams used to explain key concepts such as the Edgeworth Production Box and the Offer Curve Diagram in international economics. This section is followed by over 30 lists of terms that occur a lot in international economics, grouped by subject to help users find terms that they cannot recall.

Prior to an enlarged bibliography is an expanded section on the origins of terms in international economics which records what the author has been able to learn about the origins of some of the terms used in international economics. **This is a must-have portable glossary in international trade and international economics!**

World Scientific
www.worldscientific.com
8847 sc

ISBN 978-981-4518-59-8 (pbk)

TERMS *of* TRADE

glossary

of International Economics

2nd Edition

TERMS *of* TRADE

glossary

of International Economics

2nd Edition

Alan V. Deardorff

University of Michigan, USA

Printed in Singapore by World Scientific Printers.

World Scientific

NEW JERSEY · LONDON · SINGAPORE · BEIJING · SHANGHAI · HONG KONG · TAIPEI · CHENNAI

Published by

World Scientific Publishing Co. Pte. Ltd.

5 Toh Tuck Link, Singapore 596224

USA office: 27 Warren Street, Suite 401-402, Hackensack, NJ 07601

UK office: 57 Shelton Street, Covent Garden, London WC2H 9HE

Library of Congress Cataloging-in-Publication Data

Deardorff, Alan V.

Terms of trade : glossary of international economics / by Alan V. Deardorff. -- 2nd edition.

pages cm

Includes bibliographical references and indexes.

ISBN 978-9814518581 (hardcover)

ISBN 978-9814518598 (softcover)

1. International trade--Dictionaries. 2. International finance--Dictionaries. I. Title.

HF1373.D43 2014

330.03--dc23

2013041224

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

Copyright © Alan V. Deardorff 2014

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system now known or to be invented, without written permission from the publisher.

In-house Editor: Juliet Lee Ley Chin

Typeset by Stallion Press

Email: enquiries@stallionpress.com

Printed in Singapore by World Scientific Printers.

Contents

Introduction ix

Acknowledgments xiii

Part I Glossary of Terms in International Economics 1

1. A–Z 3
2. 0–9 476

Part II Picture Gallery 479

1. Edgeworth Production Box 481
2. Integrated World Economy Diagram 487
3. IS-LM-BP Diagram 490
4. Lerner Diagram 495
5. Offer Curve Diagram 504
6. Specific-Factors Model 513
7. Tariff in Partial Equilibrium 517
8. Trade and Transformation Curve Diagram 525

Part III Lists of Terms in International Economics by Subject 533

1. Arguments for Protection 535
2. Central Banks 536
3. Countertrade 536
4. Country Groups 537
5. Crises 537

6. Development Banks 537
7. Effects 538
8. Empirical Findings 539
9. Exchange Regimes 539
10. Fragmentation: Terms and Types 539
11. GATT and WTO Ministerials 540
12. GATT Articles 541
13. Indexes 543
14. International Classification Systems 544
15. International Commodity Agreements and Organizations 544
16. Memberships 545
17. Models 552
18. Nontariff Barriers 553
19. Other Nontariff Measures 554
20. Paradoxes and Puzzles 554
21. Preferential Trading Arrangements 554
22. Product-Specific Agreements, Institutions, and Conflicts 555
23. Regional Commissions for Economic and Social Development 555
24. Spanish Acronyms in International Economics 556
25. Techniques of Analysis 558
26. Terms of Trade Definitions 558
27. Theoretical Propositions 558
28. Trade Disputes 559
29. Trade Ministries 559
30. Trade Rounds 559
31. UNCTAD Meetings 560
32. United Nations Organizations 560

33. United States Government Units
(Dealing with International Economic Matters) 561

Part IV Origins of Terms in International
Economics 563

Bibliography 577

Introduction

Have you ever wondered about the meaning of a word, a phrase, or an acronym in international economics? I often do. So I have looked them up, written their definitions, and listed these in a glossary that I have assembled over the last dozen years on my web site. With that I have frequently been able to refresh my own failing memory, since having written the definitions, I often forget them. I originally thought I was doing this for my students, both undergraduate and graduate, and I know that at least some of them have made use of it. So have others, all over the world, judging from the feedback that they have given me electronically. And so can you, if you need to.

This volume puts on paper what until its first edition was only on the web. I expect that some people will find it more useful, but others less useful, than the web version, which I continue to maintain, although the information currently online — some written as early as 2000 — has been updated here to early 2013. On the web you can click on terms that are defined elsewhere on the site, and of course you can't do that here. But such terms are indicated with page references to tell you that, and where, they are defined. Much as we are all attached to our computers these days, many of us still take comfort from using a book, and even I think it useful to keep this beside me, as I read both news and scholarship about international economics.

As I do, I am sure that I will find numerous additions that I will want to make to this, and I will continue adding to the online version when I find the time, as I have since the first edition in 2006. The terms included here represent more than the beginning, but hardly the end, of an exhaustive effort to cover the field. With help from the many who have given me feedback, there is quite a bit here, including many terms that I would not have known about myself if others had not asked me about or suggested them. Since

the first edition in 2006, I have added about 50% more terms to the glossary. A few of the new terms now included are: BRICs; Grexit; Melitz model; Quantitative easing; Trans-Pacific Partnership; and of course Global Financial Crisis. This second edition is therefore that much larger, even though it is still inevitably incomplete.

The Glossary attempts, then, to cover all of the terms and concepts from international economics, including both international trade and international finance, at least at the introductory level. Because my own specialty is the economics of international trade, the coverage is inevitably much more thorough for that.

The **A-Z** and **0-9** glossary section includes definitions, cross references to definitions and orgins and, where appropriate, references to additional information elsewhere in the volume. The majority of the cross references are easy to follow (e.g., a cross reference to "capital" or "purchasing power parity" refers to the item of the same word or term, verbatim). In some cases, the references made are not verbatim — e.g., "biased", "price", and "mercantilist" (as they occur within the context of a definition) may be cross-referenced to the items "bias", "price definition" (not "price control" or "price elastic") and "mercantilism" respectively.

Besides the glossary of terms, there is a **picture gallery** of some diagrams used to explain key concepts in international economics. Each basic diagram is accompanied by variations of it showing how it can be used, together with explanations and notes on its use. This section is followed by an expanded set of **lists of terms** that occur frequently in international economics. Although most of these terms are defined in the glossary, this won't help you if you can't think of them. The lists group them by subject to aid you in recalling them.

The volume ends with a **bibliography** of sources of the terms mentioned in the glossary. Prior to the bibliography is a section on the **origins of terms** in international economics. This penultimate section of the Glossary records what I have been able to learn about the origins of some of the terms in international economics, especially in cases where a simple reference to a source in the bibliography is not sufficient. This section in the first edition was tiny,

with only a dozen terms. Now it has more than doubled, with 28 terms, but is still far short of what I hope to provide eventually.

If I attribute a concept or a term (naming it) to a particular author, that means that I have personally checked the source and seen it used in the way that I describe. However, if I say or imply that this was the *first* use of a concept or term, then I obviously cannot always know that with certainty. If you know of prior uses that should be mentioned, I would be most grateful if you would let me know, preferably by e-mail to alandear@umich.edu.

Acknowledgments

As usual I have benefited from talking with a long list of people about this project, starting with my trade colleagues at Michigan: Bob Stern, Jim Levinsohn, Gordon Hanson, Juan Carlos Hallak, and Andrei Levchenko. Others who have answered questions or made suggestions include, alphabetically, Jagdish Bhagwati, Patrick Conway, Mike Finger, Keith Head, Doug Irwin, John Jackson, Paul Krugman, Jay Levin, Steve Magee, Rachel McCulloch, Mitsuaki Shindo and Charles van Marrewijk. By the time this volume goes to print, there will probably be more people to whom I should be giving credit.

I also could never have done this without the help from my son, Ryan Deardorff, and my wife Pat. Ryan in particular, in the years since the first edition, has provided such a contribution to the online version's search facility that I now call it "Deardorffs' Glossary" rather than "Deardorff's Glossary."

I have taken full advantage of many other glossaries that are available. There are several on the web, including a surprising number dedicated to international trade. Many of these are apparently intended for those who actually do it, rather than for those of us who only study and teach about it.

In addition, I have consulted other sources including several textbooks, which are listed below. Some of these textbooks include their own glossaries of terms, which I have found especially useful both for identifying terms to define and for checking my own definitions.

- Bannock, Graham, R.E. Baxter, and Evan Davis (1998). *Penguin Dictionary of Economics*, 6th edition, New York, NY: Penguin Books.
- Bhagwati, Jagdish, Arvind Panagariya, and T.N. Srinivasan (1998). *Lectures on International Trade*, 2nd edition, Cambridge, MA: MIT Press.

- Black, John (1997). *A Dictionary of Economics*, New York, NY: Oxford University Press.
- Cavs, Richard E., Jeffrey A. Frankel, and Ronald W. Jones (1999). *World Trade and Payments: An Introduction*, 8th edition, Reading, MA: Addison Wesley Longman.
- Goode, Walter (1998). *Dictionary of Trade Policy Terms* 2nd edition, Centre for International Economic Studies, University of Adelaide.
- Helpman, Elhanan and Paul R. Krugman (1985). *Market Structure and Foreign Trade: Increasing Returns, Imperfect Compeition, and the International Economy*, Cambridge, MA: MIT Press.
- Hoekman, Bernard, Aaditya Mattoo, and Philip English (eds). (2002). *Development, Trade and the WTO: A Handbook*, Washington, DC: World Bank.
- Husted, Stevan and Michael Melvin (2001). *International Economics*, 5th edition, Boston, MA: Addison Wesley Longman.
- Jackson, John H (1997). *The World Trading System*, 2nd edition, Cambridge, MA: MIT Press.
- Jackson, John H. and William J. Davey (1986). *Legal Problems of International Economic Relations*, 2nd edition, St. Paul, MN: West Publishing Co.
- Jones, Ronald W. and Peter B. Kenen (1985). *Handbook of International Economics*, Amsterdam: North Holland.
- Krugman, Paul R. and Maurice Obstfeld (2000). *International Economics: Theory and Policy*, 5th edition, Reading, MA: Addision Wesley Longman.
- Laird, Sam and Alexander Yeats (1990). "A Glossary of Nontariff Measures." Appendix 4 in *Quantitative Methods for Trade Barrier Analysis*, New York: New York University Press.
- Mark, Christopher (1993). *The Language of International Trade: A Handbook of Concepts and Terms*, (September), Office of Resources, Trade and Technology, Trade and Finance Branch, RTT.
- Mikie, Mia (1998). *International Trade*, New York: St. Martin's Press.

- Obstfeld, Maurice and Kenneth Rogoff (1996). *Foundations of International Macroeconomics*, Cambridge, MA: MIT Press.
- Pearce, David W (1999). *The MIT Dictionary of Modern Economics*, 4th edition, Cambridge, MA: MIT Press.
- Wong, Kar-yiu (1995). *International Trade in Goods and Factor Mobility*, Cambridge, MA: MIT Press.

Part I
Glossary of Terms in International Economics

Above the line

In *balance of payments* (page 24) accounting, this refers to those transactions that are included in calculating the *balance of payments surplus* (page 25) or *deficit* (page 95). Transactions *below the line* (page 30), typically *official reserve transactions* (page 316) and sometimes *short term capital flows* (page 391), are not included.

Absolute advantage

The ability to produce a good at lower cost, in terms of real resources, than another country. In a *Ricardian model* (page 378), cost is in terms of only labor. Absolute advantage is neither necessary nor sufficient for a country to export a good. See *comparative advantage* (page 64).

Absolute advantage trade policy

The idea, advocated by opponents of *globalization* (page 187), that a country should import only goods in which other countries have an *absolute advantage* (see above), particularly goods that the importing country cannot (or cannot "reasonably") produce itself.

Absolute purchasing power parity

See *purchasing power parity* (page 356).

Absorption

1. Total demand for final goods and services by all residents (consumers, producers, and government) of a country (as opposed to total demand *for* that country's output). The term was introduced as part of the *absorption approach* (see below).

2. Also a synonym for *roll-up* (page 379).

Absorption approach

A way of understanding the determinants of the balance of trade, noting that it is equal to income minus absorption. Due to *Alexander (1952)* (page 577).

Abundant
Available in large supply. Usually meaningful only in relative terms, compared to demand and/or to supply at another place or time. See *factor abundance* (page 156).

Abundant factor
The factor in a country's *endowment* (page 132) with which it is best endowed, relative to other factors, compared to other countries. May be defined by quantity or by price.

Academic Consortium on International Trade
A group of academic economists and lawyers who are specialized in international trade policy and international economic law. ACIT's purpose is to prepare and circulate policy statements and papers that deal with important, current issues of international trade policy.

Accession
The process of adding a country to an international agreement, such as the *EU* (page 137), *GATT* (page 182), *NAFTA* (page 295), or *WTO* (page 472).

Accession country
A country that is waiting to become a member of the *EU* (page 137).

Accommodating transaction
In the *balance of payments* (page 24), a transaction that is a result of actions taken officially to manage international payments; in contrast with *autonomous transaction* (page 22). Thus *official reserve transactions* (page 316) are accommodating, as may be *short-term capital flows* (page 391) that respond to expectations of *intervention* (page 238).

Accumulation
The acquisition of an increasing quantity of something. The accumulation of *factors* (page 156), especially *capital* (page 45), is a primary mechanism for economic growth.

ACE
Automated Commercial Environment (page 21).

ACIT
Academic Consortium on International Trade (see above).

ACP countries
A group of less developed African, Caribbean, and Pacific countries that were included in the *Lomé Convention* (page 263) and now the *Cotonou Agreement* (page 78). As of December 2013, the group included 79 countries.

ACS
Association of Caribbean States (page 19).

ACTA
Anti-Counterfeiting Trade Agreement (page 14).

Actionable subsidy
A *subsidy* (page 414) that is not prohibited by the *WTO* (page 472) but that member countries are permitted to levy *countervailing duties* (page 79) against.

ACTPN
Advisory Committee on Trade Policy and Negotiations (page 8).

Actual protection rate
Implicit tariff (page 210).

AD
Anti-*dumping* (page 115).

Ad valorem
Per unit of value (i.e., divided by the price).

Ad valorem equivalent
The ad valorem *tariff* (page 421) that would be equivalent, in terms of its effects on trade, price, or some other measure, to a *nontariff barrier* (page 312).

Ad valorem tariff
Tariff (page 421) defined as a percentage of the value of an imported good.

ADB
1. *African Development Bank Group*(page 8).
2. *Asian Development Bank* (page 18).

ADD
Anti-*dumping* (page 115) duty.

Adding-up problem
The concern that if several developing countries expand their exports of the same good simultaneously, then the price of that

good in world markets will fall, worsening their *terms of trade* (page 429), perhaps lowering their export revenues and real incomes as a result.

Adjustable peg

An exchange rate that is *pegged* (page 330), but for which it is understood that the *par value* (page 327) will be changed occasionally. This system can be subject to extreme *speculative attack* (page 403) and *financial crisis* (page 164), since speculators may easily anticipate these changes.

Adjusted for inflation

Corrected for price changes to yield an equivalent in terms of goods and services. The adjustment divides nominal amounts for different years by price indices for those years — e.g., the *CPI* (page 81) or the *implicit price deflator* (page 210) — and multiplies by 100. This converts to *real* (page 363) values, i.e., valued at the prices of the *base year* (page 28) for the price index.

Adjustment assistance

Government program to assist those workers and/or firms whose industry has declined, either due to competition from imports (*trade adjustment assistance* (page 435)) or from other causes. Such programs usually have two (conflicting) goals: to lessen hardship for those affected, and to help them change their behavior — what, how, or where they produce.

Adjustment cost

The cost — temporary but sometimes severe — incurred by a person or firm in moving from one equilibrium to another. Many of the costs associated with *trade liberalization* (page 441) are adjustment costs and are not accounted for in the usual measures of *gains from trade* (page 181).

Adjustment mechanism

The theoretical process by which a market changes in disequilibrium, moving toward equilibrium if the process is stable. See *Marshallian* (page 277) and *Walrasian* (page 467) adjustment.

Administered price

A price for a good or service that is set and maintained by government, usually requiring accompanying restrictions *on trade* (page 374) if the administered price differs from the world price.

Administered protection

Protection (*tariff* (page 421) or *NTB* (page 314)) resulting from the application of any one of several statutes that respond to specified market circumstances or events, usually as determined by an *administrative agency* (see below). Several such statutes are permitted under the *GATT* (page 182), including *anti-dumping duties* (page 14), *countervailing duties* (page 79), and *safeguards protection* (page 381).

Administrative agency

A unit of government charged with the administration of particular laws. In the United States, those most important for administering laws related to international trade are the *ITC* (page 243) and *ITA* (page 243).

Administrative entry procedure

Formalities required to bring a product into a country. If these are unnecessarily difficult or time consuming, they constitute a *nontariff barrier* (page 312).

Administrative guidance

In the context of *trade policy* (page 442), this usually refers an informal system of Japanese *industrial policy* (page 220), called *gyosei-shido* (page 196), where official pronouncements serve as guidelines for *domestic* (page 111) businesses.

Advance deposit requirement

A requirement that some proportion of the value of imports, or of import duties, be deposited prior to payment, without competitive interest being paid.

Advanced country

Developed country (page 101).

Advantage

Usually refers to a *cost advantage* (page 78), though it could refer to a strategic advantage (such as *first mover advantage* (page 166)) or to a superiority of technology or quality.

Adverse selection

The tendency for insurance to be purchased only by those who are most likely to need it, thus raising its cost and reducing its benefits.

Adverse terms of trade
A *terms of trade* (page 429) that is considered unfavorable relative to some benchmark or to past experience. *Developing countries* (page 101) specialized in *primary products* (page 347) are sometimes said to suffer from adverse or declining terms of trade.

Advisory Committee on Trade Policy and Negotiations
The highest level of several committees that advise *USTR* (page 462) on *trade policy* (page 442) and *trade negotiations* (page 441). This one includes representatives of private-sector businesses, trade associations, unions, state and local governments, and other organizations.

AEC
1. *African Economic Community* (see below).
2. *ASEAN Economic Community* (page 17).

AEI
American Enterprise Institute (page 13).

African Development Bank Group
A multinational *development bank* (page 102) for Africa.

African Economic Community
An organization of African countries that aims to promote economic, cultural and social development among the African economies. Among other things, it intends to promote the formation of *FTAs* (page 178) and *customs unions* (page 90) among regional groups within Africa that will eventually merge into an African Common Market.

African Growth and Opportunity Act
U.S. legislation enacted May 2000 providing tariff *preferences* (page 342), as well as trade facilitation and technical assistance to African producers, to African countries that qualify. As of December 2013, 38 countries had been declared eligible.

AFTA
ASEAN Free Trade Area (page 17).

AG
Comparable to "Inc" in the U.S. and *Ltd* (page 264) in the U.K., this abbreviation for the German *Aktiengesellschaft* (page 11) indicates a limited-liability corporation.

Agenda 21

A plan of action adopted at the *Rio Summit* (page 379) to promote sustainable development.

Agent

1. An entity within the economy that makes economic decisions and engages on economic activity. Used to refer to individual consumers, households, and firms.

2. One who acts on behalf of someone else.

3. In *principal-agent theory* (page 347), the person whose job it is to act to the benefit of someone else (the *principal* (page 347)), but who may require some incentive to do so.

Agglomeration

The phenomenon of economic activity congregating in or close to a single location, rather than being spread out uniformly over space.

Agglomeration economy

Any benefit that accrues to economic agents as a result of having large numbers of other agents geographically close to them, thus tending to lead to *agglomeration* (see above). This is a basic feature of the *New Economic Geography* (page 305).

Aggregate

As an adjective or noun (with stress on the first syllable), this refers to the sum or total of multiple items. As a verb (with stress on the last syllable), this means to combine such items or add them up.

Aggregate demand

The total demand for a country's output, including demands for consumption, investment, government purchases, and net exports.

Aggregate measure of support

Variation of *aggregate measurement of support* (see below).

Aggregate measurement of support

The measurement of *subsidy* (page 414) to agriculture used by the *WTO* (page 472) as the basis for commitments to reduce the subsidization of agricultural products. It includes the value of price supports and direct subsidies to specific products, as well as payments that are not product specific.

Aggregate production possibility frontier
The *production possibility frontier* (page 351), or *production possibility curve* (page 351) obtained by adding the production possibilities of two or more countries or regions.

Aggregate supply
The total supply of a country's output, usually assumed to be an increasing function of its price level in the short run but independent of the price level in the long run.

Aggregate transformation curve
Aggregate production possibility frontier (see above).

Aggregation
The combining of two or more kinds of an economic entity into a single category. Data on international trade necessarily aggregate goods and services into manageable groups. For macroeconomic purposes, all goods and services are usually *aggregated* (page 9) into just one.

AGOA
African Growth and Opportunity Act (page 8).

Agrarian reform
Change in the policies affecting *agriculture* (page 11), usually including redistribution of land and sometimes also changes in other policies related to the inputs and outputs of agriculture.

Agreement on Agriculture
See *Agriculture Agreement* (page 11).

Agreement on Textiles and Clothing
The ten-year transitional program of the *WTO* (page 472) to phase out the quotas on textiles and apparel of the *MFA* (page 280).

Agreement on Trade in Civil Aircraft
A *plurilateral* (page 336) agreement within the *WTO* (page 472) eliminating *duties* (page 116) on aircraft (except military) and aircraft parts. It includes disciplines on *government procurement* (page 189) and inducements to purchase. As of December 2013, it had 32 *signatories* (page 392).

Agricultural good
A *good* (page 188) that is produced by *agriculture* (page 11). Contrasts with *manufactured good* (page 268).

Agriculture
Production that relies essentially on the growth and nurturing of plants and animals, especially for food, usually with land as an important input; farming. Contrasts with *manufacturing* (page 268).

Agriculture Agreement
The agreement within the *WTO* (page 472) that commits member governments to improve *market access* (page 272) and reduce trade-distorting *subsidies* (page 414) in agriculture, starting with the process of *tariffication* (page 424).

Aid
Assistance provided by countries and by international institutions such as the *World Bank* (page 470) to *developing countries* (page 101) in the form of monetary grants, loans at low interest rates, *in kind* (page 215), or a combination of these.

AID
See *USAID* (page 461).

Aid for trade
The strategy of promoting *economic development* (page 122) by helping countries to create or improve the *infrastructure* (page 222) needed to facilitate international trade. This was one of the intended components of the *Doha Round* (page 111) negotiations, and was institutionalized in a *WTO* (page 472) work program on Aid-for-Trade in the *Hong Kong Ministerial* (page 205).

Airbus
A subsidiary of EADS, Airbus is a company producing aircraft in Europe. It was originally backed by a consortium of four companies from four countries (France, Germany, Spain, and the U.K.) and their governments. That backing has been one of the subjects of the *Boeing-Airbus dispute* (page 36).

Aktiengesellschaft
See *AG* (page 8).

ALADI
Asociación Latinoamericana de Integración (Spanish for *Latin-American Integration Association* (page 252)).

ALCA

Acuerdo de Libre Comercio de las Américas (Spanish for *Free Trade Area of the Americas* (page 177)).

ALCAN

Acuerdo de Libre Comercio de América del Norte (Spanish for *North American Free Trade Agreement* (page 313)).

Alchian-Allen Theorem

The proposition, due to *Alchian and Allen (1964)* (page 577), that when the same absolute cost (as for transportation) is added to the prices of a low-price, low-quality good and a high-price, high-quality good, the relative demand for the latter will increase, since its relative price falls. Summarized as "shipping the good apples out," the result has been confirmed in international trade by *Hummels and Skiba (2004)* (page 586).

Allocation

An assignment of economic resources to uses. Thus, in *general equilibrium* (page 184), an allocation is an assignment of *factors* (page 156) to industries producing goods and services, together with the assignment of resulting final goods and services to consumers, within a country or throughout the world economy.

Allocative efficiency

Refers to whether or not an *allocation* (see above) is *efficient*. A change from an allocation that is not efficient, to one that is, may be termed an "increase" in allocative efficiency.

ALOP

Appropriate level of protection (page 15).

Alternative Trade Adjustment Assistance

An addition to the U.S. program of *trade adjustment assistance* (page 435), enacted in 2002, that provides *wage insurance* (page 466) for a limited group of older workers.

Amber box

The category of *subsidies* (page 414) in the *WTO* (page 472) the total value of which is to be reduced. The term is used primarily in the *Agriculture Agreement* (page 11) and includes most domestic support measures that distort production and trade. Also called *orange box* (page 323). See *box* (page 38).

American Enterprise Institute

American Enterprise Institute for Public Policy Research is a think tank doing research and writing on "issues of government, politics, economics, and social welfare," including international economics. Politically, it is somewhat right-of-center, providing a home for U.S. Republicans when not in government. Contrasts with the *Brookings Institution* (page 40).

Amicus brief

A document filed in a legal proceeding by an interested party who is not directly part of the case. In the *WTO* (page 472) an issue has been whether to permit dispute settlement *panels* (page 326) to accept such submissions, especially from *NGOs* (page 307).

Amortization

The deduction of an expense in installments over a period of time, rather than all at once.

Amplitude

The extent of the up and down movements of a fluctuating economic variable; that is, the difference between the highest and lowest values of the variable. See *destabilizing speculation* (page 100).

AMS

Aggregate measure of support (page 9).

Analytical technique

See *technique of analysis* (page 427).

ANCERTA

Australia-New Zealand Closer Economic Relations Trade Agreement (page 20). Also ANZCERTA or just *CER* (page 54).

Andean Community

An organization currently (December 2013) of four Andean countries — Bolivia, Colombia, Ecuador, and Peru — formed in 1997 out of the *Andean Pact* (page 14) (Venezuela ceased membership in 2006). It provides for economic and social integration, including regional trade liberalization and a common external tariff, as well as harmonization of other policies.

Andean Pact
The *Cartagena Agreement* (page 51) of 1969, which provided for economic cooperation among a group of five Andean countries; predecessor to the *Andean Community* (page 13).

Andean Trade Promotion and Drug Eradication Act
U.S. legislation enacted in 2002 authorizing the U.S. President to provide *tariff preferences* (page 423) to countries in the Andean region in connection with the effort to curtail production of illegal drugs.

Annecy Round
The second (1949) of the *trade rounds* (page 443) conducted under the auspices of the *GATT* (page 182).

Ante
See *ex ante* (page 142).

Anti-competitive
Contributing to *market power* (page 274) and associated behavior, especially including prices above those that would occur with *perfect competition* (page 332).

Anti-Counterfeiting Trade Agreement
A *plurilateral* (page 336) agreement signed on 1 October 2011, to combat the "proliferation of commercial-scale counterfeiting and piracy" in the realm of *intellectual property* (page 225).

Anti-dumping duty
Tariff levied on *dumped* (page 115) imports. The threat of an anti-dumping duty can deter imports, even when it has not been used, and anti-dumping law is therefore a form of *nontariff barrier* (page 312).

Anti-dumping suit
A complaint by a domestic producer that imports are being *dumped* (page 115), and the resulting investigation and, if dumping and injury are found, *anti-dumping duty* (see above).

Anti-trust policy
U.S. term for *competition policy* (page 66), motivated by its initial purpose of breaking up *trusts* (page 452).

AOA
Agreement on Agriculture (page 10).

APC

Average propensity to consume (page 23).

APEC

Asia-Pacific Economic Cooperation (page 17).

Apparel

Clothing. The apparel sector is important for trade because, as a very *labor intensive* (page 249) sector, it is a likely source of *comparative advantage* (page 64) for *developing countries* (page 101). See *textiles and apparel* (page 430).

Apparent consumption

Production plus imports minus exports, sometimes also adjusted for changes in inventories. The intention here is not to distinguish different uses for a good within the country, but only to infer the total that is used there for any purpose.

Appellate Body

The standing committee of the *WTO* (page 472) that reviews decisions of dispute settlement *panels* (page 326).

Appellation of origin

A *geographical indication* (page 185).

Applied tariff rate

The actual *tariff* (page 421) rate in effect at a country's border.

Appreciate

See *appreciation* (below).

Appreciation

A rise in the value of a country's currency on the *exchange market* (page 143), relative either to a particular other currency or to a weighted average of other currencies. The currency is said to *appreciate* (see above). Opposite of *depreciation* (page 99).

Appropriate level of protection

In the *SPS Agreement* (page 404) of the *WTO* (page 472), the acceptable level of risk to health that WTO members are entitled to pursue through SPS measures.

APT

ASEAN Plus Three (page 17).

Arab League

Informal name of the *League of Arab States* (page 254).

Arbitrage
A combination of transactions designed to profit from an existing discrepancy among prices, exchange rates, and/or interest rates on different markets without risk of these changing. Simplest is simultaneous purchase and sale of the same thing in different markets, but more complex forms include *triangular arbitrage* (page 450) and *covered interest arbitrage* (page 81).

Arc elasticity
See *elasticity* (page 129).

Argument for protection
A reason given (not necessarily a good one) for restricting imports by *tariffs* (page 421) and/or *NTBs* (page 314).

Arm's length price
The price of a product in a transaction between unrelated buyer and seller. Contrasts with *transfer price* (page 447).

Armington assumption
The assumption that internationally traded products are *differentiated* by *country of origin* (page 79). Due to *Armington (1969)* (page 577) in an international macroeconomic context, but now a standard assumption of international *CGE* (page 55) models, used to generate smaller and more realistic responses of trade to price changes than implied by *homogeneous products* (page 204).

Armington elasticity
The *elasticity of substitution* (page 129) between products of different countries.

Arrangement on Export Credits
A "gentlemen's agreement" among governments of the *OECD* (page 316) to limit the generosity of the terms and conditions of *export credits* (page 149) that they provide.

Article
A specific section of a negotiated agreement.

Article XIX
The *Safeguards Clause* (page 381) of the *GATT* (page 182).

Article XXIV
The article of the *GATT* (page 182) that permits countries to form *free trade areas* (page 177) and *customs unions* (page 90) as exceptions to the *MFN* (page 280) principle.

AS-AD
The model and/or diagram that determines the level of aggregate economic activity through the interaction of *aggregate supply* (page 10) and *aggregate demand* (page 9).

ASEAN
Association of Southeast Asian Nations (page 19).

ASEAN+3
ASEAN Plus Three (see below).

ASEAN+6
ASEAN Plus Six (see below).

ASEAN Economic Community
The goal of *ASEAN* (see above) to become more fully integrated economically by 2015, achieving a single market and other objectives.

ASEAN Free Trade Area
A *free trade area* (page 177) announced in 1992 among the ASEAN countries that is in the process of being implemented. It does not quite meet the normal definition of an *FTA* (page 178), however, in that tariffs on imports from members are not necessarily zero, but rather given by the *common effective preferential tariff* (page 62).

ASEAN Plus Six
The group of countries included in *ASEAN* (see above) augmented to also include China, Japan, South Korea, India, Australia, and New Zealand. This group has met occasionally to pursue cooperation.

ASEAN Plus Three
The group of countries included in *ASEAN* (see above) augmented to also include China, Japan, and South Korea. Since 1997, this group has met periodically to pursue many areas of cooperation.

Asia-Pacific Economic Cooperation
An organization of countries in the Asia-Pacific region, launched in 1989 and devoted to promoting open trade and practical economic cooperation. As of December 2013, APEC had 21 member countries (refer to the list on page 545).

Asian Crisis
A major *financial crisis* (page 164) that began in Thailand in July 1997 and quickly spread to other East Asian countries.

Asian Development Bank
A multilateral institution based in Manila, Philippines, that provides financing for development needs in countries of the Asia-Pacific region. As of December 2013, ADB reported having 67 member countries, of which 48 were within Asia.

Asian Tigers
The *Four Tigers* (page 175).

Asset
An item of property, such as land, *capital* (page 45), money, a share in ownership, or a claim on others for future payment, such as a *bond* (page 36) or a bank deposit.

Asset approach
A theory of determination of the *exchange rate* (page 144) that focuses on its role as the price of an asset. With high *capital mobility* (page 48), equilibrium requires that expected *returns* (page 375) on comparable domestic and foreign assets be the same.

Asset bubble
See *bubble* (page 40).

Asset position
See *net foreign asset position* (page 303).

Assignment problem
How to use macroeconomic policies to achieve both *internal balance* (page 228) and *external balance* (page 154); specifically, with only *monetary* (page 286) and *fiscal* (page 167) policies available under *fixed exchange rates* (page 168), which instrument should be "assigned" to which goal? *Mundell (1962)* (page 592) showed that monetary policy should be assigned to external balance.

Assimilative capacity
The extent to which the environment can accommodate or tolerate pollutants.

Assist
A service or other input to production provided by an importer to the foreign exporter, the value of which must be added to the *invoice* (page 240) price in calculating its value for *customs* (page 89) purposes.

Association agreement
Early predecessor to the *Europe agreements* (page 139) but excluding provision for political dialogue.

Association of Caribbean States
A group of 25 countries of the Caribbean that signed a convention in 1994 to foster "consultation, cooperation and concerted action."

Association of Natural Rubber Producing Countries
An intergovernmental organization, formed by natural rubber producing countries to promote the overall interests of the commodity. See *international commodity agreement* (page 231).

Association of Southeast Asian Nations
An organization of countries in southeast Asia, the purpose of which is to promote economic, social, and cultural development as well as peace and stability in the region. Starting with five member countries in 1967, it had expanded to ten members as of December 2013.

ASWP
Any safe world port. Meaning that the product offered with this designation will be delivered to essentially anywhere in the world.

Asymmetric information
The failure of two parties to a transaction to have the same relevant information. Examples are buyers who know less about product quality than sellers, and lenders who know less about likely *default* (page 95) than borrowers. Both are common in international markets.

Asymmetric shock
An *exogenous* (page 146) change in *macroeconomic* (page 266) conditions affecting differently the different parts of a country, or different countries of a region. Often mentioned as a source of difficulty for countries sharing a *common currency* (page 62), such as the *euro zone* (page 138).

At par
At equality. Two currencies are said to be "at par" if they are trading one-for-one. The significance is more psychological then economic, but the long decline of the Canadian dollar "below

par" with the U.S. dollar, and the more recent variation of the *euro* (page 138) between above and below par, also with the U.S. dollar, has been cause for concern.

At sight

See *payment at sight* (page 330).

ATAA

Alternative Trade Adjustment Assistance (page 12).

ATC

Agreement on Textiles and Clothing (page 10).

Atlantic Council

An organization based in Washington, DC, that seeks to promote leadership and engagement in international affairs.

Atlas method

The method used by the *World Bank* (page 470) for comparison of national incomes (*GNI* (page 188) or *GNP* (page 188)) across countries. It essentially uses *nominal exchange rates* (page 308) averaged over three years with adjustment for *inflation* (page 221) at home and abroad. Contrasts with the *PPP method* (page 341).

ATPDEA

Andean Trade Promotion and Drug Eradication Act (page 14).

Attrition

The decline in employment in a firm or industry that occurs naturally due to workers' quitting or retiring. The pain of shrinking an industry due, say, to *trade liberalization* (page 441) is minimized if it can be accomplished through attrition. In the U.K., attrition is called *natural wastage* (page 299).

Auction quota

An import *quota* (page 360) that is allocated by selling the rights to the highest bidder. The auction price then provides a market-determined measure of the quota's *ad valorem equivalent* (page 5).

Australia-New Zealand Closer Economic Relations Trade Agreement

A free trade agreement formed in 1983 between Australia and New Zealand. Said to be one of the most comprehensive bilateral

free trade agreements in the world, it was also the first to include trade in services. Identified as ANCERTA, ANZCERTA, or CER (page 54).

Autarkic

Associated with the situation of *autarky* (see below).

Autarky

The situation of *not* engaging in international trade; self-sufficiency. (Not to be confused with "autarchy," which in at least some dictionaries is a political term rather than an economic one, and means absolute rule or power.)

Autarky equilibrium

In a model of an economy, the configuration of prices and quantities at which quantities supplied and demanded within the economy are equal, so that no trade would take place even if it were permitted.

Autarky price

Price in autarky; that is, the price of something within a country when it is not traded by that country. Relative autarky prices turn out to be the most theoretically robust (but empirically elusive) measures of *comparative advantage* (page 64).

Authors' rights

Copyright (page 76) (term used primarily in Latin America).

Auto Pact

See *Canada-US Auto Pact* (page 44).

Automated Commercial Environment

An online system developed by U.S. Customs and Border Protection to process international trade.

Automatic licensing

The *licensing* (page 258) of imports or exports for which licenses are assured, for gathering information, or as a holdover from when licenses were not automatic. Depending on how the licensing is administered, automatic licensing can add to the bureaucratic and/or time cost of trade.

Automatic stabilizer

An institutional feature of an economy that dampens its macroeconomic fluctuations, e.g., an income tax, which acts like a tax increase in a boom and a tax cut in a recession.

Automaticity

The feature of the *WTO* (page 472) *dispute settlement mechanism* (page 108) whereby *panel reports* (page 326) are adopted automatically unless blocked by a unanimous vote of the membership (but then are subject to review by the *Appellate Body* (page 15)). Under the prior *GATT* (page 182), unanimity was required to adopt, rather than reject, panel reports.

Autonomous

Refers to an economic variable, magnitude, or entity that is caused independently of other variables that it may in turn influence; *exogenous* (page 146).

Autonomous consumption

That portion of consumption that is *autonomous* (see above). For example, if the *consumption function* (page 73) has the form $C = C_0 + cY$, where C_0 and c are parameters and Y is income, then C_0 may be called autonomous consumption. An increase in autonomous consumption then represents an upward shift in the consumption function.

Autonomous transaction

In the *balance of payments* (page 24), a transaction that is not itself a result of actions taken officially to manage international payments; in contrast with *accommodating transaction* (page 4).

Availability theory

A theory of the determinants of international trade, due to *Kravis (1956)* (page 588), that says that countries import what they do not have available domestically and export what they do. The theory can be said to encompass explanations of trade that stress *factor endowments* (page 157), *technological differences* (page 427), and *product differentiation* (page 350).

AVE

Ad valorem equivalent (page 5).

Average cost

Total cost divided by output.

Average product

The average product of a *factor* (page 156) in a firm or industry is its output divided by the amount of the factor employed.

Average propensity
The fraction of total income spent on an activity, such as consumption or imports. See *propensity* (page 353).

Average propensity to consume
The fraction of total (or perhaps *disposable* (page 108)) income spent on consumption. Contrasts with *marginal propensity to consume* (page 270).

Average propensity to import
The fraction of total income spent on imports; thus the ratio of *imports* (page 211) to *GDP* (page 183). Contrasts with *marginal propensity to import* (page 270).

Average tariff
An average of a country's tariff rates. This can be calculated in several ways, none of which are ideal for representing how protective the country's tariffs are. Most common is the *trade-weighted average tariff* (page 445), which under-represents *prohibitive tariffs* (page 353), since they get zero weight.

Average tax rate
The amount paid as tax as a fraction of the amount being taxed. In the case of an *income tax* (page 217), the total amount of tax as a fraction of total income. Contrasts with *marginal tax rate* (page 271).

Back office
Refers to the activities of a firm that are necessary to its functioning but are not directly part of production, such as accounting. Such activities, despite the name that suggests a location behind the shop or shop floor, are increasingly done at remote locations, including in other countries, as *business process outsourcing* (page 42).

Backward bending

Refers to a curve that reverses direction, usually if, after moving out away from an origin or axis, it then turns back toward it. The term is used most frequently to describe supply curves for which the quantity supplied declines as price rises above some point, as may happen in a labor supply curve, the supply curve for *foreign exchange* (page 171), or an *offer curve* (page 316).

Backward indexation

The setting of wages based in part on past performance of prices.

Backward integration

Acquisition by a firm of its suppliers.

Backward linkage

The use by one firm or industry of produced inputs from another firm or industry.

BAFFLING PIGS and DUKS

Acronyms for the 12 original members and non-members of the *euro zone* (page 138). BAFFLING PIGS = Belgium, Austria, Finland, France, Luxembourg, Ireland, Netherlands, Germany, Portugal, Italy, Greece, and Spain. DUKS = Denmark, United Kingdom, and Sweden.

Bailout

The provision, usually by a government, of funds to a firm or to another government in danger of *insolvency* (page 224) so as to prevent them from *defaulting* (page 95) on their debt.

Balance of indebtedness

See *net foreign asset position* (page 303).

Balance of merchandise trade

The value of a country's merchandise exports minus the value of its merchandise imports.

Balance of payments

1. A list, or accounting, of all of a country's international transactions for a given time period, usually one year. Payments into the country (receipts) are entered as positive numbers, called *credits* (page 82); payments out of the country (payments) are entered as negative numbers called *debits* (page 92).

2. A single number summarizing all of a country's international transactions: the *balance of payments surplus* (see below).

Balance of payments adjustment mechanism

Any process, especially any automatic one, by which a country with a *payments imbalance* (page 330) moves toward *balance of payments equilibrium* (see below). Under the *gold standard* (page 188), this was the *specie flow mechanism* (page 402).

Balance of payments argument for protection

A common reason for restricting imports, especially under *fixed exchange rates* (page 168), when a country is losing *international reserves* (page 236) due to a *trade deficit* (page 438). It can be said that this is a *second-best argument* (page 385), since a *devaluation* (page 101) could solve the problem without distorting the economy and therefore at smaller economic cost.

Balance of payments deficit

A negative *balance of payments surplus* (see below).

Balance of payments equilibrium

Meaningful only under a *pegged exchange rate* (page 330), this referred to equality of *credits* (page 82) and *debits* (page 92) in the *balance of payments* (page 24) using a traditional definition of the *capital account* (page 45). A *surplus* (page 418) or *deficit* (page 95) implied changing *official reserves* (page 316), so that something might ultimately have to change.

Balance of payments surplus

A number summarizing the state of a country's international transactions, usually equal to the *balance on current account* (page 26) plus the *balance on financial account* (page 26), but excluding *official reserve transactions* (page 316), or omitting also other volatile short-term financial-account transactions. It indicates the stress on a regime of *pegged exchange rates* (page 330).

Balance of trade

The value of a country's exports minus the value of its imports. Unless specified as the *balance of merchandise trade* (page 24), it normally incorporates trade in services, including earnings (interest, dividends, etc.) on financial assets. Term dates back to 1615 (refer to term's origin on page 565).

Balance on capital account

A country's receipts minus payments for *capital account* (page 45) transactions.

Balance on current account

A country's receipts minus payments for *current account* (page 88) transactions. Equals the *balance of trade* (page 25) plus net inflows of *transfer payments* (page 447).

Balanced budget

1. A government *budget surplus* (page 41) that is zero, thus with net tax revenue equaling expenditure.

2. A balanced budget change in policy or behavior is one in which a component of the government budget, usually taxes, is adjusted as necessary to maintain a balanced budget.

Balanced growth

Growth of an economy in which all aspects of it, especially *factors of production* (page 158), grow at the same rate.

Balanced trade

1. A *balance of trade* (page 25) equal to zero.

2. The assumption that the *balance of trade* (see above) must be zero in equilibrium, as would be the case with a *floating exchange rate* (page 169) and no *capital flows* (page 47). This is a standard assumption in *real models* (page 365) of international trade, which exclude financial assets.

Balassa Index

See *revealed comparative advantage* (page 376).

Balassa-Samuelson Effect

The hypothesis that increase in *productivity* (page 352) of *tradables* (page 435) relative to *nontradables* (page 312), if more than abroad, will cause *appreciation* (page 15) of the *real exchange rate* (page 364) and thus the *Penn Effect* (page 331). Due to *Balassa (1964)* (page 578) and *Samuelson (1964)* (page 595); also *Harrod (1933)* (page 585), and thus called the *Harrod-Balassa-Samuelson Effect* (page 198).

Baldwin envelope

The *consumption possibility frontier* (page 73) for a large country, constructed as the *envelope* (page 133) formed by moving the

foreign *offer curve* (page 316) along the country's *transformation curve* (page 448). Due to *Baldwin (1948)* (page 578).

Baltic countries

Estonia, Latvia, and Lithuania.

Baltic Dry Index

An *index* (page 218) of the rates charged for chartering large ships that transport coal, iron ore, and grain. It is regarded as a useful indicator of the current level of world trade.

Banana war

A *trade dispute* (page 438) between the *EU* (page 137) and the U.S. over EU preferences for bananas from former colonies. On behalf of U.S.-owned companies exporting bananas from South America and the Caribbean, the U.S. complained to the *WTO* (page 472), which ruled in favor of the U.S.

Bancor

The international currency proposed by Keynes for use as the basis for the international monetary system that was being constructed at the end of World War II. Instead, the *Bretton Woods System* (page 39) that emerged was based on the U.S. dollar. See also *new bancor* (page 305).

Bank for International Settlements

An international organization that acts as a bank for *central banks* (page 52), fostering cooperation among them and with other agencies.

Bank rate

The interest rate charged by a central bank to commercial banks for very short term loans; the *discount rate* (page 106).

Bankruptcy

The legal process that a person or firm goes through if they are unable to pay their debts. The process seeks an orderly sharing of the losses by *creditors* (page 82) and a chance to start fresh, usually after some delay, for the debtor. No such process exists for national governments or countries, exacerbating the problems of *debt crisis* (page 93) and *financial crisis* (page 164).

Banque Ouest Africaine de Developpement
The West African Development Bank, BOAD serves as a *development bank* (page 102) for Bénin, Burkina, Côte d'Ivoire, Guinée Bissau, Mali, Niger, Sénégal, and Togo.

Barcelona Process
The *Euro-Mediterranean Partnership* (page 138).

Barrier
1. Any impediment to the international movement of goods, services, capital, or other factors of production. Most commonly a *trade barrier* (page 436).
2. An *entry barrier* (page 133).

Barro Misery Index
See *misery index* (page 283).

Barter
The exchange of goods for goods, without using money. One of several forms of *countertrade* (page 79).

Barter economy
An economic model of international trade in which goods are exchanged for goods without the existence of money. Most theoretical trade models take this form in order to abstract from macroeconomic and monetary considerations.

Barter terms of trade
Can refer to either the *net barter terms of trade* (page 303) or the *gross barter terms of trade* (page 192), which are equal under balanced trade. Term was *introduced* by *Taussing (1927)* (page 597).

Base money
Monetary base (page 285).

Base year
The year used as the basis for comparison by a price index such as the *CPI* (page 81). The index for any year is the average of prices for that year compared to the base year; e.g., 110 means that prices are 10% higher than in the base year. The base year is also the year whose prices are used to value something in *real* (page 363) terms or after *adjusting for inflation* (page 6).

Basel I
The *Basel Capital Accord* (see below).

Basel II
A substantially revised set of standards for capital adequacy of banks, with an agreed text first issued in June 2004.

Basel Capital Accord
Also known at *Basel I* (see above), this was an agreement in 1988 by the Basel Committee of *central bankers* (page 52) to measure the credit risk of commercial banks and set minimum standards for bank capital in order to reduce the likelihood of international repercussions due to bank failures.

Basic balance
One of the more frequently used measures of the *balance of payments surplus or deficit* (page 25) under *pegged exchange rates* (page 330), the basic balance was equal to the *current account balance* (page 88) plus the balance of *long-term capital flows* (page 263).

Basic import price
See *minimum price system* (page 282).

Basic needs
See *living wage* (page 261).

Basis point
One-hundredth of a percentage point. Small changes in *interest rates* (page 227) are commonly measured in basis points.

Basket
See *currency basket* (page 85).

Bastable's test
One of two conditions needed for *infant industry protection* (page 221) to be welfare-improving, this requires that the protected industry be able to pay back an amount equal to the national losses during the period of protection. See also *Mill's test* (page 282).

BEA
Bureau of Economic Analysis.

Beachhead effect
The idea that if costs of entering a market, such as through exports, become *sunk costs* (page 415), then a temporary change

in market conditions such as an exchange rate can cause a lasting change in trade patterns. As one explanation for *hysteresis* (page 207) in international trade, this was named by *Baldwin (1988)* (page 578).

Beef hormone case

A *trade dispute* (page 438) that began in 1989 when the *EC* (page 119) banned imports of beef from cows that had been injected with growth hormones, arguing that the health effects of these hormones were suspect. The U.S. eventually complained under the *WTO* (page 472) in 1996, arguing the absence of scientific evidence of any harm, and in 1997 the WTO *panel* (page 326) agreed with the U.S.

Beggar thy neighbor

For a country to use a policy for its own benefit that harms other countries. Examples are *optimal tariffs* (page 322) and, in a recession, tariffs and/or *devaluation* (page 101) to create employment.

Behind the border barriers

This refers to a variety of *nontariff barriers* (page 312) that operate inside countries rather than at the border, but that nonetheless can restrict trade. Examples include *technical barriers to trade* (page 426), labeling requirements, and *sanitary and phytosanitary regulations* (page 382).

Bell Trade Act

Enacted by the U.S. Congress in 1946, this specified economic conditions for Philippine independence from the U.S., including the exchange rate, access to resources, and trade barriers. Some of this was revised in the *Laurel-Langley Agreement* (page 252).

Below the line

See *above the line* (page 3).

Benefit-cost analysis

Same as *cost-benefit analysis* (page 78).

Benelux

1. A word referring to a grouping of the three countries, Belgium, Netherlands, and Luxembourg. Claimed by *The Economist*

(page 125) (May 3, 2008) to have been coined in August 1946 by its Belgian correspondent.

2. The economic union of the three Benelux countries, initially a *customs union* (page 90), later an *economic union* (page 125), and now part of the *European Union* (page 141).

Benign neglect

Refers to doing nothing about a problem, in the hope that it will not be serious or will be solved by others. Said to be U.S. policy toward its *balance of payments* (page 24) *deficit* (page 95) in the late 1960s, based on other countries' need for dollar *reserves* (page 373).

Bergsonian social welfare function

A *social welfare function* (page 397) that takes as arguments only the levels of utility of the individuals in society. Due to *Bergson (1938)* (page 578) as interpreted by *Samuelson (1981)* (page 595). Also called a *Bergson-Samuelson social welfare function.*

Berne Convention

The *Berne Convention for the Protection of Literary and Artistic Works* requires that *signatory* (page 392) countries provide *national treatment* (page 298) in the protection of *copyrights* (page 76). See also the *Universal Copyright Convention* (page 460).

Bertrand competition

The assumption, sometimes assumed to be made by firms in an *oligopoly* (page 318), that other firms hold their prices constant as they themselves change behavior. Contrasts with *Cournot competition* (page 80). Both are used in models of international oligopoly, but Cournot competition is used more often.

Better Factories Cambodia

A program of the *International Labor Organization* (page 234) initiated in 2001 to improve working conditions in the garment factories of Cambodia producing for export. It grew out of a *trade agreement* (page 435) between Cambodia and the United States, in which the U.S. promised to permit greater imports from Cambodia in return for improved working conditions.

Bias

1. Bias of technology, either change or difference, refers to a shift toward or away from use of a *factor* (page 156). The exact meaning depends on the definition of *neutral* (page 305) used to define absence of bias. *Factor bias* (page 156) matters for the effects of technological progress on trade and welfare.

2. Bias of a trade regime refers to whether the structure of *protection* (page 354) favors importables or exportables, based on comparing their *effective rates of protection* (page 127). If these are equal, the trade regime is said to be *neutral* (page 305).

3. Bias of growth refers to *economic growth* (page 122) through *factor accumulation* (page 156) and/or *technological progress* (page 427) and whether if favors one sector or another. Growth is said to be *export biased* (page 148) if the export sector expands faster than the rest of the economy, *import biased* (page 211) if the import-competing sector does so.

Biased growth

See *bias* (see above).

Bickerdike-Robinson-Metzler Condition

In the *elasticities approach* (page 129) to analyzing effects of exchange rates, the condition for a *depreciation* (page 99) to have a positive effect on the *trade balance* (page 436): $[\eta_X\eta_M(1+\varepsilon_X+\varepsilon_M)-\varepsilon_X\varepsilon_M(1-\eta_X-\eta_M)]/[(\varepsilon_X+\eta_X)(\varepsilon_M+\eta_M)]>0$, where $\varepsilon_I(\eta_I)$ is the supply (demand) elasticity of $I=X,\ M$ exports and imports respectively. If supply elasticities are infinite, it reduces to the *Marshall-Lerner Condition* (page 276). Due to *Bickerdike (1920)* (page 580), *Robinson (1947)* (page 594), and *Metzler (1948)* (page 591).

Bicycle theory

With regard to the process of *multilateral* (page 292) *trade liberalization* (page 441), the theory that if it ceases to move forward (i.e., achieve further liberalization), then it will collapse (i.e., past liberalization will be reversed). The idea was suggested by *Bergsten (1975)* (page 578) and named by him in *Bergsten and Cline (1982, p. 71)* (page 579), if not before.

BID

Banco Interamericano de Desarrollo (Spanish for *Inter-American Development Bank* (page 226)).

Bid/ask spread

The difference between the price that a buyer must pay on a market and the price that a seller will receive for the same thing. The difference covers the cost of, and provides profit for, the broker or other intermediary, such as a bank on the foreign exchange market.

Big Mac Index

An index of *PPP exchange rates* (page 340) based solely on the prices of the Big Mac sandwich in McDonald's restaurants around the world, published each spring by *The Economist* (page 125).

Bilateral

Between two countries, in contrast to *plurilateral* (page 336) and *multilateral* (page 292).

Bilateral agreement

An agreement between two countries, as opposed to a *multilateral agreement* (page 292).

Bilateral aid

Aid (page 11) from a single donor country to a single recipient country, in contrast to *multilateral aid* (page 292).

Bilateral exchange rate

The *exchange rate* (page 144) between two countries' currencies, defined as the number of units of either currency needed to purchase one unit of the other.

Bilateral investment treaty

An agreement between two countries on how their countries will deal with *foreign direct investment* (page 171) between them. BITs typically give investors in the *host country* (page 206) certain rights, so as to encourage investment.

Bilateral quota

An import (or export) *quota* (page 360) applied to trade with a single trading partner, specifying the amount of a good that can be imported from (or exported to) that single country only.

Bilateral trade
The trade between two countries; that is, the value or quantity of one country's exports to the other, or the sum of exports and imports between them.

Bilateral trade balance
The value of a country's exports to a single other country, minus the value of its imports from that country. While data on bilateral trade imbalances are often reported, economists discount them as essentially meaningless, due to the potential for *triangular trade* (page 450).

Bilateral transfer
A *transfer payment* (page 447) from one country to another.

Bill of exchange
Any document demanding payment.

Bill of lading
The receipt given by a transportation company to an exporter when the former accepts goods for transport. It includes the contract specifying what transport service will be provided and the limits of liability.

Billion Prices Project
A project at the Massachusetts Institute of Technology to collect prices from online retailers around the world so as to monitor *inflation* (page 221) across countries and time.

Bimetallism
The definition of the value of a currency in terms of two different metals — usually gold and silver — at the same time. That is, the issuer of the currency promises to exchange it for either a certain fixed amount of one metal or for a certain (different) amount of the other metal. System was used by most countries (except the U.K.) through most of the 19th century.

Binding
1. As an adjective, this refers to a restriction that is met exactly, and is therefore having an effect on behavior, in contrast to *non-binding* (page 310).
2. As a noun, see *tariff binding* (page 421).

Binding overhang
The extent to which a country's *tariff binding* (page 421) exceeds its *applied rate* (page 15).

BIS
Bank for International Settlements (page 27).

BIT
Bilateral investment treaty (page 33).

Black market
An illegal market, in which something is bought and sold outside of official government-sanctioned channels. Black markets tend to arise when a government tries to fix a price without itself providing all of the necessary supply or demand. Black markets in foreign exchange almost always exist when there are *exchange controls* (page 143).

Black Sea Economic Cooperation
A *group* of eleven countries, formed in 1992, with the objective of fostering "interaction and harmony" among the members through political and economic cooperation.

Black Wednesday
The day, 16 September 1992, that the Bank of England was forced to withdraw from the *Exchange Rate Mechanism* (page 144) because of *speculation* (page 403) against the pound that drained its *reserves* (page 373). It is said that financier George Soros profited 1 billion pounds from the episode.

Blair House Accord
An agreement on agricultural subsidies between U.S. and *EC* (page 119) negotiators in November 1992 that broke an impasse in the *Uruguay Round* (page 461) negotiations.

Bloc
See *trading bloc* (page 445).

Blockade
A militarily enforced interference with a country's trade, usually by naval forces preventing access to its ports.

Blood diamonds
Also called *conflict diamonds* (page 70), these are diamonds the mining and marketing of which have been used to finance, or have

otherwise contributed to, civil war. In an effort to undermine this market, the *Kimberly Process* (page 246) requires participants to certify that shipments of diamonds are conflict free.

Blue box

A special category of *subsidies* (page 414) permitted under the *WTO* (page 472) *Agriculture Agreement* (page 11), it includes payments that are linked to production but with provisions to limit production through production quotas or requirements to set aside land from production. See *box* (page 38).

BM

Banco Mundial (Spanish for *World Bank* (page 470)).

BOAD

Banque Ouest Africaine de Developpement (page 28).

Boeing-Airbus dispute

A *trade dispute* (page 438) between the U.S. and EU, concerning *subsidies* (page 414) that each alleges the other provides to its large aircraft manufacturer.

Bogor Goals

The objectives agreed upon at a 1994 meeting of *APEC* (page 15) leaders in Bogor, Indonesia. These included "free and open trade and investment by 2010 for industrialized economies and by 2020 for developing economies."

Bond

A debt instrument, issued by a borrower and promising a specified stream of payments to the purchaser, usually regular interest payments plus a final repayment of principal. Bonds are exchanged on open markets including, in the absence of *capital controls* (page 46), internationally, providing a mechanism for international *capital mobility* (page 48).

Bond market

The market for *bonds* (see above), in which the prices of the bonds, and therefore the corresponding *interest rates* (page 227), are determined by the interaction of buyers and sellers.

Bonded warehouse

See *foreign trade zone* (page 173).

Boom-bust cycle

A pattern of performance over time in an economy or an industry that alternates between extremes of rapid growth (*booms*) and extremes of slow growth or decline (*busts*), as opposed to sustained steady growth. For an economy, this indicates an extreme form of the *business cycle* (page 42).

BOP

Balance of payments (page 24).

Border effect

A discontinuity that exists in prices or in quantities of trade at the border between countries. If the price of a good is higher on one side of a border than the other, this is a border effect. If a *gravity equation* (page 190) includes a *dummy* (page 115) for trade across a border and that dummy is significant, that also indicates a border effect.

Border measure

Border protection (see below).

Border price

The price of a good at a country's border.

Border protection

1. In the context of trade policy, this refers to policies such as *tariffs* (page 421) and *quotas* (page 360) that enhance profits and employment in a domestic industry, as opposed to other policies such as production subsidies that might have similar effects without restricting trade.

2. Measures to prevent unwanted entry across a nation's border of illegal or harmful goods or people.

Border tax adjustment

Rebate of indirect taxes (taxes on other than direct income, such as a sales tax or *VAT* (page 463)) on exported goods, and levying of them on imported goods. May distort trade when tax rates differ or when adjustment does not match the tax paid.

Borderless world

The concept that national borders no longer matter, perhaps for some specified purpose.

Borrowing
The amount that an entity, usually a country or its government, has borrowed. Thus often the (negative of) the *net foreign asset position* (page 303) or the *national debt* (page 297).

BOT
Balance of trade (page 25).

Bound rate
See *tariff binding* (page 421).

Bound tariff
See *tariff binding* (page 421).

Bounty
Subsidy (page 414).

Bovine Meat Agreement
See *International Bovine Meat Agreement* (page 230).

Bowed
Curved. "Bowed out" is used to describe a typical *transformation curve* (page 448), which is *concave* (page 68) to the origin. In contrast, a transformation curve reflecting *increasing returns to scale* (page 218) might be "bowed in" toward the origin.

Box
Used with a color, a category of *subsidies* (page 414) based on status in *WTO* (page 472): *red* = forbidden (page 367), *amber* (page 12) or *orange* = go slow (page 323) (i.e., reduce the subsidy), *green* = permitted (page 191), and *blue* = subsidies (page 36) tied to production limits. Terminology seems only to be used in agriculture, where in fact there is no red box.

Box diagram
The *Edgeworth box* (page 126).

Boycott
To protest by refusing to purchase from someone, or otherwise do business with them. In international trade, a boycott most often takes the form of refusal to import a country's goods. A *primary boycott* (page 346) limits trade with the target; a *secondary boycott* (page 385) limits trade with those that trade with the target.

BP curve

In the *Mundell-Fleming Model* (page 294), the curve representing *balance of payments equilibrium* (page 25). It is normally upward sloping because an increase in income increases imports while an increase in the interest rate increases *capital inflows* (page 47). The curve is used under *pegged exchange rates* (page 330) for effects on the *balance of payments* (page 24) and under *floating rates* (page 169) for effects on the exchange rate.

BPO

Business process outsourcing (page 42).

Brain drain

The *migration* (page 281) of skilled workers out of a country. First applied to the migration of British-trained scientists, physicians, and university teachers in the early 1960s, mostly to the United States.

Branch plant economy

An economy that relies heavily on branch plants, i.e., production subsidiaries, of foreign companies, and therefore on foreign-owned capital and technology.

Brecher-Alejandro Proposition

The proposition, proved in *Brecher and Alejandro (1977)* (page 581), that foreign *capital inflows* (page 47) with full *repatriation* (page 372) must be *immiserizing* (page 210).

Bretton Woods

A town in New Hampshire at which a July 1944 conference of 44 countries launched the *IMF* (page 209) and the *World Bank* (page 470). These, along with the *GATT* (page 182)/*WTO* (page 472) became known as the Bretton Woods Institutions, and together they comprise the Bretton Woods System.

Bribe

A payment made to person, often a government official such as a *customs officer* (page 89), to induce favorable treatment.

BRICs

Acronym for four large low-income countries — Brazil, Russia, India, and China — that were growing rapidly in the early

years of the 21st century. Term was coined by *O'Neill (2001)* (page 593). Sometimes expanded to *BRICIs* to include Indonesia or *BRICS* (page 39) to include South Africa.

Brixit

Term used in the British press starting in June 2012 for the possible exit of Britain from the *European Union* (page 141). The term was devised as analogous to the term *grexit* (page 192).

Broker's fee

The fee for a transaction charged by an intermediary in a market, such as a bank in a foreign-exchange transaction.

Brookings Institution

A nonprofit, public-policy think tank located in Washington, D.C., Brookings resident and nonresident fellows do research and writing on a variety of public policy issues, including international economics. Politically, it is somewhat left-of-center, providing a home for U.S. Democrats when not in government. Contrasts with the *American Enterprise Institute* (page 13).

Brown field investment

FDI (page 162) that involves the purchase of an existing plant or firm, rather then construction of a new plant. Contrasts with *green field investment* (page 192).

Brussels Tariff Nomenclature

An international *system of classification* (page 58) for goods that was once widely used for specifying tariffs. It was changed, in name only, to the *CCCN* (page 51) in 1976 and later superseded by the *Harmonized System of Tariff Nomenclature* (page 197).

BSEC

Black Sea Economic Cooperation (page 35).

BTN

Brussels Tariff Nomenclature (see above).

BTT

Barter terms of trade.

Bubble

A rise in the price of an *asset* (page 18) based not on the current or prospective income that it provides but solely on expectations by market participants that the price will rise in the future. When

those expectations cease, the bubble *bursts* (page 42) and the price falls rapidly.

Bubble economy

Term for an economy in which the presence of one or more *bubbles* (page 40) in its asset markets is a dominant feature of its performance. Japan was said to be a bubble economy in the late 1980s.

Budget constraint

1. For an individual or household, the condition that income equals expenditure (in a *static model* (page 409)), or that income minus expenditure equals the value of increased asset holdings (in a *dynamic model* (page 118)).

2. For a country, the condition that the value of exports equals the value of imports or, if capital flows are permitted, that exports minus imports equals the net *capital outflow* (page 49). It is equivalent to income from production equaling expenditure on goods plus net acquisition of foreign assets.

3. The curve, usually a straight line, representing either of these conditions.

Budget deficit

The negative of the *budget surplus* (see below); thus the excess of expenditure over income.

Budget surplus

Refers in general to an excess of income over expenditure, but usually refers specifically to the government budget, where it is the excess of tax revenue over expenditure (including transfer and interest payments).

Buffer stock

A large quantity of a *commodity* (page 62) held in storage to be used to *stabilize* (page 405) the commodity's price. This is done by buying when the price is low and adding to the buffer stock, then selling out of the buffer stock when the price is high, hoping to reduce the size of price fluctuations. See *international commodity agreement* (page 231).

Building bloc

Or *building block*. See *stumbling bloc* (page 414).

Built-in Agenda
Issues that were scheduled for continued negotiations within the *WTO* (page 472) in the *Uruguay Round* (page 461) agreement. In addition to reviewing the implementation of various agreements, these included negotiations for further liberalization in agriculture and services.

Built-in stabilizer
Automatic stabilizer (page 21).

Bureau of Economic Analysis
The government agency within the United States Department of Commerce that collects macroeconomic data, especially the *National Income and Product Accounts* (page 297), as well as data on *balance of payments* (page 24) and *international investment* (page 234).

Burst
In the case of a price *bubble* (page 40), the usually sudden reversal of a price from rising over time to falling.

Business
1. A *firm* (page 166).
2. The activities engaged in by *firms* (page 166).

Business cycle
The pattern followed by macroeconomic variables, such as *GDP* (page 183) and *unemployment* (page 456) that rise and fall irregularly over time, relative to *trend* (page 450). Cyclical movements of large countries cause similar movements in their *trading partners* (page 446), inexplicably under *real business cycle theory* (page 364) and thus called the *trade co-movement puzzle* (page 437).

Business Cycle Dating Committee
See *National Bureau of Economic Research* (page 296).

Business process outsourcing
The *outsourcing* (page 325) and/or *offshoring* (page 317) of business processes, such as the *back office* (page 23) functions such as accounting, human resource management, etc.

Business Roundtable
An organization of CEOs of major U.S. corporations. It pursues a number of initiatives, including facilitating international

trade and investment agreements and enforcing U.S. rights under existing agreements.

Buy American Act

U.S. legislation, from 1933, requiring that government purchases give preference to domestic producers unless imports are at least a specified percentage cheaper. This is an example of a *government procurement* (page 189) *NTB* (page 314) that was partially given up under the *Tokyo Round* (page 433).

Buyback

See *debt buyback* (page 93).

Buyback arrangement

A form of *countertrade* (page 79) in which a foreign seller of plant, equipment, or technology is required to purchase part of the resulting production.

Byrd Amendment

A U.S. law enacted in 2000 requiring that revenues from *anti-dumping duties* (page 14) and *countervailing duties* (page 79) be given to the U.S. domestic producers who had filed the cases. This was subject of a *trade dispute* (page 438) in the *WTO* (page 472) and ruled to be not compatible with WTO rules.

CABEI

Central American Bank for Economic Integration (page 52).

Cabotage

1. Navigation and trade by ship along a coast, especially between ports within a country. Restricted in the U.S. by the *Jones Act* (page 244) to domestic shipping companies.

2. Air transportation within a country. Often restricted to domestic carriers, in an example of barriers to *trade in services* (page 440).

CACM
Central American Common Market (page 52).

CAF
Corporacion Andina de Fomento (page 77).

CAFTA
U.S.-Central American Free Trade Agreement (page 461), also called *CAFTA-DR.*

Cairnes-Haberler Model
A trade model in which all factors of production are assumed immobile between industries. See *specific-factors model* (page 402).

Cairns Group
A group of agricultural exporting countries, currently (December 2013) numbering 19, that was formed in 1986 to act as a counterweight especially to the *EU* (page 137) in international negotiations on agriculture. Named after the city in Australia where the group first met, in August 1986.

Calibration
In economic models, particularly *computable general equilibrium* (page 68) models, this refers to the assignment of values to parameters so as to align the model with real-world data.

CAN
Comunidad Andina (Spanish for *Andean Community* (page 13)).

Canada-US Auto Pact
The "Canada-United States Automotive Products Agreement of 1965" which reduced trade barriers on specified trade between Canada and the United States in automobiles and original-equipment auto parts.

Canada-US Free Trade Agreement
A *free trade agreement* (page 177) between Canada and the United States signed in 1989 and superseded by the *NAFTA* (page 295) in 1994.

Cancún Ministerial
The 5th *ministerial meeting* (page 283) of the *WTO* (page 472) held in Cancún, Mexico, 10–14 September 2003 as part of the *Doha Round* (page 111) of multilateral trade negotiations. The meeting failed to reach agreement on a framework text for

the round because of disagreements between the US/EU and the *G-20* (page 180), mostly over agricultural subsidies.

Canonical model of currency crises

This term has been used to refer to the model that *Krugman (1979a)* (page 588) presented of a *currency crisis* (page 86) that results when domestic policy is pursued in a manner inconsistent with a *pegged exchange rate* (page 330).

CAP

Common Agricultural Policy (page 62).

Capacity building

The term used repeatedly in the *Doha Declaration* (page 110) referring to the assistance to be provided to developing countries in establishing and administering their trade policies, conducting analysis, and identifying their interests in trade negotiations.

Capital

1. The plant and equipment used in production.

2. One of the main *primary factors* (page 346), the availability of which contributes to the *productivity of labor* (page 352), *comparative advantage* (page 64), and the *pattern of international trade.*

3. A stock of financial assets.

4. Of a bank, its *assets* (page 18) minus its *liabilities* (page 258).

Capital abundant

A country is capital abundant if its *endowment* (page 132) of capital is large compared to other countries. Relative capital abundance can be defined by either the *quantity definition* (page 358) or the *price definition* (page 344).

Capital account

1. (Current definition) Since sometime in the 1990s, "capital account" refers to a minor component of international transactions, involving unilateral transfers of ownership of property. The common definition, below, describes what is now called the *financial account* (page 164).

2. (Common definition) A country's international transactions arising from changes in holdings of real and financial capital assets (but not income on them, which is in the *current account* (page 88)). Includes *FDI* (page 162), plus changes in private

and official holdings of stocks, bonds, loans, bank accounts, and currencies.

3. (Bretton-Woods definition) Same as common definition except excluding *official reserve transactions* (page 316). This definition was used under the *Bretton Woods System* (page 39) of *pegged exchange rates* (page 330), but is less meaningful under *floating exchange rates* (page 169).

Capital account balance

Balance on capital account (page 26).

Capital account deficit

Debits (page 92) minus *credits* (page 82) on *capital account* (page 45). See *deficit* (page 95).

Capital account surplus

Credits (page 82) minus *debits* (page 92) on *capital account* (page 45). Same as *balance on capital account* (page 26). See *surplus* (page 418).

Capital accumulation

Addition to the stock of *capital* (page 45).

Capital adequacy ratio

The ratio of a bank's *capital* (page 45) to its risk-weighted credit exposure (*liabilities* (page 258)). International standards recommend a minimum for this ratio, intended to permit banks to absorb losses without becoming insolvent, in order to protect depositors.

Capital augmenting

Said of a *technological change* (page 427) or *technological difference* (page 427) if one production function produces the same as if it were the other, but with a larger quantity of capital. Same as *factor augmenting* (page 156) with capital the augmented factor. Also called *Solow neutral* (page 398).

Capital consumption allowance

The name used in the *National Income and Product Accounts* (page 297) for *depreciation* (page 99) of capital.

Capital control

Any policy intended to restrict the free movement of capital, especially *financial capital* (page 164), into or out of a country.

Capital density
The amount of *capital* (page 45) per unit land area in a country. Sometimes used for just particular types of capital, such as housing capital or *human capital* (page 206).

Capital depreciation
See *depreciation* (page 99).

Capital duty
A tax on the value of a newly formed company, or one that has newly been transfered to a different taxing jurisdiction.

Capital flight
Large financial *capital outflows* (page 49) from a country prompted by fear of *default* (page 95) or, especially, by fear of *devaluation* (page 101).

Capital flow
International *capital movement* (page 48).

Capital formation
Capital *accumulation* (page 4).

Capital gain
The increase in value that the owner of an asset experiences when the price of the asset rises, including when the currency in which the asset is denominated *appreciates* (page 15). Contrasts with *capital loss* (page 48).

Capital good
A good, such as a machine, that, once in place, becomes part of the *capital stock* (page 49).

Capital inflow
A net flow of capital, real and/or financial, into a country, in the form of increased purchases of domestic assets by foreigners and/or reduced holdings of foreign assets by domestic residents. Recorded as positive, or a *credit* (page 82), in the *balance on capital account* (page 26).

Capital infusion
An increase in *financial capital* (page 164) provided from outside a bank, corporation, or other entity.

Capital intensity
A measure of the relative use of capital, compared to other *factors* (page 156) such as labor, in a production process. Often

measured by the ratio of capital to labor, or by the share of capital in factor payments.

Capital intensive

Describing an industry or sector of the economy that relies relatively heavily on inputs of capital, usually relative to labor, compared to other industries or sectors. See *factor intensity* (page 157).

Capital-labor ratio

The ratio of the quantity of capital (usually only *physical*) to the quantity of labor, usually as employed in a particular industry, but sometimes referring to the entire *factor endowment* (page 157) of a country.

Capital loss

The decrease in value that the owner of an asset experiences when the price of the asset falls, including when the currency in which the asset is denominated *depreciates* (page 99). Contrasts with *capital gain* (page 47).

Capital market

A broad term, encompassing all the many mechanisms by which *savings* (page 382) can be conveyed to those who wish to use it for *investment* (page 239). Most obviously, it includes the markets for *stocks* (page 410) and *bonds* (page 36).

Capital market imperfection

Anything that interferes with the ability of economic agents to borrow and lend as much as they wish at a fixed rate of interest that truly reflects probability of repayment. A common source of imperfection is *asymmetric information* (page 19).

Capital mobility

The ability of capital to *move* internationally. The degree of capital mobility depends on government policies restricting or taxing capital *inflows* (page 222) and/or *outflows* (page 324), plus the *risk* (page 379) that investors in one country associate with assets in another.

Capital movement

Capital inflow (page 47) and/or *outflow* (page 49).

Capital outflow
A net flow of capital, real and/or financial, out of a country, in the form of reduced holdings of domestic assets by foreigners and/or increased holdings of foreign assets by domestic residents. Recorded as negative, or a *debit* (page 92), in the *balance on capital account* (page 26).

Capital output ratio
The ratio of the quantity of capital to the quantity of output, usually in the one-sector economy of a simple growth model.

Capital-saving
A *technological change* (page 427) or *technological difference* (page 427) that is *biased* (page 32) in favor of using less capital, compared to some definition of *neutrality* (page 305).

Capital scarce
A country is capital scarce if its *endowment* (page 132) of capital is small compared to other countries. Relative capital scarcity can be defined by either the *quantity definition* (page 358) or the *price definition* (page 344).

Capital stock
The total amount of *physical capital* (page 335) that has been accumulated, usually in a country.

Capital-using
A *technological change* (page 427) or *technological difference* (page 427) that is *biased* (page 32) in favor of using more capital, compared to some definition of *neutrality* (page 305).

Capitalism
An economic system in which *capital* (page 45) is mostly owned by private individuals and corporations. Contrasts with *communism* (page 64).

Capitalist
1. An owner (or sometimes only a manager) of *capital* (page 45).
2. Associated or identified with *capitalism* (see above).

Carbon tariff
A *tariff* (page 421) levied on the basis of carbon dioxide that an import's production emits into the atmosphere. The purposes

are to treat imports equally with domestic goods that are subject to costly environmental regulation or tax, and also to motivate other countries to use such environmental policies.

Caribbean Basin Initiative

A *non-reciprocal* (page 310) *preferential trading arrangement* (page 342) originally enacted in 1983 by the United States, providing duty-free access to a group of Caribbean countries for selected products. It was renewed and extended in 2000 and currently (December 2013) has 17 beneficiary countries.

Caribbean Community

The Caribbean Community and *Common Market* (page 63) was formed among four Caribbean countries in 1973 and had 15 members as of December 2013. Its purpose is the promotion of economic integration among the member countries and coordination of foreign policies.

Caribbean Development Bank

A financial institution whose members are primarily the countries of the Caribbean region and whose purpose is to foster economic development in the region.

CARIBCAN

A *non-reciprocal* (page 310) commitment by Canada to provide *duty-free* (page 116) access to exports of most products from 18 Commonwealth Caribbean countries and territories.

CARICOM

Caribbean Community (see above) and *Common Market* (page 63).

CARICOM Single Market and Economy

The economic objectives of the CARICOM group, which include becoming a *common market* (page 63).

CARIFORUM

A grouping consisting of the *CARICOM* (see above) countries plus the Dominican Republic.

CARIFORUM-EC EPA

An *economic partnership agreement* (page 123) between the *European Community* (page 139) and the *CARIFORUM* (see above) countries, signed in 2008.

Carriage of Goods by Sea Act
U.S. legislation governing ocean transport of cargo.

Carrier
A firm that provides transportation of persons or goods.

Carry trade
The practice of borrowing in the currency of a country where interest rates are low and lending the proceeds in the currency of a country where interest rates are higher, in hopes of profiting from the difference. Success depends on exchange rates remaining relatively constant. Also known as *uncovered interest arbitrage* (page 454).

Cartagena Agreement
The 1969 agreement, also known as the *Andean Pact* (page 14), that led ultimately to the *Andean Community* (page 13).

Cartel
A group of firms or countries that seeks to raise the price of a good by restricting its supply and/or by *price fixing* (page 344). The term is usually used for international groups, especially involving *state-owned firms* (page 408) and/or governments.

Cascading tariffs
Same as *tariff escalation* (page 422).

CBI
Caribbean Basin Initiative (page 50).

CBP
United States Customs and Border Protection (page 459).

CCCN
Customs Cooperation Council Nomenclature (page 89).

CCT
Conditional cash transfer (page 69).

CDB
Caribbean Development Bank (page 50).

Cecchini Report
A 1988 report by a group of experts, chaired by Paolo Cecchini, examining the benefits and costs of creating a *single market* (page 393) in Europe, in accordance with provisions of the *Treaty of Rome* (page 450).

CEEC
Central and Eastern European countries (see below).

CEFTA
Central European Free Trade Agreement (page 53).

Ceiling
See *price ceiling* (page 343).

Celtic Tiger
Name for Ireland during its period of very rapid economic growth, which ended with the financial crisis of 2008. Name was prompted by analogy with the *Asian Tigers* (page 18).

Center for Economic and Policy Research
A Washington DC-based organization established in 1999 that conducts and disseminates research on economic policy issues, both U.S. domestic and international.

Centre for Economic Policy Research
A European network for economic research, in many fields of economics including *international trade* (page 237) and international macroeconomics. Its affiliated researchers issue working papers and conduct academic conferences.

Central American Bank for Economic Integration
"The leading source of multilateral financing for the integration and development of Central America," CABEI acts as a *development bank* (page 102) for the region.

Central American Common Market
A group of Central American countries — El Salvador, Guatemala, Honduras, and Nicaragua — that formed a *common market* (page 63) in 1960, with Costa Rica added in 1962. It largely disintegrated in the 1970s and 1980s due to military conflicts, but reformed as the *Central American Free Trade Zone* (but without Costa Rica) starting in 1993.

Central and Eastern European countries
Refers, informally, usually to the former Communist countries of Europe.

Central bank
The institution in a country (or a *currency area* (page 85)) that is normally (but see *currency board* (page 86)) responsible for

managing the supply of the country's money and the value of its currency on the foreign *exchange market* (page 143).

Central bank intervention

See *exchange market intervention* (page 144).

Central bank reserves

International reserves (page 236).

Central European Free Trade Agreement

1. A *free trade agreement* (page 177) initiated in 2006 among Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Serbia and the United Nations Interim Administration Mission in Kosovo.

2. A *free trade agreement* (page 177) initiated in 1993 among the Czech Republic, Hungary, Poland, Slovakia, and Slovenia, later also including Bulgaria and Romania. Its purpose was in part to reverse the bias against trade among these neighboring countries that had developed during the process of *transition* (page 448). This was superseded by the accession of these countries to the *Europeann Union* (page 141).

Central Intelligence Agency

Intelligence gathering (and espionage) agency of the United States government, publisher of the *World Fact Book* (page 471).

Central parity

Par value (page 327).

Central planning

The guidance of the economy by direct government control over a large portion of economic activity, as contrasted with allowing *markets* (page 272) to serve this purpose.

Centre William Rappard

The building in Geneva, Switzerland, that houses the *World Trade Organization* (page 472).

CEPAL

Comision Economica para America Latina y el Caribe (Spanish for *Economic Commission for Latin America and the Caribbean* (page 121)).

CEPII

"France's leading institute for research on the international economy." Known particularly for the economic data that it makes available.

CEPR

1. *Center for Economic and Policy Research* (page 52).

2. *Centre for Economic Policy Research* (page 52).

CEPT

Common effective preferential tariff (page 62).

CER

Australia-New Zealand Closer Economic Relations Trade Agreement. Also ANZCERTA or *ANCERTA* (page 20).

Certainty

Precise knowledge of an economic variable, as opposed to belief that it could take on multiple values. Contrasts with *uncertainty* (page 454). One aspect of *complete information* (page 67).

CES function

A function with constant *elasticity of substitution* (page 129). CES is popular for both production and utility functions. Used extensively in *new trade theory* (page 306) as the *Dixit-Stiglitz* utility function for *differentiated products* (page 103) under *monopolistic competition* (page 289). With arguments $X = (X_1, \ldots, X_n)$, the function is $F(X) = A[\Sigma_i \; a_i \; X_i^{\rho}]^{1/\rho}$, where a_i, A are positive constants and $\sigma = 1/\,(1-\rho)$ is the elasticity of substitution. Due to *Arrow et al. (1961)* (page 577).

CET function

Constant elasticity of transformation function (page 71).

Ceteris paribus

Latin phrase meaning, approximately, "holding other things constant." Used as shorthand for indicating the effect of one economic variable on another, holding constant all other variables that may affect the second variable. Contrasts with *mutatis mutandis* (page 294).

CFC

Chlorofluorocarbon (page 57).

CFIUS

Committee on Foreign Investment in the United States (page 61).

CGE

Computable general equilibrium (page 68).

CFA

Communaute Financiere Africaine (page 63).

CFA franc

Currency of the *Communaute Financiere Africaine* (page 63).

Chaebol

A form of large business in South Korea, a conglomerate consisting of many companies centered around a parent company. They are family controlled and have strong ties to the government. They are similar to the *keiretsu* (page 245) of Japan, except that the chaebol do not own banks.

Chain of comparative advantage

A ranking of goods or countries in order of *comparative advantage* (page 64). With two countries and many goods, goods can be ranked by comparative advantage (e.g., by relative *unit labor requirements* (page 457) in the *Ricardian model* (page 378)). A country's exports will then lie nearer one end of the chain than its imports. With two goods, many countries can be ordered similarly.

Change in consumer surplus

The change in *consumer surplus* (page 73) due to a change in market conditions, usually a price change. For a price change, it is measured by the area to the left of the demand curve between the two prices, indicating a gain if price falls and a loss if it rises.

Change in producer surplus

The change in *producer surplus* (page 350) due to a change in market conditions, usually a price change. For a price change, it is measured by the area to the left of the (upward sloping part of the) supply curve between the two prices, indicating a gain if price rises and a loss if it falls.

Chapeau

In the context of *GATT articles* (page 182), this means an introductory paragraph.

Chapter 11

1. In *NAFTA* (page 295), this portion deals with *foreign direct investment* (page 171). Most controversially, it includes a provision for a firm from one member country that has invested in another to bring action against a unit of government in that country if it has acted to reduce the value of its investment.

2. A portion of U.S. bankruptcy law under which a firm can file for protection while it reorganizes.

CHF

Acronym for the currency of Switzerland, the Swiss franc, standing for Confœderatio Helvetica Franc.

Chiang Mai Initiative

An agreement in 2000 among the "*ASEAN+ 3*" (page 17) countries to cooperate in four main areas: monitoring capital flows, regional surveillance, swap networks, and training personnel.

Chicken war

A *trade dispute* (page 438) between the U.S. and the *EEC* (page 126) that began in 1962 when the EEC extended the *variable levy* (page 463) of the *CAP* (page 45) to poultry, tripling German tariffs on U.S. chickens. A *GATT panel* quantified the damage and led to U.S. retaliatory tariffs on cognac, trucks, and other goods. The U.S. 25% tariff on trucks today is a remnant of the chicken war.

Child labor

1. Employment of children under a specified minimum age.

2. Work that is harmful to a child's physical or mental health, development, or education, and that is therefore targeted for elimination by *labor standards* (page 249).

Child Labor Deterrence Act

A bill introduced into the U.S. Congress by Tom Harkin, but never passed, that would have prohibited imports of products produced by child labor.

Chindia

A collective name for China and India, sometimes used in discussing the increasing role that these two countries play in the international economy.

Chinese Economic Area

Unofficial name for the area comprising Hong Kong, Taiwan, and either China as a whole or just its *Special Economic Zones* (page 401).

Chlorinated chicken dispute

The issue of whether Europe should be able to restrict, or require labeling of, U.S. exports of chicken that has been bathed in a chlorine solution to kill bacteria.

Chlorofluorocarbon

A chemical once used in refrigerators, air conditioners, and as aerosol propellants that, when released high into the atmosphere, destroyed the ozone. This environmental danger was resolved by banning these chemicals as well as banning trade in products that included them, through the *Montreal Protocol* (page 289).

CIA

1. Cash in advance.

2. *Central Intelligence Agency* (page 53).

CIF

The price of a traded good including *transport cost* (page 449). It stands for "cost, insurance, and freight," but is used only as these initials (usually lower case: c.i.f.). It means that a price includes the various costs, such as transportation and insurance, needed to get a good from one country to another. Contrasts with *FOB* (page 170).

Circular flow

The "circular flow of income and expenditure" refers to the fact that income earned in production is spent on goods that were produced, providing the funds to pay that income. In an *open economy* (page 320), expenditure leaks out of that circle as imports, but re-enters as exports or as *capital inflows* (page 47).

Circular migration

The movement of a country's people first out of the country and then back in.

Circumvention

Actions taken by traders to avoid paying *duties* (page 116).

CIS

Commonwealth of Independent States (page 63).

CITES

Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Civil Aircraft Agreement

See *Agreement on Trade in Civil Aircraft* (page 10).

Civil society

The name used to encompass a wide and self-selected variety of interest groups, worldwide. It does *not* include for-profit businesses, government, and government organizations, whereas it *does* include most *NGOs* (page 307).

Civil society organization

Non-governmental organization (page 309).

Classification of products by activity

Statistical classification of products by activity is the *classification system* (see below) used for both *goods* (page 188) and *services* (page 388) in the *European Union* (page 141). Its structure is parallel to that of *NACE* (page 295).

Classification system

A system for organizing, recording, and reporting data of a particular kind, such as international trade, and industrial output. Typical systems divide data into categories, each assigned numbers. These may be subdivided, using additional *digits* (page 103), so that more digits mean a finer, or more *disaggregated* (page 106), classification.

Classical

Referring to the writings, models, and economic assumptions of the first century of economics, including Adam Smith, David Ricardo, and John Stuart Mill.

Classical transfer problem

The *transfer problem* (page 447).

Clear

A market is said to clear if supply is equal to demand. Market *clearing* can be brought about by adjustment of the price (or the exchange rate, in the case of the *exchange market* (page 143)), or by some form of government (or *central bank* (page 52)) intervention in or regulation of the market.

Clearing agreement

A *reciprocal trade agreement* (page 367) between two countries to buy a specified minimum amount of each other's products over a certain time, using a specified clearing currency.

Clearing system

An arrangement among financial institutions for carrying out the transactions among them, including canceling out offsetting *credits* and *debits* on the same account.

Closed currency position

A commitment to take or make delivery of a currency in the future that is covered by a contract in the *forward market* (page 174); opposite of an *open position* (page 320).

Closed economy

An economy that does not permit economic transactions with the outside world; a country in *autarky* (page 21).

Closer Economic Relations

See *Australia-New Zealand Closer Economic Relations Trade Agreement* (page 20).

Closure

See *macroeconomic closure* (page 266).

CMEA

Council for Mutual Economic Assistance (page 79).

CMS analysis

Constant market share analysis (page 71).

Coase Theorem

The proposition that the allocation of property rights does not matter for economic efficiency, so long as they are well defined and a free market exists for the exchange of rights between those who have them and those who do not. Due to *Coase (1960)* (page 581).

Cobden-Chevalier Treaty

A *preferential trade agreement* between Britain and France that went into effect in 1860. It was followed by a flurry of other such agreements among European countries.

Cobb-Douglas function

A popular functional form for production and utility functions. With arguments $X = (X_1, \ldots, X_n)$, the function is

$F(X) = A\Pi_i X_{ii}^{\alpha}$, where $\Sigma_i \alpha_i = 1$ and A are positive constants. This function has *elasticity of substitution* (page 129) between arguments equal to one. As a production or utility function, it has competitive expenditure shares equal to α_i.

Codex Alimentarius

This is the international "food code," consisting of standards, codes of practice, guidelines, and recommendations for producing and processing food. It is administered by the Codex Alimentarius Commission.

COCOM

Coordinating Committee for Multilateral Export Controls (page 76).

Coefficient

1. A number or symbol multiplied by a variable.

2. In a *regression analysis* (page 369), the estimated numerical association between one variable and another, usually taken to represent the sign and size of the causal effect of one on the other.

COGSA

Carriage of Goods by Sea Act (page 51).

Collective action problem

The difficulty of getting a group to act when members benefit if others act, but incur a net cost if they act themselves.

Collusion

Cooperation among firms to raise price and otherwise increase their profits.

Columbian Exchange

The exchange of goods, but also populations, diseases, and ideas that took place between the Eastern Hemisphere and the Western Hemisphere, across the Atlantic Ocean, in the centuries following the voyage of Christopher Columbus in 1492.

Column 1 rates

In the United States, this refers to the *MFN tariff* (page 280) rates that are applied to countries with whom the U.S. has *normal trade relations* (page 313).

Column 2 rates

In the United States, this refers to the usually higher-than-*MFN tariff* (page 280) rates that are applied to countries with whom the U.S. does not have *normal trade relations* (page 313). Currently (December 2013), only Cuba and North Korea are subject to Column 2 tariffs. (Trade with several other countries is simply prohibited.)

COMECON

Council for Mutual Economic Assistance (page 79).

COMESA

Common Market of Eastern and Southern Africa (page 63).

Command economy

An economy in which decisions about production and *allocation* (page 12) are made by government dictate, rather than by decentralized responses to market forces.

Commercial bank

An institution that accepts and manages *deposits* (page 99) from households, firms and governments and uses a portion of those deposits to earn interest by making loans and holding securities.

Commercial paper

Short-term, negotiable debt of a firm; thus a *bond* (page 36) of short maturity issued by a company.

Commercial policy

Government policies intended to influence international commerce, including international trade. Includes *tariffs* (page 421) and *NTBs* (page 314), as well as policies regarding exports.

Commercial risk

The *risk* (page 379) for an exporter that the buyer will not pay. Contrasts with *political risk* (page 338).

Commercial service

Any *service* (page 388) provided by a firm, as opposed to a government agency or an individual worker.

Committee on Foreign Investment in the United States

An inter-agency committee of the U.S. government that reviews *foreign direct investment* (page 171) into the United States to

determine if it might endanger U.S. national security and, if so, stop it.

Commodity

Could refer to any good, but in a trade context a commodity is usually a *raw material* (page 363) or *primary product* (page 347) that enters into international trade, such as metals (tin, manganese) or basic agricultural products (coffee, cocoa).

Commodity agreement

See *international commodity agreement* (page 231).

Commodity pattern of trade

The *trade pattern* (page 442) of a country or the world, focusing on goods and services traded as opposed to the *factor content* (page 156) of that trade.

Commodity prices

Usually means the prices of *raw materials* (page 363) and *primary products* (page 347).

Commodity terms of trade

1. Real price of *commodities* (see above) relative to *manufactures*. This would be the same as the most familiar *terms of trade* (page 429) — the *net barter terms of trade* (page 303) — for many developing countries that export primary commodities and import manufactures.

2. This terms is also used more broadly as a synonym for the *net barter terms of trade* (page 303) for any country.

Common Agricultural Policy

The regulations of the *European Union* (page 141) that seek to merge their individual agricultural programs, primarily by stabilizing and elevating the prices of agricultural commodities. The principle tools of the CAP are *variable levies* (page 463) and *export subsidies* (page 153).

Common currency

A *currency* (page 85) that is shared by more than one country. Thus the currency of a *currency area* (page 85).

Common effective preferential tariff

The CEPT tariff is the *tariff* (page 421) that a member of the *ASEAN Free Trade Area* (page 17) applies to imports that

originate in another AFTA country. Unlike conventional *free trade areas* (page 177), the CEPT tariff is not required to be zero, but only between zero and 5%. In addition, countries are permitted to designate products as excluded from the CEPT for several reasons.

Common external tariff

The single tariff rate agreed to by all members of a *customs union* (page 90) on imports of a product from outside the union.

Common market

A group of countries that eliminate all barriers to movement of both goods and factors among themselves, and that also, on each product, agree to levy the same tariff on imports from outside the group. Equivalent to a *customs union* (page 90) plus free mobility of factors.

Common Market of Eastern and Southern Africa

A trade agreement involving 20 nations (as of 2011) of Eastern and Southern Africa. It went into effect in 1994, replacing a Preferential Trade Area that had begun in 1982, with the aim of forming a *free trade area* (page 177) by 2000 and achieving other trade liberalization and transport facilitation over a period of 16 years.

Common tangent

A straight line that is tangent to two or more curves. Used in the *Lerner diagram* (page 256).

Common trade policy

In addition to the *common external tariff* (see above) required by a *customs union* (page 90), the *European Union* (page 141) has a common trade policy that encompasses rules for exports and imports, export credit insurance, and the administration of *anti-dumping* (page 14) and *countervailing duties* (page 79).

Commonwealth of Independent States

An organization formed in 1991 of the nations that had been part of the USSR. Current membership (2013) includes 12 countries.

Communaute Financiere Africaine

Communaute Financiere Africaine = African Financial Community is a group of Central and West African countries, formerly

ruled by France, who share two versions of a common currency, the CFA franc, that is guaranteed by the French treasury.

Communism

An economic system in which *capital* (page 45) is owned by government. Contrasts with *capitalism* (page 49).

Community indifference curve

One of a family of indifference curves intended to represent the preferences, and sometimes the well-being, of a country as a whole. This is a handy tool for deriving quantities of trade in a two-good model, although its legitimacy depends on the existence of *community preferences* (see below), which in turn requires very restrictive assumptions. See *Leontief (1933)* (page 590).

Community preferences

A set of consumer preferences, analogous to those of an individual as might be represented by a *utility function* (page 462), but representing the preferences of a group of consumers. The existence of well-behaved community preferences requires restrictive assumptions about individual preferences and/or incomes.

Company

This word has many meanings, but in economics it is usually a synonym for *firm* (page 166).

Comparative advantage

The ability to produce a good at lower cost, relative to other goods, compared to another country. In a *Ricardian model* (page 378), comparison is of *unit labor requirements* (page 457); more generally it is of relative *autarky prices* (page 21). With perfect competition and undistorted markets, countries tend to export goods in which they have comparative advantage. See also *absolute advantage* (page 3). Due to *Ricardo* (1815).

Comparative static

Refers to a comparison of two equilibria from a *static model* (page 409), usually differing by the effects of a single small change in an *exogenous variable* (page 147).

Compensated demand curve

A *demand curve* (page 98) constructed under the assumption that demander's income is not held constant, but rather is varied

to hold utility at a constant level. The *change in consumer surplus* (page 55) calculated from particular compensated demand curves measures *compensating variation* and *equivalent variation* (page 136).

Compensating variation

An amount of money that just compensates a person, group, or whole economy, for the welfare effects of a change in the economy, thus providing a monetary measure of that change in *welfare* (page 468). Same as *willingness to pay* (page 470). Contrasts with *equivalent variation* (page 136).

Compensation

1. The *GATT* (page 182) principle that members who violate GATT rules must compensate other countries by lowering tariffs or making other concessions, or be subject to *retaliation* (page 375).

2. The actual or potential payment by the winners from a change in trade or other policy to the losers, intended to undo the harm to the latter. Actual compensation is rare, but the potential for compensation is used as the basis for most evaluations of the *gains from trade* (page 181).

Compensation principle

As a basis for welfare comparisons, the idea that if a policy change (such as a tariff reduction) could be *Pareto improving* (page 328) if it were accompanied by appropriate *lump-sum* (page 265) transfers from winners to losers, then it is viewed as beneficial even when those transfers do not occur.

Compensation trade

Countertrade (page 79), including especially payment for *foreign direct investment* (page 171) out of the proceeds from that investment.

Competition

The interactions between two or more sellers or buyers in a single market, each attempting to get or pay the most favorable price. Economists usually interpret and model these interactions as among individual economic agents — firms or consumers. Popular terminology extends also to competition among nations, especially competing exporters.

Competition policy

Policies intended to prevent *collusion* (page 60) among firms and to prevent individual firms from having excessive market power. Major forms include oversight of mergers and prevention of price fixing and market sharing. Called *anti-trust policy* (page 14) in the U.S. One of the *Singapore Issues* (page 393).

Competitive

1. Applied to a *market* (page 272) or *industry* (page 220), this usually means *perfectly competitive* (page 332). Contrasts with *imperfectly competitive* (page 210).

2. Applied to a firm or a country's products, this means having low price, high quality, or other attractive characteristics compared to other firms or countries. Applied to a firm, this may also include the effectiveness and aggressiveness of its marketing. See *competitiveness* (below).

Competitive advantage

Competitiveness (see below). Contrasts with *comparative advantage* (page 64).

Competitive equilibrium

See *equilibrium* (page 135).

Competitive factor market

A market for a *factor* (page 156) in which both suppliers and demanders are *perfectly competitive* (page 332), taking the factor price as given.

Competitiveness

Usually refers to characteristics that permit a firm to compete effectively with other firms due to low cost, superior technology, or aggressive marketing, perhaps internationally. Thus the condition of being *competitive* (see above) (definition 2). Applied to nations, the word has a *mercantilist* (page 279) connotation.

Competitiveness index

A measure of an economy's international *competitiveness* (see above), such as the *Global Competitiveness Index* (page 186).

Complement

One good is a complement for another if an increase in demand for one (or a fall in its price) causes an increase in the demand for the other. Opposite of *substitute* (page 415).

Complementary exporting

The export of one firm's products through the distribution channels of another firm.

Complementation agreement

1. *Free trade agreement* (page 177).

2. An agreement between a firm and governments of two or more countries to eliminate *duties* (page 116) on its output, in order to attract it to locate in one of the countries.

Complete information

The assumption that economic agents (buyers and sellers, consumers and firms) know everything that they need to know in order to make optimal decisions. Types of *incomplete information* (page 217) are *asymmetric information* (page 19) and *uncertainty* (page 454).

Complete specialization

1. Non-production of some of the goods that a country consumes, as in definition 2 of *specialization* (page 401).

2. Production only of goods that are exported or nontraded, but none that compete with imports.

3. Production of only one good.

4. Being the only country in the world to produce a good.

Composite currency

A currency defined as a specified combination of two or more currencies, normally existing only as a unit of account rather than as a physical currency. Examples include the *ECU* (page 125) and the *SDR* (page 384).

Composite good

A fictional good that is used in economic analysis to stand in for a large number of goods, usually all other goods than the one that is the focus of attention.

Compound tariff

A *tariff* (page 421) that combines both a *specific* and an *ad valorem* (page 5) component. Thus, on an import with quantity q and price p, a compound tariff collects a revenue equal to $t_s q + t_a pq$, where t_s is the specific tariff and t_a is the ad valorem tariff.

Compulsory licensing

A requirement for a *patent* (page 329) holder to let others produce its product, under specified terms. Countries may require this of foreign patent holders so as to access a product at lower cost. This is permitted by the *TRIPs Agreement* (page 451) for certain purposes, such as protecting public health.

Computable general equilibrium

Refers to economic models of microeconomic behavior in multiple markets of one or more economies, solved computationally for equilibrium values or changes due to specified policies. The equations are anchored with data from the countries being modeled, while behavioral parameters are either assumed or adapted from estimates elsewhere.

Computed value

A method of *customs valuation* (page 90) when neither *transaction value* (page 447) nor *deductive value* (page 95) are available: sum of the costs of production and preparing goods for export, then include imputed profit and overhead.

Comvariance

An analogue to *covariance* (page 80) for three variables. For three variables x, y, and z with values $x_i, y_i, z_i, i = 1, \ldots, n$, the comvariance is com $(x, y, z) = \Sigma_{i=1\ldots n}(x_i - m(x))(y_i - m(y))(z_i - m(z))$, where m$(\cdot)$ is the *mean* (page 278) of the values in its argument. Due to *Deardorff (1982)* (page 582).

Concave

Said of a curve that bulges away from some reference point, usually the horizontal axis or the origin of a diagram. More formally, a curve is concave from below (or concave to something below it) if all straight lines connecting points on it lie on or below it. Contrasts with *convex* (page 75).

Concentration

See *industrial concentration* (page 220).

Concentration ratio

A common measure of *industry concentration* (page 220), defined as the percent of sales in the industry accounted for by the largest n firms. n is some small number such as 4 or 6, and the result is called the "n-firm concentration ratio."

Concertina tariff reduction

The reduction of a country's highest tariff to the level of the next highest, followed by the reduction of both to the level of the next highest after that, and so forth. Also called the *concertina rule.* This is known to raise welfare if all goods are net substitutes.

Concession

The term used in *GATT* (page 182) negotiations for a country's agreement to *bind a tariff* (page 421) or otherwise reduce import restrictions, usually in return for comparable "concessions" by other countries. Use of this term, with its connotation of loss, for what economic theory suggests is often a source of gain, is part of what has been called *GATT-Speak* (page 183).

Concessional financing

Loans made by a government at an *interest rate* (page 227) below the *market rate* (page 274) as an indirect method of providing a *subsidy* (page 414).

Concessional sale

Sale of a product at a price lower than the market would indicate. Often part of a package of foreign *aid* (page 11).

Conditional cash transfer

A program in a *developing country* (page 101) to encourage pro-growth and poverty-reducing activities by households, especially education, by paying them cash conditional on behavior, especially sending children to school.

Conditional MFN

The levying of *most favored nation* (page 290) tariffs on exports of a country only if it has satisfied certain conditions. Members of the *WTO* (page 472) can apply conditional MFN only to non-members.

Conditionality

The requirements imposed by the *IMF* (page 209) and *World Bank* (page 470) on borrowing countries to qualify for a loan, typically including a long list of budgetary and policy changes comprising a *structural adjustment program* (page 413).

Cone of diversification

See *diversification cone* (page 109).

Conference Board

A "global, independent business membership and research association working in the public interest," founded in 1916. It provides data and analysis intended to improve performance of businesses.

Confidence fairy

A term used frequently in *New York Times* opinion pieces by Paul Krugman during and after the global *recession* (page 366) that began in 2007, referring to the views of those who believe that the economy can be stimulated by balancing government budgets so as to reassure potential investors.

Conflict diamonds

Blood diamonds (page 35).

Congestion

The costs and inefficiencies that result when a space becomes crowded. For example, costs of international trade may rise due to congestion of *ports* (page 338), if these facilities are not expanded along with trade.

Consensus

Essentially, this means unanimous agreement, and it is the basis for decision making in the *WTO* (page 472). Formal voting is avoided, and a decision will be blocked if any member formally objects.

Conservative social welfare function

A *social welfare function* (page 397) that takes special account of the costs to individuals of losing relative to the *status quo* (page 409), and that therefore seeks to avoid large losses to significant groups within the population. Due to *Corden (1974)* (page 582).

Consignment

1. Something that is put into the care of another, as when a batch of traded goods is consigned to a shipper for transport to another location.

2. A method of marketing in which the seller entrusts a product to an agent, who then attempts to sell it on the seller's behalf, or "on consignment."

Console

A *bond* (page 36) with no maturity date, which instead pays a fixed amount per year forever. Its simplicity makes it a convenient example in textbooks, where it appears much more frequently than in the real world.

Constant cost

This could have many meanings, but when stated as an assumption of an economic model, it means that cost of producing a good, per unit, is the same for all units.

Constant dollars

Dollars of constant *purchasing power* (page 355). That is, corrected for inflation. More precisely includes reference to a *base year* (page 28) for comparison, e.g., "in constant 1992 dollars." Same as *constant prices* (page 71).

Constant elasticity of substitution function

See *CES function* (page 54).

Constant elasticity of transformation function

A function representing an economy's *transformation curve* (page 448) along which the *elasticity of transformation* (page 130) is constant.

Constant market share analysis

A technique for decomposing the change in a country's trade into components that correspond to holding its market shares constant in various markets. Introduced to international trade by *Tyszynski (1951)* (page 597), it is an application of *shift and share* (page 390) analysis of *Creamer (1943)* (page 582).

Constant prices

See *constant dollars* (above).

Constant returns to scale

A property of a production function such that scaling all inputs by any positive constant also scales output by the same constant. Such a function is also called *homogeneous of degree one* (page 203) or *linearly homogeneous* (page 260). CRTS is a critical assumption of the *HO model* (page 202) of international trade. Contrasts with *increasing returns* (page 218) and *decreasing returns* (page 95).

Constraint set
The set of options among which a decision-maker is able to choose, given its resources and the market conditions that it faces.

Constrict
While this word generally means to make something narrower, in economics it is commonly used for making something, especially the *money supply* (page 288), smaller (or perhaps to allow it to grow more slowly).

Consular fees and formalities
Charges and procedures required of importers. May constitute *nontariff barriers* (page 312).

Consultation
The first step in the WTO *dispute settlement process* (page 108), whereby countries are expected to consult directly regarding any objection or disagreement and seek to resolve it without further steps.

Consultative Group to Assist the Poor
A consortium of public and private funding organizations working to expand access to financial services in poor countries.

Consumer movement
Mode 2 (page 285) of four *modes of supply* (page 285) of *traded services* (page 444), this one entails the buyer moving (temporarily) to the foreign location of the seller, as in the case of tourism.

Consumer price index
A *price index* (page 345) for the goods purchased by consumers in an economy, usually based on only a small sample of what they consume. Commonly used to measure *inflation* (page 221). Contrasts with the *implicit price deflator* (page 210).

Consumer subsidy equivalent
Same as *consumer support estimate* (see below).

Consumer support estimate
Introduced by the *OECD* (page 316) to quantify agricultural policies, this measures transfers to or from consumers that are implicit in these policies. Since industrialized-country agricultural producers are routinely supported by raising prices, CSE estimates are usually negative. See also *PSE* (page 355).

Consumer surplus
The difference between the maximum that consumers would be willing to pay for a good and what they actually do pay. For each unit of the good, this is the vertical distance between the demand curve and price. For all units purchased at some price, it is the area below the demand curve and above the price. Normally useful only as the *change in consumer surplus* (page 55).

Consumption externality
An *externality* (page 155) arising from consumption.

Consumption function
The function relating aggregate consumption to aggregate income and sometimes other variables such as wealth.

Consumption possibility frontier
A graph of the maximum quantities of goods (usually two) that an economy can consume in a specified situation, such as *autarky* (page 21) and *free trade* (page 177). Used to illustrate the potential benefits from trade by showing that it can expand consumption possibilities.

Contagion
The phenomenon of a *financial crisis* (page 164) in one country spilling over to another, which then suffers many of the same problems.

Content protection
See *domestic content protection* (page 111).

Content requirement
See *domestic content requirement* (page 112).

Contestable market
A market that, even though it has only a single or a small number of sellers, could readily admit more, so that the pricing behavior of current sellers is constrained by the potential for entry. Term introduced by *Baumol et al. (1982)* (page 578).

Contingent protection
Administered protection (page 7).

Continuous time
The use of a continuous variable to represent time, as in an economic model.

Continuum model

A model in which some entities that are normally discrete and exist in finite numbers are modeled instead by a continuous variable. This can sometimes simplify the treatment of large numbers of entities. In trade theory, the most notable example is the *continuum-of-goods model* (see below).

Continuum-of-goods model

A class of trade models in which goods are indexed by a continuous variable, approximating the case of very large numbers of goods. The classic, original (refer to page 566) examples are *Dornbusch, Fischer, and Samuelson (1977, 1980)* (page 583).

Contract curve

1. In an *Edgeworth box* (page 126) for consumption, the allocations of 2 goods to 2 consumers that are *Pareto efficient* (page 328). Starting with an allocation that may not be on the contract curve, it shows the ways that the consumers might contract to exchange the goods with each other.

2. In an *Edgeworth box* (page 126) for production, this term is sometimes also used for the *efficiency locus* (page 127).

Contracting party

A country that has signed the *GATT* (page 182). The term "contracting parties" with both words capitalized means all Contracting Parties acting jointly.

Contraction

Economic contraction (page 121).

Contractionary

Tending to cause aggregate output (*GDP*) (page 183) and/or the price level to fall. Term is typically applied to *monetary policy* (page 286) (a decrease in the money supply or an increase in interest rates) and to *fiscal policy* (page 167) (a decrease in government spending or a tax increase), but may also apply to other macroeconomic shocks. Contrasts with *expansionary* (page 147).

Convention

A statement of principle as to acceptable behavior. For example, members of the *International Labor Organization* (page 234)

have agreed to a long list of conventions regarding the acceptable treatment of workers.

Convention on International Trade in Endangered Species

Convention on International Trade in Endangered Species of Wild Fauna and Flora is an agreement among originally 80 governments effective in 1975 to prevent trade in wild animals and plants from threatening their survival. It works by requiring licensing of trade in covered species.

Conventional international law

The portion of *international law* (page 234) that results from formal agreements among nations, such as the *GATT* (page 182). Contrasts with *customary international law* (page 88).

Convergence

The process of becoming quantitatively more alike. In an international context, it often refers to countries becoming more alike in terms of their *factor prices* (page 158) or in terms of their *per capita incomes* (page 331), perhaps as a result of trade or other forms of economic *integration* (page 225).

Convertible currency

A currency that can legally be exchanged for another or for gold. In times of crisis, governments sometimes restrict such exchange, giving rise to *black market* (page 35) exchange rates.

Convex

1. Said of a curve that bulges toward some reference point, usually the horizontal axis or the origin of a diagram. More formally, a curve is convex from below (or convex to something below it) if all straight lines connecting points on it lie on or above it. Contrasts with *concave* (page 68).

2. Said of a set that contains all straight line segments joining points within it.

Convex combination

The convex combination of two points (or vectors), x and y, is their weighted average, with nonnegative weights on each: $\lambda x + (1 - \lambda)y$, where $0 \leq \lambda \leq 1$.

Convex hull

The boundary of the set of points that are either members of, or *convex combinations* (page 75) of, points from two or more other sets. The convex hull of two or more *isoquants* (page 242) consists of the innermost of the isoquants themselves plus the points between them on their *common tangents* (page 63).

Convexity

This is just the state of being *convex* (page 75). More generally in economics it refers to the sets (*production possibilities*, *preferences* (page 351), and constraints which, if they are *convex* (page 75), may yield well-behaved economic equilibria. In contrast, models that are *nonconvex* (page 311) tend to have *multiple equilibria* (page 294) and display discontinuous behavior (jumps).

Coordinating Committee for Multilateral Export Controls

A cooperative arrangement among a group of countries in the West intending to prohibit exports of strategic products to countries of the Eastern Bloc. Created in 1949, it was dissolved on 31 March 1994, and succeeded in December 1995 by the *Wassenaar Arrangement* (page 468).

Coordination

Cooperation in setting economic policy, especially across countries, so that policies of different governments reinforce each other rather than canceling each other out.

Copyright

The legal right to the proceeds from and control over the use of a created product, such as a written work, audio, video, film, or software. This right generally extends over the life of the author plus fifty years. Copyright is one form of *intellectual property* (page 225) that is the subject of the *TRIPS* (page 451) agreement.

Core

The set of *allocations* that cannot be improved upon by a subset of consumers trading among themselves. In a *pure exchange economy* (page 356), the core is the *contract curves* (page 74).

Core inflation

The rate of *inflation* (page 221) excluding certain sectors whose prices are most *volatile* (page 465), specifically food and energy.

Core labor standard

Several *labor standards* (page 249) that are considered the most basic and fundamental. The *ILO* (page 209) identifies eight *conventions* (page 74) as "fundamental," covering the topics: freedom of association and collective bargaining, forced labor, child labor, and discrimination.

Core propositions

The core propositions of the *HO model* (page 202) are the *factor price equalization theorem* (page 158), the *Heckscher-Ohlin Theorem* (page 199), the *Rybczynski Theorem* (page 381), and the *Stolper-Samuelson Theorem* (page 411), according to *Ethier (1974)* (page 583).

Corn Laws

British regulations on the import and export of grain, mainly wheat, intended to control its price. The laws were repealed in 1846, signaling a shift toward *free trade* (page 177).

Corporacion Andina de Fomento

A financial institution created to "promote and foster the integration of the Andean region." It acts as a *development bank* (page 102) for Latin America.

Corporate income tax

A tax on the profits of corporations. Differences in corporate tax rates across countries can be a cause of *foreign direct investment* (page 171) as well as *transfer pricing* (page 447).

Corporate tax

Corporate income tax (see above).

Correlation

A measure of the extent to which two economic or statistical variables move together, normalized so that its values range from -1 to $+1$. It is defined as the *covariance* (page 80) of the two variables divided by the square root of the product of their *variances*. The correlation is used in trade theory to express weak relationships among economic variables.

Correlation result

A theoretical property of models with arbitrary numbers of goods or other variables that takes the form of a correlation among variables rather than a strict prediction for each one. Thus represents

a weaker average relationship among the variables. Used for *comparative advantage* (page 64) and other properties of trade models in *higher dimensions* (page 201).

Corruption

Dishonest or *partial* (page 328) behavior on the part of a government official or employee, such as a *customs* (page 89) or *procurement* (page 349) officer. Also actions by others intended to induce such behavior, such as bribery or blackmail.

Cost advantage

Possession of a lower cost of production or operation than a competing firm or country. In the case of countries, this could refer to an *absolute advantage* (page 3), although it is more likely a *comparative advantage* (page 64).

Cost-benefit analysis

The use of economic analysis to quantify the gains and losses from a *policy* (page 337) or program as well as their *distribution* (page 109) across different groups in a society.

Cost function

A function relating the minimized total cost in a firm or industry to output and *factor prices* (page 158).

Cost, insurance, freight

See *CIF* (page 57).

Cost of capital

The cost incurred by a firm to raise additional funds. Depends on the *interest rate* (page 227) and taxes that it faces, as well as its ability to raise funds through *equity* (page 135).

Cost of living

The cost of a representative bundle of goods and services in consumption, usually as measured by the *consumer price index* (page 72).

Cotonou Agreement

A partnership agreement between the *EU* (page 137) and the *ACP countries* (page 5) signed in June 2000 in Cotonou, Benin, replacing the *Lomé Convention* (page 263). Its main objective is poverty reduction, "to be achieved through political dialogue, development aid and closer economic and trade cooperation."

Council for Mutual Economic Assistance
An international organization formed in 1956 among the Soviet Union and other Communist countries to coordinate economic development and trade. It was disbanded in 1991. Also known as COMECON.

Counter-cyclical
Designed to offset or counteract the effects of fluctuations of an economic variable that rises and falls over time. Examples are increased payments to unemployed workers when GDP falls below full employment, and increased payments to farmers when crop prices fall below some target level.

Counterfeit goods
Products that appear to duplicate branded goods without the permission of the brand owner. If they are in fact duplicates, then buyers benefit from a low price, while brand owners may lose. Often, however, they are inferior copies, useless or even dangerous.

Counterpurchase contract
A form of *countertrade* (page 79) in which the foreign seller is required to purchase something from the buyer, usually unrelated goods or services.

Countertrade
Trade in which part or all of payment is made in goods or services. See *barter* (page 28). Countertrade can take several forms.

Countervailing duty
A tariff levied against imports that are subsidized by the exporting country's government, designed to offset (countervail) the effect of the *subsidy* (page 414).

Country of origin
The country in which a good was produced, or sometimes, in the case of a traded service, the home country of the service provider. With production processes spread across many countries (*fragmentation* (page 175)), origin is often ambiguous. In practice, it is subject to *rules of origin* (page 380).

Country risk
The *risk* (page 379) associated with operating in, trading with, or especially holding the assets issued by, a particular country.

In the case of assets, country risk helps to explain why borrowers in some countries must pay higher *interest rates* (page 227) than borrowers from other countries, thus paying a *country risk premium* (page 379).

Country size

Any of many measures of the size of a country. For most economic comparisons, however, country size refers to *GDP* (page 183).

Coupon

The interest payment on a *bond* (page 36), so-named because bonds originally were pieces of paper with small sections, called coupons, that were cut off and exchanged for the interest payments.

Cournot competition

The assumption, often assumed to be made by firms in an *oligopoly* (page 318), that other firms hold their outputs constant as they themselves change behavior. Contrasts with *Bertrand competition* (page 31). Both are used in models of international oligopoly, but Cournot competition is used more often.

Cournot's law

That the sum of the balances of *payments* (page 24) or of *trade* (page 435) across all countries must be zero. Term seems to have been coined by, and perhaps only used by, *Mundell (1960, p. 102)* (page 592), who credited it to *Cournot (1897)* (page 582).

Court of International Trade

See *U.S. Court of International Trade* (page 459).

Covariance

A measure of the extent to which two economic or statistical variables move up and down together. For two variables x and y with values $x_i, y_i, i = 1, \ldots, n$, the covariance is cov $(x, y) = \Sigma_{i=1\ldots n}(x_i - m(x))\ (y_i - m(y))$, where m$(\cdot)$ is the *mean* (page 278) of the values in its argument.

Cover

To use the *forward market* (page 174) to protect against *exchange risk* (page 145). Typically, an importer with a future commitment to pay in foreign currency would buy it forward, and exporter with a future receipt would sell it forward, and a purchaser of a

foreign bond would sell forward the expected proceeds at maturity. See *hedge* (page 200).

Coverage ratio

A measure of the presence of *nontariff barriers* (page 312), defined as the value of imports subject to one or a group of NTBs, divided by the total value of imports. Contrasts with *frequency ratio* (page 178) and *tariff equivalent* (page 422).

Covered interest arbitrage

A combination of transactions on two countries' securities and exchange markets designed to profit from failure of *covered interest parity* (see below). A typical set of transactions would include selling bonds in one market, using the proceeds to buy *spot* (page 404) foreign currency and foreign bonds, and selling *forward* (page 174) the return at a future date. See also *one-way arbitrage* (page 319).

Covered interest parity

Equality of returns on otherwise comparable financial assets denominated in two currencies, assuming that the *forward market* (page 174) is used to *cover* (page 80) against *exchange risk* (page 145). As an approximation, covered interest parity requires that $i = i^* + p$ where i is the domestic interest rate, i^* is the foreign interest rate, and p is the *forward premium* (page 174).

Covered interest rate

The covered interest rate, in a currency other than your own, is the nominal interest rate plus the *forward premium* (page 174) on the currency; thus the percent you will earn holding the foreign asset while protecting against exchange-rate change by selling the foreign currency forward.

CPA

Classification of Products by Activity (page 58).

CPI

Consumer price index (page 72).

Crawling peg

An exchange rate that is *pegged* (page 330), but for which the *par value* (page 327) is changed frequently by small amounts and in a

pre-announced fashion in response to signals from the *exchange market* (page 143).

Creation

See *trade creation* (page 437).

Credibility

The condition of being believed. Particularly relevant when a government or central bank tries to influence an economic variable, such as the *exchange rate* (page 144) or the rate of *inflation* (page 221), since belief that it will fail induces market responses that hasten that failure.

Credit

1. Recorded as positive (+) in the *balance of payments* (page 24), any transaction that gives rise to a payment *into* the country, such as an export, the sale of an asset (including *official reserves* (page 316)), or borrowing from abroad. Opposite of *debit* (page 92).

2. A loan. For example, a *trade credit* (page 438).

Credit crunch

A shortage of available loans. In well-functioning markets, this would simply mean a rise in *interest rates* (page 227), but in practice it often means that some borrowers cannot get loans at all, a situation of *credit rationing.*

Credit tranche

See *tranche* (page 446).

Creditor

A lender.

Creditor nation

A country whose assets owned abroad are worth more than the assets within the country that are owned by foreigners. Contrasts with *debtor nation* (page 94).

Creeping inflation

This term seems to be used both for a rate of *inflation* (page 221) that is low but nonetheless high enough to cause problems, and for a rate of inflation that itself gradually moves higher over time.

Crony capitalism

Used to describe a *capitalist* (page 49) economy in which government or corporate officials and insiders provide lucrative opportunities for their friends and relatives. Term became popular during the *Asian Crisis* (page 17) to describe some of the victim countries, but is now often used elsewhere as well.

Cross-border supply

The provision of an internationally *traded service* (page 444) across national borders without requiring physical movement of buyer or seller, as when the service can be provided by long-distance communication. *Mode 1* (page 285) of four such *modes of supply* (page 285) of traded services.

Cross-country regression

The use of *regression analysis* (page 369) on data from multiple countries, the purpose being to describe and perhaps explain their differences. For example, regressions of country *GDP* (page 183) growth rates on their levels of trade or *openness* (page 321) show a strong positive relationship between trade and growth, though without establishing causation.

Cross elasticity

1. An *elasticity* (page 129) that has been ignored by a student in a problem set.

2. The *elasticity* (page 129) of supply or demand for one good or service with respect to the price of another.

Cross-hauling

The simultaneous shipment of the same product in opposite directions over the same route. The export of the same good by two countries to each other would be cross-hauling, if it occurs at the same time.

Cross-licensing

The permission by two firms to use each other's *intellectual property rights* (page 226).

Cross rate

1. The *exchange rate* (page 144) between two currencies as implied by their values with respect to a third currency.

2. Thus, since most currencies are commonly quoted in U.S. dollars, the exchange rate between any two currencies other than the dollar.

Cross retaliation

Retaliation (page 375) in which the response is in a different sector or under a different *WTO* (page 472) agreement than the action that prompted it. For example, a country suspends *intellectual property protection* (page 226) in response to a violation of *anti-dumping* in *manufacturing* (page 268); or restricts *service* (page 388) imports in response to a *subsidy* (page 414) in *agriculture* (page 11).

Cross sectional variation

The differences in an economic variable that exist at a point in time comparing different economic units, such as consumers, firms, industries, or countries. Often used to seek evidence of causes of trade, growth, and other behaviors. Contrasts with *time series variation* (page 432).

Cross subsidy

The use of profits from one activity to cover losses from another. Thus the use of high prices for some of a firm's products, for example, to permit it to price below cost for others. In international trade, this could be one explanation for *dumping* (page 115).

Crowding out

The effect that an increase in one kind of spending can have in reducing another kind of spending. Most frequently mentioned is the effect of an increase in government spending on *investment* (page 239), which falls when an increase in the *budget deficit* (page 41) drives up the *interest rate* (page 227).

CRS

Constant returns to scale (page 71) = CRTS.

CRTS

Constant returns to scale (page 71).

Crude

Crude oil.

CSE

Consumer support estimate (page 72).

CSME

CARICOM Single Market and Economy (page 50).

CSO

Civil society organization (page 58).

Cultural argument for protection

The view that imports undermine a country's culture and identity — for example by changing consumption patterns to ones more similar to those abroad, or by reducing demands for domestically produced art and music — and therefore that imports should be restricted.

Cum

Latin for "with," as in *tax cum subsidy* (page 426).

Cumulation

1. In an *anti-dumping* (page 14) case against imports from more than one country, the summation of these imports for the purpose of determining *injury* (page 223). That is, the imports are deemed to have caused injury if all of them together could have done so, even if individually they would not.

2. In overlapping *free trade areas* (page 177), a provision that allows inputs from one FTA to qualify as originating under another FTA's *rules of origin* (page 380).

Currency

1. The money used by a country; e.g., the national currency of Japan is the yen.

2. The physical embodiment of money, in the forms of paper bills or notes, and metal coins.

Currency area

A group of countries that share a common currency. *Originally* defined by *Mundell (1961)* (page 592) as a group that have fixed exchange rates among their national currencies.

Currency basket

A group of two or more currencies that may be used as a *unit of account* (page 457), or to which another currency may be *pegged* (page 330).

Currency bloc

1. A group of countries that share a *common currency* (page 62); a *currency area* (see above).

2. A group of countries that peg their different national currencies to a single currency.

Currency board

An extreme form of *pegged exchange rate* (page 330) in which management of both the *exchange rate* (page 144) and the *money supply* (page 288) are taken away from the *central bank* (page 52) and given to an agency with instructions to back every unit of circulating domestic currency with a specified amount of foreign currency. Operates similarly to the *gold standard* (page 188).

Currency convertibility

See *convertible currency* (page 75).

Currency crisis

The crisis that occurs when participants in an *exchange market* (page 143) come to perceive that an attempt to maintain a *pegged exchange rate* (page 330) is about to fail, causing *speculation* (page 403) against the peg that hastens the failure and forces a *devaluation* (page 101).

Currency depreciation

See *depreciation* (page 99).

Currency factor

The portion of a *rate of return* (page 362) that is due to the currency in which the asset is denominated. The currency factor can be nonzero either because of *currency risk* (page 87) or because of expected *appreciation* (page 15) or *depreciation* (page 99).

Currency in circulation

The amount of a country's *currency* (page 85) that is in the hands of the public (households, firms, banks, etc.), as opposed to sitting in the vaults of the *central bank* (page 52).

Currency intervention

Exchange market intervention (page 144).

Currency manipulation

The use of *exchange market intervention* (page 144) to keep the *exchange rate* (page 144) above or below the *equilibrium exchange rate* (page 135). The term is most likely to be applied to a country that keeps its currency *undervalued* (page 455) for the purpose of making its good more *competitive* (page 66).

Currency misalignment
An *exchange rate* (page 144) that is above or below the *equilibrium exchange rate* (page 135), perhaps but not necessarily due to *currency manipulation* (page 86).

Currency mismatch
Having assets that are denominated in a currency different from liabilities, so that a change in *exchange rate* (page 144) between those currencies can have a large positive or negative effect on net wealth.

Currency realignment
A change in the *par value* (page 327) of a *pegged exchange rate* (page 330).

Currency reserves
This usually means *international reserves* (page 236).

Currency risk
Uncertainty about the future value of a currency.

Currency risk premium
The extent to which the interest rate on bonds denominated in a currency exceeds what can be explained by default risk and expected changes in the exchange rate. What remains is presumed to be compensation for *currency risk* (see above).

Currency speculation
To buy or sell a currency in anticipation of its *appreciation* (page 15) or *depreciation* (page 99) respectively, the intent being to make a profit or avoid a loss. See *speculation* (page 403).

Currency substitution
Dollarization (page 111).

Currency swap
See *swap* (page 419).

Currency union
A group of countries that agree to *peg* (page 330) their exchange rates and to coordinate their monetary policies so as to avoid the need for *currency realignments* (see above).

Currency war
Efforts by multiple countries to influence *exchange rates* (page 144) to their own perceived advantage, at the expense of

others. Term used in September 2010 by Guido Mantega, Brazil's finance minister, referring to actions by China, and then by other countries in response, to prevent their currencies from *appreciating* (page 15).

Current account

A country's international transactions arising from current flows, as opposed to changes in stocks which are part of the *capital account* (page 45). Includes trade in goods and services (including payments of interest and dividends on capital) plus inflows and outflows of *transfers* (page 448).

Current account balance

Balance on current account (page 26).

Current account deficit

Debits (page 92) minus *credits* (page 82) on *current account* (page 88). See *deficit* (page 95).

Current account surplus

Credits (page 82) minus *debits* (page 92) on *current account* (page 88). Same as *balance on current account* (page 26). See *surplus* (page 418).

Current dollars

The phrase, "in current dollars" means "not adjusted for inflation."

Current prices

Refers to prices in the present, rather than in some base year; e.g., "GDP at current prices" means *GDP* (page 183) as measured, in contrast to *real* (page 363) GDP, or "GDP at XXXX prices," where the latter is measured in the prices of year XXXX.

CUSFTA

Canada-US Free Trade Agreement (page 44).

CUSTA

Same as *Canada-US Free Trade Agreement* (page 44).

Customary international law

The portion of *international law* (page 234) that has developed over time through custom and usage, rather than formal agreement. Contrasts with *conventional international law* (page 75).

Customs
The process that through which imported goods must pass in crossing the border of a country or other *customs area* (see below).

Customs area
A geographic area that is responsible for levying its own *customs duties* (see below) at its border.

Customs brokerage
A firm that facilitates the clearance of goods through customs by handling the paperwork.

Customs classification
1. The category defining the tariff to be applied to an imported good.
2. The act of determining this category, which may be subject to various rules and/or to the discretion of the *customs officer* (see below).

Customs clearance
The processing of imported goods through a country's border procedures for inspection and taxation.

Customs Cooperation Council Nomenclature
An international *system of classification* (page 58) of goods for specifying tariffs, called the *Brussels Tariff Nomenclature* (page 40) prior to 1976, and later superseded by the Harmonized System of Tariff Nomenclature.

Customs declaration
A written statement by an importer or traveler of the *dutiable imports* (page 116) that they are bringing into a country.

Customs duty
An import *tariff* (page 421).

Customs harmonization
Efforts to adopt common procedures across countries for identifying and valuing imported goods for the purpose of levying *customs duties* (see above). One such effort was the adoption of the *harmonized system* (page 197) of *customs classification* (see above).

Customs officer
The government official who monitors goods moving across a national border and levies *tariffs* (page 421).

Customs procedure
The practices used by *customs officers* (page 89) to clear goods into a country and levy *tariffs* (page 421). Includes clearance procedures such as documentation and inspection, methods of determining a good's *classification*, and methods of assigning its *value* as the base for an *ad valorem* (page 5) tariff. Any of these can impede trade and constitute an *NTB* (page 314).

Customs Service
See *U.S. Customs Service* (page 459).

Customs station
An office through which imported goods must pass in order to be monitored and taxed by *customs officers* (page 89).

Customs territory
A geographical area the borders of which are managed, imposing duties and controls on goods entering the area. A customs territory may not be an internationally recognized country, and the customs territory of a country may be larger or smaller than the country.

Customs union
A group of countries that adopt free trade (zero tariffs and no other restrictions on trade) on trade among themselves, and that also, on each product, agree to levy the same tariff on imports from outside the group. Equivalent to an *FTA* (page 178) plus a common external tariff.

Customs user fee
A charge levied on traders for the service of passing through *customs* (page 89).

Customs valuation procedure
The method by which a *customs officer* (page 89) determines the *customs value* (page 91). When this method is biased against importing, it becomes an *NTB* (page 314).

Customs Valuation Agreement
The Customs Valuation Agreement of the *WTO* (page 472) replaced the *Customs Valuation Code* (page 91), but specified similar rules: Use a *transaction value* (page 447) when available; if not, use *deductive value* (page 95) or *computed value* (page 68).

Customs Valuation Code
A *plurilateral* (page 336) agreement of the *Tokyo Round* (page 433) specifying rules for *customs valuation* (page 90).

Customs value
The value of an imported good for the purpose of levying an *ad valorem tariff* (page 5).

Cutthroat competition
Predation (page 341).

CVD
Countervailing duty (page 79)

Cyclical unemployment
The portion of *unemployment* (page 456) that is due to the *business cycle* (page 42) and thus rises in *recessions* (page 366) but then disappears eventually after the recession ends.

DAC
Development Assistance Committee (page 101).

DAD
Delivery against documents. The requirement by a shipper that the recipient provides certain documents in order to be given the shipment.

Dairy Agreement
See *International Dairy Agreement* (page 232).

DDA
Doha Development Agenda.

DDN Index
Deardorff-Dixit-Norman Index (page 92).

DDP
Delivered duty paid (page 97).

DDU

Delivered duty unpaid (page 97).

De minimis

A legal term for an amount that is small enough to be ignored, too small to be taken seriously. Used to restrict legal provisions, including laws regarding international trade, to amounts of activity or trade that are not trivially small.

Deadweight loss

The net loss in economic welfare that is caused by a tariff or other source of *distortion* (page 108), defined as the total losses to those who lose, minus the total gains to those who gain. Usually identified in a supply-and-demand diagram in terms of *change in consumer* (page 55) and *producer surplus* (page 350) together with government revenue. The net of these appears as one or two *welfare triangles* (page 469).

Deardorff-Dixit-Norman Index

The value of net imports at autarky prices. Used by *Deardorff (1980)* (page 582) and *Dixit and Norman (1980)* (page 582) to indicate *comparative advantage* (page 64), it was named by *Bernhofen and Brown (2005)* (page 579) and used to quantify comparative advantage and the gains from trade.

Debase

To reduce the value of. Classically, a *currency* (page 85) is debased if its value in terms of gold or other precious metal is reduced.

Debenture

1. A debt that is not backed by collateral, but only by the credit and good faith of the borrower.

2. A certificate issued by *customs authorities* entitling an exporter of imported goods to be paid back duties that have been paid when they were imported. Such a refund is called a *drawback* (page 114).

Debit

Recorded as negative (−) in the *balance of payments* (page 24), any transaction that gives rise to a payment *out of* the country, such as an import, the purchase of an asset (including *official*

reserves (page 316)), or lending to foreigners. Opposite of *credit* (page 82).

Debt

The amount that is owed, as a result of previous borrowing. A country's debt may refer to the debt of its government or to that of the country as a whole.

Debt burden

The *debt* (see above) of a country, when large enough that *servicing* (page 388) it has become difficult.

Debt buyback

The purchase by a country of its own outstanding debt at a discounted price due to a debt crisis.

Debt cancellation

The most extreme form of *debt relief* (page 94), in which a country's debts are completely forgiven, so that no repayment of interest or principal is required.

Debt crisis

1. Any situation in which a country, usually a *developing country* (page 101), finds itself unable to service its debts.

2. The *Latin American Debt Crisis* (page 252).

Debt/equity swap

An exchange of debt for equity, in which a lender is given a share of ownership to replace a loan. Used as a method of resolving *debt crises* (see above).

Debt intolerance

In context of the financial problems experienced by *developing countries* (page 101) and *emerging economies* (page 130), this refers to their inability to manage levels of external debt that would be manageable for advanced countries. That is, their credit ratings decline more rapidly with debt than would those of an advanced country.

Debt overhang

A situation in which the external debt of a country is larger than it will be able to repay. Often due to having borrowed in foreign currency and then had its own currency *depreciate* (page 99).

Debt relief
Any arrangement intended to reduce the burden of debt on a country, usually including forgiveness of part or all of what is owed to creditors who may include private banks and other entities, government, or *international financial institutions* (page 233).

Debt service
The payments made by a borrower on its debt, usually including both interest payments and partial repayment of principal.

Debt sustainability
The ability of a *debtor country* (see below) to *service* (page 388) its debt on a continuing basis and not go into *default* (page 95). After a *debt crisis* (page 93), sustainability may be restored through debt *rescheduling* (page 372).

Debtor
A borrower.

Debtor nation
A country whose assets owned abroad are worth less than the assets within the country that are owned by foreigners. Contrasts with *creditor nation* (page 82).

Decile
One of ten segments of a distribution that has been divided into tenths. For example, the second-from-the-bottom decile of an income distribution refers to those whose income exceeds the incomes of from 10% to 20% of the population.

Declaration
See *customs declaration* (page 89).

Decouple
Refers to the provision of government support to an enterprise, usually a farm, in a manner that does not provide an incentive to increase production. Farm subsidies that are decoupled are included in the *green box* (page 191) and are therefore permitted by the *WTO* (page 472).

Decreasing cost
Average cost (page 22) that declines as output increases, due to *increasing returns to scale* (page 218).

Decreasing returns to scale

A property of a *production function* (page 351) such that changing all inputs by the same proportion changes output less than in proportion. Example: a function *homogeneous of degree less than one* (page 203). Also called simply *decreasing returns.* Not to be confused with *diminishing returns* (page 104), which refers to increasing some inputs while holding other inputs fixed. Contrasts with *constant returns* (page 71) and *increasing returns* to scale (page 218).

Deductive value

A method of *customs valuation* (page 91) when *transaction value* (page 447) is not available: Find the first price at which the good is sold inside the importing country and deduct costs incurred after importation.

Deep integration

Refers to economic *integration* (page 225) that goes well beyond removal of formal barriers to trade and includes various ways of reducing the international burden of differing national regulations, such as *mutual recognition* (page 295) and *harmonization* (page 197). Contrasts with *shallow integration* (page 389).

Default

Failure to repay a loan. International loans by governments and private agents lack mechanisms to deal with default, comparable to the legal mechanisms that exist within countries.

Deficiency Payment

Payment to a producer of an amount equal to the difference between a guaranteed price and the market price, with the latter often determined on the world market. Thus a form of *subsidy* (page 414) to production.

Deficit

1. In the *balance of payments* (page 24), or in any category of international transactions within it, the deficit is the sum of debits minus the sum of credits, or the negative of the *surplus* (page 418).

2. In the government budget, the *deficit* (see above) is the excess of government expenditures over receipts from taxes.

Deficit financing

1. The method used by a government to finance its budget *deficit* (page 95), that is, to cover the difference between its tax receipts and its expenditures. The main choices are to issue bonds or to print money.

2. The assumption that a change in government spending or taxes will be financed by a change in the government budget deficit, rather than by an accommodating additional change in spending or taxes to keep the budget balanced. Example: a "deficit-financed increase in government purchases."

Definitive

With reference to a *tariff* (page 421) or other *trade barrier* (page 436) applied as a result of *administered protection* (page 7), this refers to the barrier imposed at the completion of the administrative process, as opposed to the *preliminary* (page 343) barrier that may have been imposed at an earlier stage. Also called *final.*

Deflation

A fall in the general level of prices. Unlikely unless the rate of *inflation* (page 221) is already low, it may then be due either to a surge in *productivity* (page 352) or, less favorably, to a *recession* (page 366).

Deflator

The ratio of a *nominal* (page 307) magnitude to its *real* (page 363) counterpart. Usually refers, as with the *GDP deflator* (page 183), when the real magnitude has been constructed from underlying data and not by simply deflating the nominal magnitude by a corresponding *price index* (page 345), in which case the deflator itself may be used as though it were a price index.

Deflection

See *trade deflection* (page 438), *production deflection* (page 351), and *investment deflection* (page 240).

Degree of openness

See *openness index.* (page 321)

Degressive

1. Declining with income. A degressive income tax takes a smaller fraction of higher incomes.

2. Declining over time. A degressive trade policy might be a *tariff* (page 421) the *ad valoren* size of which is scheduled to decline over time, or a *quota* (page 360) that is scheduled to expand faster than demand for imports.

De-industrialization

A decline over time in the share of *manufacturing* (page 268) in an economy, usually accompanied by growth in the share of *services* (page 388). Typically accompanied by an increase in manufactured imports, it may raise concern that the country is losing valuable economic activity to others.

Delivered duty paid

Specified in a trade contract, this means that the seller is obliged to pay any import *duty* (page 116) and to do whatever else is necessary to bring the goods through customs. Contrasts with *delivered duty unpaid* (see below).

Delivered duty unpaid

Specified in a trade contract, this means that the seller is *not* obliged to pay any import *duty* (page 116) or to do whatever else is necessary to bring the goods through customs. Contrasts with *delivered duty paid* (see above).

Delocalization

Another term for *fragmentation* (page 175). Used by *Leamer (1996)* (page 590).

Delocation

1. The movement of firms and their resulting employment from one country to another as a result of a change in trade policy.

2. More specifically, the effect of an import tariff or export subsidy in causing firm entry at home and exit abroad, so that domestic consumers gain from increased competition and/or reduced transport costs, while foreign consumers similarly lose. Effect identified by *Venables (1985, 1987)* (page 598).

Demand

1. The act of offering to buy a product.

2. The quantity offered to buy.

3. The quantities offered to buy at various prices; the *demand curve* (page 98).

Demand curve
The graph of quantity demanded as a function of price, normally downward sloping, straight or curved, and drawn with quantity on the horizontal axis and price on the vertical axis. Demand curves for imports and for foreign exchange usually have the same qualitative properties as demand curves for goods, but for somewhat different reasons.

Demand deposit
A bank deposit that can be withdrawn "on demand." The term usually refers only to checking accounts, even though depositors in many other kinds of accounts may be able to write checks and thus regard their deposits as readily available.

Demand elasticity
Normally the *price elasticity* (page 344) of demand. References to other elasticities of demand, such as the *income elasticity* (page 216) are normally explicit. See *import demand elasticity* (page 211).

Demand function
The mathematical function explaining the quantity *demanded* (page 97) in terms of its various determinants, including income and price; thus the algebraic representation of the *demand curve* (see above).

Demand price
The price at which a given quantity is demanded; thus the demand curve viewed from the perspective of price as a function of quantity.

Demand reversal
The possibility, accounting for the *Leontief Paradox* (page 256), that country demands differ so much that countries demand more of their abundant-factor intensive goods than they produce, thus invalidating the *Heckscher-Ohlin Theorem* (page 199) under the *quantity definition* (page 358) of *factor abundance* (page 156) but not under the *price definition* (page 344).

Demand schedule
A list of prices and corresponding quantities demanded, or the graph of that information. Thus a *demand curve* (see above).

Demand shock
A *shock* (page 390) on the demand side of a market. Thus an unexpected shift, up or down, in the *demand curve* (page 98).

Demander surplus
Same as *consumer surplus* (page 73), but recognizing that demanders in some markets are not, or not all, consumers, even though the concept remains valid as measuring benefit to demanders.

Demographic dividend
The result of a fall in a country's birth rate, whereby the ratio of the population of children to those of working age is reduced, making resources available for investment and/or increased per capita consumption.

Demographic transition
The change that typically takes place, as a country *develops* (page 101), in the birth and death rates of its population, both of which tend eventually to fall as *per capita income* (page 331) rises.

Demurrage
A cost associated with delay. It takes different forms in different contexts, such as when a ship is delayed in loading or unloading, or when currency or gold are held over time.

Department for International Development
The international *aid* (page 11) agency of the United Kingdom government, responsible for promoting economic development and alleviating poverty in *developing countries* (page 101).

Dependency theory
The theory that *less developed countries* (page 257) are poor because they allow themselves to be exploited by the *developed countries* (page 101) through international trade and investment.

Deposit
An amount of money placed with a bank for safekeeping, convenience, and/or to earn *interest* (page 226).

Depreciate
See *depreciation* (see below).

Depreciation
1. A fall in the value of a country's currency on the *exchange market* (page 143), relative either to a particular other currency

or to a weighted average of other currencies. The currency is said to *depreciate* (page 99). Opposite of *appreciation* (page 15).

2. The decline in value or usefulness of a piece of *capital* (page 45) over time, and/or with use.

Depression

A severe *recession* (page 366) that lasts several years and/or involves a loss of real GDP of more than 10%. (There is no standard definition.)

Deregulation

The lessening or complete removal of government regulations on an industry, especially concerning the price that firms are allowed to charge and leaving price to be determined by market forces.

Derivative

1. In mathematics, the ratio of the change in a variable to the infinitessimal change in another variable upon which it depends. Often used in economics to specify both assumptions and results of models.

2. In financial markets, a financial instrument whose value depends on some other financial variables. Old examples include *forward* (page 174) and *futures contracts* (page 179).

Derived demand

Demand that arises or is defined indirectly from some other demand or underlying behavior; e.g., demand for foreign currency is derived from demand for foreign goods, bonds, etc., while demand for import of a homogeneous good is derived from domestic demand and supply.

Derogation

As used in the trade literature, this seems to mean a departure from the established rules, as when a country's policies are said to constitute a derogation from the GATT.

Destabilizing speculation

Speculation (page 403) that increases the movements of the price in the market where the speculation occurs. Movement may be defined by *amplitude* (page 13), *frequency* (page 178), or some other measure. See *stabilizing speculation* (page 405).

Destination principle

The principle in international taxation that *value added taxes* (page 462) be kept only by the country where the taxed product is being sold. Under the destination principle, value added taxes are collected on imports and rebated on exports. Contrasts with the *origin principle* (page 324).

Deterministic

Not random. Contrasts with *stochastic* (page 410). Most models of international trade are deterministic.

Devaluation

1. *Depreciation* (page 99).

2. A fall in the value of a currency that has been *pegged*, either because of an announced reduction in the *par value* (page 327) of the currency with the peg continuing, or because the pegged rate is abandoned and the *floating rate* (page 169) declines.

3. A fall in the value of a currency in terms of gold or silver, meaningful only under some form of *gold standard* (page 188) or *silver standard* (page 392).

Develop

To experience a sustained and substantial increase in *per capita income* (page 331); thus to undergo *economic development* (page 122).

Developed country

A country whose per capita income is high by world standards.

Developing country

A country whose per capita income is low by world standards. Same as *less developed country* (page 257). As usually used, it does not necessarily connote that the country's income is rising.

Development

Economic development (page 122).

Development Assistance Committee

The group of member countries of the *OECD* (page 316) that form the "principal body through which the OECD deals with issues related to co-operation with developing countries." It has 29 members (as of December 2013), which are generally those

OECD member countries with the highest per capita incomes, plus the Commission of the European Union.

Development bank

A multilateral institution that provides financing for development needs of a regional group of countries. Examples include the *African* (page 8), *Asian* (page 18), and *Inter-American* (page 226) development banks.

Development decade

The *United Nations* (page 458) General Assembly had designated as "development decades" 1960–70, 1971–80, 1981–90, and 1991–2000.

Development finance

Provision of *credit* (page 82) to a *developing country* (page 101) to permit it to undertake *development projects* (see below) that it could not otherwise afford.

Development finance institution

A governmental or intergovernmental body that provides *development finance* (see above).

Development project

A project intended to increase a *developing country's* (page 101) ability to produce in the future. Such projects are most commonly additions to the country's *capital stock* (page 49), but they may involve improvements in *infrastructure* (page 222), educational facilities, discovery or development of *natural resources* (page 299), etc.

Deviation

See *standard deviation* (page 406).

DFI

Direct Foreign Investment (page 104).

DFID

Department for International Development (page 99).

DFQF

Duty-free, quota-free (page 116).

DFS model

One of the *continuum-of-goods* (page 74) models of *Dornbusch, Fischer, and Samuelson (1977, 1980)* (page 583).

DFTT

Double factoral terms of trade (page 113)

Diagonal

1. In a matrix, the elements on a straight line from the top left to the bottom right, or occasionally from the bottom left to the top right.

2. In an *Edgeworth box* (page 126), the straight line from the bottom left corner to the top right. Along the diagonal, the ratios of allocations of the two agents (industries or consumers) are constant and equal.

3. In an *integrated world economy diagram* (page 225), the straight line from the bottom left corner to the top right. Along the diagonal, the ratios of *factor endowments* (page 157) of the two coutries are constant and equal.

Diaspora bond

A *bond* (page 36) issued by the government of a country and marketed to migrants from its country who are working in other countries.

Differential treatment

See *special and differential treatment* (page 401).

Differentiated product

1. A firm's product that is not identical to products of other firms in the same industry. Contrasts with *homogeneous product* (page 204).

2. Sometimes applied to products produced by a country, even though there are many firms within the country whose products are the same, if buyers distinguish products based on *country of origin* (page 79). This is called the *Armington assumption* (page 16).

Digit

Used in indicating the extent of *disaggregation* (page 106) of data within a *classification system* (page 58). For example, 3-digit trade data, categorized by 3-digit numbers, are more aggregated than 6-digit data, as many more and hence smaller groups of goods can be categorized with 6-digit numbers.

Dillon Round
The fifth *round* (page 380) of multilateral trade negotiations that was held under *GATT* (page 182) auspices, commencing 1960 and completed 1961. It was the first to be given a name, after C. Douglas Dillon, U.S. Undersecretary of State under Eisenhower and Treasury Secretary under Kennedy.

Dim sum bond
A bond, issued in Hong Kong and denominated in the Chinese currency, renminbi.

Diminishing marginal utility
The property that *marginal utility* (page 271) falls as the quantity consumed of a single good or service rises. This is neither necessary nor sufficient for most common results in economic theory, but it is a property of most *utility functions* (page 462) that are well-behaved.

Diminishing returns
The fall in the *marginal product* (page 269) of a *factor* (page 156) or factors that eventually occurs as input of that factor rises, holding the input of at least one other factor fixed, according to the *Law of Diminishing Returns* (page 253).

Diminishing returns to scale
See *decreasing returns to scale* (page 95), which is the preferred term in order to distinguish it from *diminishing returns* (see above) to a single factor when at least one other is held fixed.

Direct devaluation
Devaluation of the *nominal exchange rate* (page 308). Can be viewed as an alternative to devaluing the *real exchange rate* (page 364) by using other policies that change prices or expenditure.

Direct factor content
A measure of *factor content* (page 156) that includes only the factors used in the last stage of production, ignoring factors used in producing intermediate inputs. Contrasts with *direct-plus-indirect factor content* (page 105).

Direct foreign investment
Foreign direct investment (page 171).

Direct tax

A *tax* on any form of income. Contrasts with *indirect tax* (page 219). The distinction matters for trade policy, because a rebate of direct tax on an exported product is an illegal *subsidy* (page 414) in the *WTO* (page 472), while a rebate of an indirect tax, such as a *value added tax* (page 462), is not.

Direct-plus-indirect factor content

A measure of *factor content* (page 156) that includes factors used in producing intermediate inputs, factors used in producing intermediate inputs *to* the intermediate inputs, and so forth. That is, it includes all primary factors that contributed however indirectly to production of the good. Contrasts with *direct factor content* (page 104).

Direction of trade

1. Refers to the particular countries and kinds of countries toward which a country's exports are sent, and from which its imports are brought, in contrast to the commodity composition of its exports and imports. Thus the pattern of its *bilateral trade* (page 34).

2. *Direction of Trade Statistics* (see below).

Direction of Trade Statistics

Publication of the *International Monetary Fund* (page 235).

Directly Unproductive Profit-Seeking Activities

Activities that have no direct productive purpose (neither increasing consumer utility nor contributing to production of a good or service that would increase utility) and are motivated by the desire to make profit, typically from market distortions created by government policies. Examples are *rent seeking* (page 371) and revenue seeking. Term *coined* by *Bhagwati (1982)* (page 579).

Director General

Title given to the persons who head certain international organizations, including the *WTO* (page 472).

Dirigiste

Centrally planned (page 53); that is, under the direction of a central authority, normally the government. Contrasts with

decentralized, or a system in which economic decisions are determined by market forces in a *market economy* (page 273).

Dirty float

Same as *managed float* (page 267).

Disaggregation

The opposite of *aggregation* (page 10), this refers to the categorization of data into a greater number of smaller categories.

Disarticulation

The absence of linkage among sectors of an economy, so that growth in some does not spill over into improved productivity and well-being in others.

DISC

Domestic International Sales Corporation (page 112).

Discipline

See *GATT discipline* (page 182).

Discount

1. Any reduction in price or value, especially when below a stated or normal price.

2. To buy or sell *commercial paper* (page 61) at a price below face value to account for *interest* (page 226) to accrue before maturity.

3. To attach a lower weight to the importance of — or utility derived from — one thing compared to another, as in *time preference* (page 432) that discounts later compared to earlier consumption.

Discount rate

1. The rate, per year, at which future values are diminished to make them comparable to values in the present. Can be either subjective (reflecting personal time preference) or objective (a market interest rate).

2. The interest rate that the *Fed* (page 163) charges commercial banks for very short-term loans of reserves. One of the tools of *monetary policy* (page 286).

Discount window

The mechanism by which the *Fed* (page 163) makes loans to commercial banks, charging them an interest rate that is the *discount rate* (see above) and also sometimes exerting some pressure on the banks to limit their borrowing.

Discounted present value
Present value (page 343).

Discrete time
The division of time into indivisible units. In economic models, these units represent periods, such as days, quarters, or years.

Discretionary licensing
See *licensing* (page 258).

Discrimination
Unequal treatment. In the *WTO* (page 472), *nondiscrimination* (page 311) is required in the form of *most favored nation* (page 290) treatment. However, many exceptions are permitted, including *anti-dumping duties* (page 14) and *preferential trade agreements* (page 342).

Discriminatory tariff
A higher *tariff* (page 421) against one source of imports than against another. Except in special circumstances, such as *anti-dumping duties* (page 14), this is a violation of *MFN* (page 280) and is prohibited by the *WTO* (page 472) against other members.

Diseconomies of scale
Decreasing returns to scale (page 95).

Disequilibrium
1. Inequality of supply and demand.
2. An untenable state of an economic system, from which it may be expected to change.

Disguised protection
Any policy other than a *tariff* (page 421) or other *border measure* (page 37) that has the effect of benefiting a domestic industry and cannot be justified as correcting a *distortion* (page 108).

Disintegration
Another term for *fragmentation* (page 175). Used by *Feenstra (1998)* (page 583).

Disinvest
1. To allow a *stock of capital* to become smaller over time, either by selling parts of it or by allowing it to *depreciate* (page 99) without replacing it.
2. To reduce *inventories* (page 239), either absolutely or by more than any increase in plant and equipment.

3. To sell all or a portion of a *portfolio* (page 338) of *financial assets* (page 164).

Disparity

Inequality, usually *income disparity* (page 216).

Disposable income

Income minus taxes. More accurately, income minus direct taxes plus transfer payments; that is, the income available to be spent (including on imports) and saved.

Dispute settlement

In the *GATT* (page 182), the adjudication of disputes among parties. In the *WTO* (page 472) this is done by the *dispute settlement mechanism* (see below).

Dispute Settlement Body

The entity within the *WTO* (page 472) that formally deals with disputes between members. It consists of all WTO members meeting together to consider reports of *panels* (page 326) and the *Appellate Body* (page 15).

Dispute settlement mechanism

The procedure by which the *WTO* (page 472) settles disputes among members, primarily by means of a three-person *panel* (page 326) that hears the case and issues a report, subject to review by the *Appellate Body* (page 15).

Dispute settlement understanding

The agreement within the *WTO* (page 472) creating the *dispute settelement mechanism* (see above).

Dissipate rent

To use up, in real resources, the full value of the economic *rents* (page 371) that are being sought by *rent seeking* (page 371).

Distortion

Any departure from the ideal of *perfect competition* (page 332) that therefore interferes with economic agents maximizing social welfare when they maximize their own. Includes taxes and subsidies, *tariffs* (page 421) and *NTBs* (page 314), *externalities* (page 155), *incomplete information* (page 217), and *imperfect competition* (page 210). Same as *market imperfection* (page 273).

Distress dumping

Intermittent dumping (page 228).

Distribution

1. The productive activity of getting produced goods from the factory into the hands of consumers.

2. The amounts of income or wealth in the hands of different portions of a population.

Diversification

Reliance on multiple products for export and/or multiple *trading partners* (page 446) to export them to.

Diversification cone

For given prices in the *Heckscher-Ohlin Model* (page 199), a set of *factor endowment* (page 157) combinations that are consistent with producing the same set of goods and having the same factor prices. Such a set has the form of a cone. Concept first used (refer to page 567) by *McKenzie (1955)* (page 591).

Diversified portfolio

A *portfolio* (page 338) that includes a variety of assets whose prices are not likely to all change together. In international economics, this usually means holding assets denominated in different currencies.

Diversify

1. In trade theory, for a country to produce more than one thing. In the *Heckscher-Ohlin Model* (page 199) with two goods, it means to produce both of them. With more than two goods, it may mean to produce two, or it may mean to produce all of the goods that are possible.

2. For an owner of assets, to hold a *diversified portfolio* (see above).

Diversion

See *trade diversion* (page 439).

Diversionary dumping

Dumping (page 115) of a good, not directly into a country, but indirectly through a third country where it is minimally further processed for export.

Dividend
The amount paid each quarter by a corporation to its stockholders for each share of stock.

Division of labor
Splitting a production process across multiple workers, each performing a different task repeatedly rather than having a single worker perform all tasks. *Adam Smith (1776)* (page 596) pointed out the increased *productivity* (page 352) that can result, as well as the potential for *gains from trade* (page 181) when division of labor takes place across countries.

Dixit-Stiglitz function
Really just a symmetric *CES function* (page 54), the innovation of *Dixit and Stiglitz (1977)* (page 582) (and earlier *Spence (1976)* (page 596)) was to allow the number of arguments to be variable. Used originally as a utility function, with *elasticity of substitution* (page 129) greater than one the function displays a *preference for variety* (page 342). Used as a component of a production function, the same property implies that costs fall with variety. Also called the *Spence-Dixit-Stiglitz* (page 403) function.

Dixit-Stiglitz utility
The *Dixit-Stiglitz function* (see above) used as a *utility function* (page 462).

Docking provision
A part of an agreement among a group of countries to allow other like-minded countries to join the agreement on specified terms without renegotiating the agreement.

Doha Declaration
The document agreed upon by the trade ministers of the member countries of the *WTO* (page 472) at the *Doha Ministerial* (see below) meeting. It initiates negotiations on a range of some 21 subjects. A distinctive feature is the emphasis placed on the interests of developing countries.

Doha Ministerial
The *WTO* (page 472) ministerial meeting held in Doha, Qatar, 10–14 November 2001, at which it was agreed to begin a new round of multilateral trade negotiations, the Doha Round.

Doha Round

The round of multilateral trade negotiations begun January 2002 as a result of agreement at the *Doha Ministerial* (page 110). Also called the Doha Development Round or the Doha Development Agenda.

Doing Business

A project of the World Bank that rates and ranks countries of the world by several indicators of the ease of doing business, such as starting and closing a business, getting credit, enforcing contracts, and employing workers.

Dollar standard

An international financial system in which the U.S. dollar is used by most countries as the primary *reserve asset* (page 373), in contrast to the *gold standard* (page 188) in which gold played this role.

Dollarization

1. The official adoption by a country other than the United States of the U.S. dollar as its local currency. Or more generally the adoption by a country of another country's currency rather than issuing its own.

2. The circulation of another more stable country's currency, perhaps illegally, alongside of a country's own currency.

Domestic

From or in one's own country. A domestic producer is one that produces inside the home country. A domestic price is the price inside the home country. Opposite of "foreign" or "world."

Domestic arrears

The amount by which a government has fallen behind in its payment of interest and principal on debt to lenders within its own country.

Domestic bias

Home bias (page 202).

Domestic content protection

Use of trade policies such as *domestic content requirements* (page 112) to increase the portion of a product's value that is

provided by domestic factors of production, either in direct production or through produced inputs.

Domestic content requirement

A requirement that goods sold in a country contain a certain minimum of domestic *value added* (page 462).

Domestic credit

Credit extended by a country's central bank to domestic borrowers, including the government and commercial banks. In the United States, the largest component by far is the Fed's holdings of U.S. government bonds, but it also makes some short-term loans to banks to use as their reserves.

Domestic demand

Demand for a product by buyers in one's own country.

Domestic distortions argument for protection

See *second-best argument* (page 385).

Domestic International Sales Corporation

A type of U.S. corporation, authorized in 1971, with income primarily from exports. Usually wholly owned U.S. subsidiaries, DISCs had special treatment in borrowing or taxation. A 1976 *GATT* (page 182) case found against the U.S., which reached a compromise settlement with the *EC* (page 119) in 1981. DISC was replaced in 1984 by *foreign sales corporations* (page 172).

Domestic law

The laws and legal system of a country, which may be constrained by international obligations such as *WTO* (page 472) membership. Sometimes a domestic law is inconsistent with such obligations and must be changed. This may be seen as a threat to the country's *sovereignty* (page 400).

Domestic market

The market within a country's own borders. *Dumping* (page 115), for example, may be defined by comparing the price charged for export with the price charged on the domestic market, i.e., to buyers within the exporting country.

Domestic resource cost

A measure, in terms of real resources, of the *opportunity cost* (page 321) of producing or saving *foreign exchange* (page 171).

It is an *ex ante* (page 142) measure of *comparative advantage* (page 64), used to evaluate projects and policies. The term was introduced to the economics literature by *Bruno* (1963, 1972) (pages 581, 581).

Domestic subsidy

A *subsidy* (page 414) to production, independent of where the product is to be sold. Contrasts with *export subsidy* (page 153).

Domestic supply

Supply of a product by sellers in one's own country.

Domestic support

A policy that assists domestic industry, including a *subsidy* (page 414) to production, payment not to produce, *price support* (page 345), and other means of increasing the income of producers.

Domestic trade

Commerce within a country; wholesale and retail trade.

Dornbusch-Fischer-Samuelson Model

See *DFS model* (page 102).

DOT

Direction of Trade (page 105).

DOTS

Direction of Trade Statistics (page 105).

Double counting

Counting the same thing twice, or more than twice. For example, the total value of output of all firms in a country overstates the country's output, since the value of produced inputs is counted again in the value of what they help to produce. To avoid this, *GDP* (page 183) is measured either from *value added* (page 462) or from only *final goods* (page 164).

Double factoral terms of trade

The purchasing power, in terms of the *factors* (page 156) used abroad to produce imports, of a country's own factors as they produce exports. It thus accounts for both the *net barter terms of trade* (page 303) and the *factor productivities* (page 159) of its own factors in producing its exports, A_x, and of foreign factors in producing its imports,

A_m: $DFTT = NBTT \times A_x/A_m = (P_x/P_m) \times (A_x/A_m)$. In effect, this is the price at which domestic factors exchange, through trade, for foreign factors. Term introduced by *Viner (1937)* (page 598).

Double remedy

The use of both an *anti-dumping duty* (page 14) and a *countervailing duty* (page 79) on the same imports.

Double switching

Reswitching (page 375).

Dow Jones Industrial Average

An index of prices of *stocks* (page 410), based on U.S. stocks of 30 large industrial companies.

Downstream dumping

The export of a good whose cost is reduced by access to a domestically produced intermediate input that is sold below cost. This is not (yet) eligible under any *anti-dumping* (page 14) statute for an anti-dumping duty.

Downstreaming

The shifting of exports from originating in high-income countries to originating in lower-income economies. Used in reference to shifts in the location of production especially of high-technology goods.

Drawback

Rebate of import duties when the imported good is re-exported or used as input to the production of an exported good. Also called a *duty drawback* (page 116).

DRC

Domestic resource cost (page 112).

DSM

Dispute settlement mechanism (page 108).

DSU

Dispute settlement understanding (page 108).

Dual pricing

Sale of identical products in different countries for prices that differ by more than can be accounted for by differences in shipping costs.

Dual-use

Applied to a good or a technology, this refers to being useful by both civilians and the military. This poses challenges for keeping military goods and technologies out of the hands of dangerous foreign powers.

DUKS

See *baffling pigs* (page 24).

Dummy

In a *regression analysis* (page 369), a dummy (or dummy variable) is used to capture an explanatory variable that is either on (with a value of one) or off (zero). For example, in a *gravity equation* (page 190), the coefficient on a common-language dummy would measure the effect on trade flow between two countries of their sharing a common language.

Dumping

Export price that is "unfairly low," defined as either below the home market price (*normal value* (page 313)) (hence *price discrimination* (page 344)) or below cost. With the rare exception of successful *predatory dumping* (page 341), dumping is economically beneficial to the importing country as a whole (though harmful to competing producers) and often represents normal business practice.

Dumping margin

In a case of *dumping* (see above), the difference between the "*fair price*" (page 160) and the price charged for export. Used as the basis for setting *anti-dumping duties* (page 14).

Dunkel Draft

A draft agreement written in 1991 during the negotiations of the *Uruguay Round* (page 461) by GATT Director-General Arthur Dunkel, incorporating all that had been so far agreed and filling in gaps with his proposed text. This was "an historic turning point" in the negotiations that led to the creation of the *WTO* (page 472).

Duopoly

An *oligopoly* (page 318) with two firms.

DUP Activities
Directly Unproductive Profit-Seeking Activities (page 105).

Durable good
A good that can continue to be used over an extended period of time.

Dutch disease
The adverse effect on a country's other tradable industries when one industry's exports boom, causing *real appreciation* (page 364). Named after the effects of natural gas discoveries in the Netherlands, and most commonly applied to effects on *manufacturing* (page 268) of exports in *natural resource* (page 299) extractive industries. Term was coined by *The Economist* (page 125) in 1977.

Dutiable imports
Imports on which a positive duty, or tariff, is levied. (The term seems like it ought to include imports on which the duty is zero but which a government is somehow free, or able, to levy a positive duty. That does not seem to be the way the term is used, however.)

Duties collected
The amount of revenue collected by a tariff on a product over a given period of time. The change in duties collected is used as a measure of *concessions* (page 69) in determining *reciprocity* (page 367).

Duty
Tax. That is, an import duty is a tariff.

Duty drawback
See *drawback* (page 114).

Duty-free
Without *tariff* (page 421), usually applied to imports on which normally a tariff would be charged, but that for some reason are exempt. Travelers, for example, may be permitted to import a certain amount duty-free.

Duty-free, quota-free
Trade that is not encumbered by tariffs or quotas. This was an objective of the *Doha Round* (page 111) in the treatment of

exports of *developing countries* (page 101), or at least the least developed of them.

Duty remission

Rebate of *duties* (page 116) paid on imported inputs when used for production for export. Seems to be the same as *duty drawback* (page 116).

Duty suspension

Temporary reduction of a *tariff* (page 421) to zero, to relieve a shortage or reduce prices to consumers.

Dynamic comparative advantage

A changing pattern of *comparative advantage* (page 64) over time due to changes in *factor endowments* (page 157) or *technology* (page 427).

Dynamic consistency

The property that a plan made at one time continues to be optimal at a later time if anticipated conditions prevail. Dynamic consistency is often violated, especially by policy makers.

Dynamic economies of scale

A form of *increasing returns to scale* (page 218) in which *average cost* (page 22) declines over time as producers accumulate experience, so that *average product* (page 22) rises with total output of the firm or industry accumulated over time. See *infant industry protection* (page 221) and *learning by doing* (page 254).

Dynamic effects

Refers to certain poorly understood effects of trade and *trade liberalization* (page 441), including both *multilateral* (page 292) and *preferential trade agreements* (page 342), that extend beyond the *static gains from trade* (page 408). Such dynamic effects are thought to make the *gains from trade* (page 181) substantially larger than in the *static model* (page 409).

Dynamic gains from trade

The hoped-for benefits from trade that accrue over time, in addition to the conventional *static gains from trade* (page 408) of trade theory. Sources of these gains are not well understood or documented, although there exists a variety of possible theoretical reasons for them and some empirical evidence that

countries have benefited more than the static gains alone would suggest.

Dynamic model

Any model with an explicit time dimension. To be meaningfully dynamic, however, it should include variables and behavior that, at one time, depend on variables or behavior at another time. Models may be formulated in *discrete time* (page 107) or in *continuous time* (page 73). Contrasts with a *static model* (page 409).

Dynamic time path question

The question of whether the creation of preferential trading areas leads toward or away from greater *multilateral* (page 292) free trade. More succinctly, are PTAs *building blocs* (page 41) or *stumbling blocs* (page 414) in the path toward free trade? Asked by *Bhagwati (1993)* (page 579), this prompted a large, inconclusive literature.

EADB

East African Development Bank (page 119).

EAI

Enterprise for the Americas Initiative (page 132).

EAMS

Euro Area Member States (page 138).

Early harvest

A term, in *trade negotiations* (page 441), for agreeing to accept the results of a portion of the negotiations before the rest of the negotiations are completed.

Earnings

The total amount earned, usually by a worker as wages, or by a firm as profits.

Earth Summit
Rio Summit (page 379).

EAS
East Asia Summit (see below).

East African Development Bank
"A leading development finance institution with an overriding objective of promoting development in East Africa," EADB is a *development bank* (page 102) for its five member countries: Burundi, Kenya, Rwanda, Tanzania, and Uganda.

East Asia Summit
A meeting of the heads of state of a dozen or so countries to discuss both political and economic issues of common interest. The first of these meetings was held in 2005 in Kuala Lumpur. The seventh meeting was held in Indonesia in July 2012.

Easy money
A *monetary policy* (page 286) that is *expansionary* (page 147), thus with low *interest rates* (page 227) for borrowing. Contrasts with *tight money* (page 432).

Eaton-Kortum Model
A useful variant of the *Ricardian trade model* (page 378) in which a continuum of producers or industries have randomly chosen differences in productivities. Due to *Eaton and Kortum (2002)* (page 583).

EBITDA
Earnings (page 118) before *interest* (page 226), taxes, *depreciation* (page 99), and *amortization* (page 13) of a firm. Sometimes used as an optimistic indicator of potential profitability.

EBRD
European Bank for Reconstruction and Development (page 139).

EC
European Communities (page 139).

ECA
(United Nations) Economic Commission for Africa (page 458).

ECB
European Central Bank (page 139).

ECE

(United Nations) Economic Commission for Europe (page 459).

ECF

Extended Credit Facility (page 154).

ECIPE

European Centre for International Political Economy (page 139).

ECLAC

Economic Commission for Latin America and the Caribbean (page 121).

Eco-dumping

Environmental dumping (page 133).

Eco-label

A label that certifies that a product and its production meet high environmental standards. Such labeling is an alternative to the use of *trade barriers* (page 436) to enforce such standards (see *environmental protection argument* (page 134)). Examples are *Green Seal* (page 192) in the U.S. and ecolabel in the EU.

Ecolabel

See *eco-label* (above).

Econometric model

A set of equations that have been estimated by *econometric* (see below) methods and that are then used, together, to forecast the economy or to calculate effects of changes in the economy. Thus, an *economic model* (page 123) whose equations are econometrically estimated.

Econometrics

The application of statistical methods to the empirical estimation of economic relationships. Econometric analysis is used extensively in international economics to estimate the causes and effects of international trade, exchange rates, and international capital movements.

Economic and Monetary Union

The *currency area* (page 85) formed in 1999 as a result of the *Maastricht Treaty* (page 266). Members of the EMU share the common currency, the *euro* (page 138).

Economic and Social Commission for Asia and the Pacific
Regional development commission of the *United Nations* (page 458) that deals with Asia and the Pacific. It works in three main areas: poverty reduction; managing globalization; and tackling emerging social issues.

Economic and Social Commission for Western Asia
Regional development commission of the *United Nations* (page 458) that deals with Western Asia. Its purpose, like the other *regional commissions* (page 555), is to promote cooperation and integration between the countries in the region.

Economic Commission for Latin America and the Caribbean
One of five regional commissions of the United Nations, contributing to the economic and social development of Latin America and the Caribbean. Headquartered in Santiago, Chile. Established in 1948.

Economic contraction
The downward phase of the *business cycle* (page 42), in which *GDP* (page 183) is falling and *unemployment* (page 456) is rising over time.

Economic cooperation
This could mean many things, including any of the many ways that countries work together in the economic sphere to achieve mutual objectives. Most commonly, it means reducing *barriers* (page 28) to *trade* (page 435) and *international investment* (page 234) and pursuing means to encourage economic growth.

Economic cost
The monetary cost of an object or action, including reductions in wages, profits, and property values, but not including such nonmonetary costs as adverse consequences for health or safety, or negative effects on others.

Economic crisis
Although there are many economic events that might be called crises, this term usually refers to a sudden drop in *aggregate demand* (page 9) that, if prolonged, leads to *recession* (page 366).

Economic decision
A decision about an economic issue, most commonly about how to allocate resources among multiple purposes.

Economic development
Sustained increase in the economic standard of living of a country's population, normally accomplished by increasing its stocks of *human capital* (page 206) and *physical capital* (page 335) and improving its *technology* (page 427).

Economic efficiency
The extent to which a given set of *resources* (page 373) is being allocated across uses or activities in a manner that maximizes whatever value they are intended to produce, such as output, market value, or utility. Contrasts with *engineering efficiency* (page 132), which focuses within a single activity on the output it produces per unit input.

Economic expansion
The upward phase of the *business cycle* (page 42), in which *GDP* (page 183) is rising and *unemployment* (page 456) may be falling over time.

Economic exposure
Same as *exchange rate exposure* (page 144).

Economic factor
Any of the considerations that are relevant to a decision and that involve economic variables, such as prices and wages.

Economic freedom
Freedom to engage in economic transactions, without government interference but with government support of the institutions necessary for that freedom, including *open markets* (page 320), *rule of law* (page 380), and *sound money* (page 399).

Economic geography
See *new economic geography* (page 305).

Economic growth
The increase over time in the capacity of an economy to produce goods and services and (ideally) to improve the well-being of its citizens.

Economic indicator

A variable that is measured and publicly reported and that is considered meaningful not only for itself but as a sign of how rapidly the larger economy is expanding or contracting.

Economic integration

See *integration* (page 225).

Economic interdependence

The extent to which economic performance (*GDP* (page 183), *inflation* (page 221), *unemployment* (page 456), etc.) in one country depends positively or negatively on performance in other countries.

Economic justice

1. Fairness and equity in economic affairs, presumably by having laws, governments, and institutions that treat people equally and avoid favoring particular individuals or groups.

2. As most often used, the term carries a connotation that economic justice can only be achieved by lessening the power and changing the practices of *international financial institutions* (page 233), *transnational corporations* (page 449), and rich-country governments.

Economic model

A collection of assumptions, often expressed as equations relating variables, from which inferences can be derived about economic behavior and performance.

Economic nationalism

A preference for supporting a country's own firms, industries, and workers — and, in the case of firms and other assets, keeping them owned within the country — even at the expense of the economic gains that could be had from trade and international investment.

Economic partnership agreement

An agreement negotiated between the *European Union* (page 141) and a developing country — especially members of the *ACP countries* (page 5) — to form *free trade areas* (page 177) and otherwise assist them in their development.

Economic profit
Revenue from an activity minus the *opportunity cost* (page 321) of the resources used in that activity.

Economic rate of return
The net benefits to all members of society, as a percentage of cost, taking into account *externalities* (page 155) and other *market imperfections* (page 273).

Economic relations
Economic activity that involves participants of two countries, most obviously trade but other forms as well. Some pairs of countries that have essentially no political relations nonetheless have economic relations.

Economic rent
See *rent* (page 371).

Economic sanction
The use of an economic policy as a *sanction* (page 382).

Economic slump
Recession (page 366) or a slowing of the rate of *economic growth* (page 122) that comes close to being a recession.

Economic Strategy Institute
Describes itself as a "private, non-profit, non-partisan public policy research organization dedicated to assuring that globalization works with market forces to achieve maximum benefits rather than distorting markets, and imposing costs." It seems to be mainly an outlet for the views of one man, Clyde Prestowitz, its president.

Economic structure
The major features of a country or region's economy, including what and how much it produces and trades, and how it spends its income.

Economic summit
A meeting, usually of government leaders, to discuss economic conditions and policies. In the international context, these are most prominently the meetings of heads of state of the *G-20* (page 180) or, previously, the *G-7* (page 180) or *G-8* (page 180).

Economic union

A *common market* (page 63) with the added feature that additional policies — monetary, fiscal, welfare — are also *harmonized* (page 197) across the member countries.

Economic variable

Any economic magnitude the size of which may change and is subject to explanation by an *economic model* (page 123). Examples are endless, including consumption, the price of a good, the *exchange rate* (page 144), the tax receipts of a government, the number of children per family, etc.

Economic vulnerability

The extent of a country's exposure to lost sales and especially lost supplies of needed products due to changes in foreign markets and foreign policies. Vulnerability rises with increased *openness* (page 321), but depends (negatively) also on *diversification* (page 109) and on the political relations a country has with its *trading partners* (page 446).

Economic welfare

See *welfare* (page 468).

Economies of agglomeration

Agglomeration economies (page 9).

Economies of scale

Increasing returns to scale (page 218).

Economies of scope

The property that a firm's average cost falls as it produces a larger number of different products.

Economist, The

A weekly newsmagazine (which calls itself a newspaper), published in the United Kingdom but distributed worldwide. Since it was established in 1843, it has been a champion of *free trade* (page 177).

ECSC

European Coal and Steel Community (page 139).

ECU

European Currency Unit (page 140).

Edgeworth-Bowley box

A geometric device showing *allocations* (page 12) of 2 goods to 2 consumers in a rectangle with dimensions equal to the quantities of the goods. *Preferences* (page 342) enter as *indifference curves* (page 219) relative to opposite corners of the box, tangencies defining *efficient allocations* (page 128) and the *contract curve* (page 74). First drawn by *Pareto (1906)* (page 593), based *originally*, though only partially, on a diagram of *Edgeworth (1881)* (page 583). This and the *Edgeworth production box* (see below) are often called just the *Edgeworth box* (see below), even though Edgeworth never drew either.

Edgeworth box

Edgeworth-Bowley box (see above) and *Edgeworth production box* (see below).

Edgeworth production box

A variation of the consumption *Edgeworth box* (see above) that instead represents the *allocations* (page 12) of 2 factors to 2 industries for use in *production functions* (page 351). *Efficient allocations* (page 128) now appear as tangencies between *isoquants* (page 242), while the *contract curve* (page 74) becomes the *efficiency locus* (page 127). Refer to *Picture Gallery* (page 481).

EEA

European Economic Area (page 140).

EEC

European Economic Community (page 140).

Effect of trade

This term normally refers, often only implicitly, to the effect of a change in some policy or other *exogenous variable* (page 147) that will increase the quantity of trade. Since in trade models, trade itself is *endogenous* (page 131), the effects associated with a change in trade depend on what caused it.

Effective exchange rate

An index of a currency's value relative to a group (or *basket* (page 29)) of other currencies, where the currencies in the basket are given weights based on the amount of trade between the

countries that use the currencies. Also called a *trade-weighted exchange rate* (page 445).

Effective protection

The concept that the protection provided to an industry depends on the tariffs and other trade barriers on both its inputs and its outputs, since a tariff on inputs raises cost. Measured by the *effective rate of protection* (see below).

Effective protective rate

Same as *effective rate of protection* (see below).

Effective rate of protection

A measure of the protection provided to an industry by the entire structure of *tariffs* (page 421), taking into account the effects of tariffs on inputs as well as on outputs. Letting b_{ij} be the share of input i in the value of output j, and t_i be the tariff on good i, the ERP of industry j is $ERP_j = (t_j - \Sigma_i b_{ij} t_i)/(1 - \Sigma_i b_{ij})$. Due to *Corden (1966)* (page 582).

Effective tariff

Effective rate of protection (see above).

Efficiency

See *economic efficiency* (page 122).

Efficiency locus

The set of *efficient allocations* (page 128) in an *Edgeworth production box* (page 126). It is usually a curve, similar to a *contract curve* (page 74), and in fact is sometimes called that.

Efficiency loss

In economics, efficiency loss usually refers to the reduction in *economic welfare* (page 125) due to a *market imperfection* (page 273) or *distortion* (page 108). The *deadweight loss* (page 92) due to a *tariff* (page 421) is a good example of an efficiency loss.

Efficiency unit

A unit of a *factor* (page 156), usually of labor, with the same *productivity* (page 352) as some benchmark. Thus, if country A has L_A units of labor are only 1/4 as productive as labor in country B, then using B's labor as benchmark, A has only $L_A/4$ efficiency units of labor. The assumption of equal productivity can then be used.

Efficient allocation
An *allocation* (page 12) that it is impossible unambiguously to improve upon, in the sense of producing more of one good without producing less of another.

Efficient breach
The violation of a rule or law when the benefit to the violator of doing so exceeds the harm that it does to others. It is argued that a system of rules, such as the *GATT* (page 182) and *WTO* (page 472), should allow for efficient breach by, perhaps, allowing violation of its rules in return for *compensation* (page 65) of those who are harmed.

Efficient capital market
An asset market in which, at a minimum, current price changes are independent of past price changes, or, more strongly, price reflects all (publicly) available information. Some believe foreign *exchange markets* (page 143) to be efficient, which in turn implies that future exchange rates cannot profitably be predicted.

Efficient market
Efficient capital market (see above).

Efficient quantity
In a market with *undistorted* (page 455) supply and demand, the quantity at which the *supply price* (page 417) equals the *demand price* (page 98). That is efficient, because supply price is the marginal cost and demand price the marginal benefit of an additional unit.

EFSF
European Financial Stability Facility (page 140).

EFTA
European Free Trade Association (page 140).

EIB
European Investment Bank (page 140).

Elastic
Having an elasticity greater than one. For a *price elasticity* (page 344) of *demand* (page 97), this means that expenditure rises as price falls. For an *income elasticity* (page 216) it means that expenditure share rises with income, a *superior good* (page 416). Contrasts with *inelastic* (page 220) and *unit elastic*

(page 457). Elastic demand for either exports or imports is sufficient to satisfy the *Marshall-Lerner Condition* (page 276).

Elastic offer curve

An *offer curve* (page 316) along which import demand is always *elastic* (page 128). It is therefore not *backward bending* (page 24). Contrasts with *inelastic offer curve* (page 221).

Elasticities approach

1. The method of analyzing the determination of the *balance of trade* (page 25), especially due to a *devaluation* (page 101), that focuses on the *price elasticities* (page 344) of *exports* (page 148) and *imports* (page 211). According to this approach, the effect depends critically on the *Marshall-Lerner Condition* (page 276).
2. The explanation of *exchange rates* (page 144) using supply and demand curves.

Elasticity

A measure of responsiveness of one economic variable to another — usually the responsiveness of quantity to price along a supply or demand curve — comparing percentage changes ($\%\Delta$) or changes in logarithms (d ln). The *arc elasticity* (page 16) of x with respect to y is $\varepsilon = \%\Delta x/\%\Delta y$. The *point elasticity* (page 336) is $\varepsilon = \mathrm{d}\ln x/\mathrm{d}\ln y = (y/x)(\mathrm{d}x/\mathrm{d}y)$.

Elasticity of demand for exports

This is normally the *price elasticity* (page 344) of demand for exports of a country, either for a single industry or for the aggregate of all imports. Equals the rest of the world's *elasticity of demand for imports* (see below), which therefore also enters the *Marshall-Lerner Condition* (page 276).

Elasticity of demand for imports

This is normally the *price elasticity* (page 344) of demand for imports of a country, either for a single industry or for the aggregate of all imports. The latter plays a critical role in determining how the country's *balance of trade* (page 25) responds to the exchange rate. See *Marshall-Lerner Condition* (page 276).

Elasticity of substitution

The elasticity of the ratio of two inputs to a production (or utility) function with respect to the ratio of their marginal products (or utilities). With *competitive* (page 66) demands, this is also the

elasticity with respect to their price ratio. For example, with factors L, K and factor prices w, r, the elasticity of substitution of a production function $F(K, L)$ is $\sigma = (wL/rK)\mathrm{d}(K/L)/\mathrm{d}(w/r)$.

Elasticity of transformation

The *elasticity* (page 129) of an economy's output of one good with respect to its output of another (holding other outputs, if there are any, constant).

Elasticity pessimism

The view that *elasticities of demand for imports* (page 129) are sufficiently small that the *Marshall-Lerner Condition* (page 276) will be violated. See *Machlup (1950)* (page 590).

EMA

European Monetary Agreement (page 140)

Embargo

The prohibition of some category of trade. May apply to exports and/or imports, of particular products or of all trade, *vis a vis* the world or a particular country or countries.

Emerging economy

1. Originally this term was applied to countries that had recently ceased to be part of the Soviet Union and its satellites, and thus emerging from *centrally planned* (page 53) communist economies. The term drew attention to their transition to becoming *market economies* (page 273).

2. Rather quickly, perhaps acknowledging the importance of central planning and the failure of markets in many other countries, the term has expanded to encompass also *developing countries* (page 101), not necessarily ever communist, as they expanded the role of markets.

Emerging market

1. Term coined in the early 1980s by *World Bank* (page 470) economist Antoine van Agtmael to describe "economies with low-to-middle per capita income" (according to *Financial Times* Oct 20, 2006).

2. Same as *emerging economy* (see above).

3. The *securities* (page 386) market of an *emerging economy* (see above).

EMI

European Monetary Institute (page 141).

Emigration

The *migration* (page 281) of people *out* of a country.

Empirical finding

Something that is observed from real-world observation or data, in contrast to something that is deduced from theory.

Employment

People working for pay or in a family-owned enterprise or farm. Much more specific definitions are used for measuring employment by national statistical agencies such as the U.S. Bureau of Labor Statistics. Contrasts with *unemployment* (page 456).

Employment argument for protection

The use of a *tariff* (page 421) or other trade restriction to promote employment, either in the economy at large or in a particular industry. This is a *second-best argument* (page 385), since other policies — such as a *fiscal stimulus* (page 167) or a production *subsidy* (page 414) — could achieve the same effect at lower economic cost.

EMS

European Monetary System (page 141).

EMU

Economic and Monetary Union (page 120).

Enabling Clause

The decision of the *GATT* (page 182) in 1979 to give developing countries *special and differential treatment* (page 401), thus permitting the *Generalized System of Preferences* (page 184), which would otherwise be a violation of the GATT's *most favored nation* (page 290) principle.

Endangered Species Convention

Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Endogenous

1. Something that depends on other things, which should be taken into account in an analysis.

2. *Endogenous variable* (page 132).

Endogenous growth
Economic growth (page 122) whose long-run rate depends on behavior and/or policy.

Endogenous protection
Protection (page 354) that is explained as the outcome of economic and/or political forces. See *political economy of protection* (page 337).

Endogenous variable
An economic variable that is determined within a model. It is therefore *not* subject to direct manipulation by the modeler, since that would override the model. In trade models, the quantity of trade itself is almost always endogenous. Contrasts with *exogenous variable* (page 147).

Endowment
The amount of something that a person or country simply has, rather than their having somehow to acquire it. In the *HO model* (page 202) of trade theory, endowments refer to *primary factors* (page 346) of production, ignoring the fact that some of them — especially *capital* (page 45) and *skill* (page 394) — are deliberately accumulated.

Enemy
See *natural enemy* (page 298).

Engine of growth
Term sometimes used to describe the role that *exports* (page 148) may have played in economic development, both of some of the regions of recent settlement in the 19th century and of the more recent *NICs* (page 307). Due to *Robertson (1938)* (page 594).

Engineering efficiency
See *economic efficiency* (page 122).

Enterprise
A *firm* (page 166).

Enterprise for the Americas Initiative
Begun in June 1990 under U.S. President H. W. Bush, this intended to create a *FTA* (page 178) covering most of the Western Hemisphere, and promote *FDI* (page 162) and *debt relief* (page 94). The trade objective was succeeded by the planned

FTAA (page 178). The EAI now is a program for providing assistance to Latin America within *USAID* (page 461).

Enterprise zone

1. A location that is granted special treatment (such as lower or zero taxes) by government in order to encourage economic activity.

2. An *export processing zone* (page 152).

Entrepôt trade

The import and then export of a good without further processing, usually passing through an *entrepôt* which is a storage facility from which goods are distributed. See *re-exports* (page 363).

Entrepreneur

A person who starts a *business* (page 42).

Entrepreneurship

The talent, knowledge, and willingness to engage in new activities, especially those that may result in new kinds of *firms* (page 166).

Entry barrier

A natural or artificial impediment to a firm beginning to operate in an industry. Entry barriers give a *first mover advantage* (page 166) to firms already in an industry, and these are often national firms in competition with potential foreign entrants.

Entry writer

An employee of a *customs brokerage* (page 89) whose job is to prepare customs declarations, including finding the correct tariff treatment of an imported good by identifying its proper classification.

Envelope

The outermost points traced out by a moving curve.

Environmental dumping

Export of a good from a country with weak or poorly enforced environmental regulations, reflecting the idea that the exporter's cost of production is below the true cost to society, providing an unfair advantage in international trade. Also called *eco-dumping* (page 120).

Environmental Kuznets Curve

An inverse U-shaped relationship hypothesized between per capita income and environmental degradation. Named after the *Kuznets Curve* (page 247) dealing with inequality. Idea due to *Grossman and Krueger (1993)* (page 585).

Environmental protection argument for a trade intervention

The view that trade should be restricted in order to help the environment. Examples include embargos on imports made from endangered species, limits on imports produced by methods harmful to the atmosphere, and restrictions on investment into locations with lax environmental standards. This is usually a *second-best argument* (page 385).

Environmental subsidy

A *subsidy* (page 414) intended for environmental purposes. A subsidy for adapting existing facilities to new environmental laws or regulations is *non-actionable* (page 309) under *WTO* (page 472) rules.

Environmental trade policy

The use of *trade policies* (page 442) for environmental purposes.

Eonia

Euro OverNight Index Average. The interest rate that banks in the *euro zone* (page 138) charge each other on 1-day loans. Thus the 1-day *euribor* (page 138) rate.

EPA

Economic partnership agreement (page 123).

EPU

European Payments Union (page 141).

EPZ

Export processing zone (page 152).

Equalization

See *factor price equalization* (page 158).

Equation of exchange

$M \times V = P \times Q$, where M is the quantity of money in an economy, V is the *velocity* of money, P is the price level, and Q is the real output of the economy. The equation is true by definition

because it implicitly defines velocity of money. It is central to the *quantity theory of money* (page 359).

Equilibrium

1. A state of balance between offsetting forces for change, so that no change occurs.

2. In *competitive* (page 66) markets, equality of quantity supplied and quantity demanded.

Equilibrium exchange rate

This is ambiguous, since there is no single agreed upon model of the *exchange rate* (page 144):

1. The exchange rate at which supply and demand for a currency are equal.

2. The exchange rate at which there is *balance of payments equilibrium* (page 25).

3. The exchange rate at which *purchasing power parity* (page 356) holds, in some form.

4. The exchange rate at which the expected change in the exchange rate, in the near future, is zero.

5. The exchange rate at which the country's *international reserves* (page 236) are neither rising nor falling.

Equilibrium level

The value taken on by an economic variable in *equilibrium* (see above), as opposed either to some other value, or to its rate of change.

Equilibrium position

Same as *equilibrium level* (see above), though perhaps of several variables at once, perhaps as displayed in a graph.

Equilibrium terms of trade

The *terms of trade* (page 429) at which the country's excess supply of each good to the world market equals the world market's excess demand. If the country is a *small open economy* (page 395), whose excess supplies and demands are therefore negligible, then this is simply calculated from given world prices.

Equity

Share in the ownership of a corporation; more commonly called a *stock* (page 410), as in the stock market.

Equivalent quota
The *quota* (page 360) that sets the same level of imports that is entering a country under a *tariff* (page 421), or perhaps under some other *NTB* (page 314).

Equivalent tariff
Tariff equivalent (page 422).

Equivalent variation
The amount of money that, paid to a person, group, or whole economy, would make them as well off as a specified change in the economy. Provides a monetary measure of the *welfare* (page 468) effect of that change that is similar to, but not in general the same as, *compensating variation* (page 65).

ERM
Exchange rate mechanism (page 144).

ERP
Effective rate of protection (page 127).

ERR
Economic rate of return (page 124).

Escalation
1. Regarding the structure of tariffs, see *tariff escalation* (page 422).
2. In the context of a *trade war* (page 444), escalation refers to the increase in tariffs that occurs as countries *retaliate* (page 375) again and again.

ESCAP
Economic and Social Commission for Asia and the Pacific (page 121).

Escape clause
1. The portion of a legal text that permits departure from its provisions in the event of specified adverse circumstances.
2. The U.S. statute (section 201, 1974 trade act) that permits imports to be restricted, for a limited time and on a nondiscriminatory basis, if they have caused injury to U.S. firms or workers. The escape clause accords with the *Safeguards Clause* (page 381) (Article XIX) of the *GATT* (page 182).

ESCWA

Economic and Social Commission for Western Asia (page 121).

Ethical trade

As used by the *Ethical Trading Initiative* (see below), this term refers primarily to trade that conforms with high levels of *labor standards* (page 249), including the avoidance of *child labor* (page 56), *forced labor* (page 171), *sweatshops* (page 419), adverse health and safety conditions, and violations of *labor rights* (page 249).

Ethical Trading Initiative

An alliance of *multinational companies* (page 293), *non-governmental organizations* (page 309), and labor unions seeking to promote and identify *ethical trade* (see above).

ETI

Ethical Trading Initiative (see above).

ETSG

European Trade Study Group (page 141).

EU

European Union (page 141).

EU15

The 15 members of the *European Union* (page 141) from 1995 through 2003, prior to its 2004 enlargement.

EU enlargement

The process of taking more member countries into the *EU* (see above).

Euler's Theorem

1. The property of a function $X = F(V)$, if it is *homogeneous of degree* N, that $\Sigma_i V_i \partial F / \partial V_i = NX$.

2. The useful implication of this that, for a *production function* (page 351) $X = F(V)$ with *constant returns to scale* (page 71), the competitive payments to factors sum to the value of output: $\Sigma_i w_i V_i = pX$.

Euratom

The European Atomic Energy Community, created in 1956 along with the *EEC* (page 126).

Euribor
Stands for the Euro Interbank Offered Rate, a euro-denominated interest rate charged by large banks among themselves on euro-denominated loans. Analogous to *LIBOR* (page 258) for the euro.

Euro
The common currency of a subset of the countries of the *EU* (page 137), adopted 1 January 1999, with paper notes and coins put into circulation 1 January 2002.

Euro Area Member States
Counties that have adopted the *euro* (see above); the *euro zone* (see below).

Euro-Mediterranean Partnership
A declaration at a 1995 conference in Barcelona between the 15 members of the *European Union* (page 141) and its 12 Mediterranean partners to enter a new phase in their relationship, promoting peace and stability, free trade, and cultural understanding. Also called the *Barcelona Process* (page 28).

Euro zone
The countries of the *EMU* (page 131). That is, the group of European countries, members of the *EU* (page 137), that adopted the common currency, the *euro* (see above). See *baffling pigs* (page 24).

Eurobond
A *bond* (page 36) that is issued outside of the jurisdiction of any single country, denominated in a *eurocurrency* (see below).

Eurocurrency
See *Eurodollar* (below).

Eurodad
A European network of *NGOs* (page 307) working to reduce poverty and empower the poor in developing countries through improved economic and financial policies.

Eurodollar
Originally referred to U.S. dollar-denominated deposits in commercial banks located in Europe. Over time, the term came to include deposits in a commercial bank in *any* country denominated in *any* currency other than that of the country. Now sometimes called *eurocurrencies* (see above).

Europe 1992
An initiative, begun with the *Single European Act* (page 393) in 1987 by the *European Union* (page 141), to fully integrate the markets of the member countries by the end of 1992. The process involved extensive harmonization of laws and regulations that would otherwise interfere with the cross-border movement of goods and services.

Europe Agreement
An agreement between the *EU* (page 137) and each of ten Eastern European countries (starting with Hungary and Poland in 1994) creating *free trade areas* (page 177) and establishing additional forms of political and economic cooperation in preparation for these countries' eventual membership in the EU.

European Bank for Reconstruction and Development
An *international financial institution* (page 233) that supports primarily private-sector projects in countries from Central Europe to Central Asia.

European Central Bank
The central bank of the euro zone — the group of countries using the euro as their currency.

European Centre for International Political Economy
A research think tank founded in 2006 and focused on "trade policy and other international economic policy issues of importance to Europe."

European Coal and Steel Community
An economic agreement in 1951 among six countries of Western Europe — Belgium, France, Germany, Italy, Luxembourg, and the Netherlands — that preceded formation of the *EEC* (page 126) and ultimately the *EU* (page 137).

European Commission
The highest decision-making body of the *European Union* (page 141). The Commission, which consists of one Commissioner from each member country, proposes legislation and "ensures that EU law is correctly applied by member countries."

European Communities
The name adopted in 1967 by the *European Economic Community* (page 140) when it merged with the *ECSC* (page 125) and

Euratom (page 137). This name and the acronym EC was used until 1992 when it was replaced by *European Union* (page 141).

European Currency Unit

A *composite currency* (page 67) that is a basket of most of the currencies of countries in the *European Union* (page 141). Conceived in 1979, it has been used as a *unit of account* (page 457) of the *European Monetary System* (page 141).

European Economic Area

The group of countries comprised of the *EU* (page 137) together with *EFTA* (page 128). The two groups have agreed to deepen their *economic integration* (page 123).

European Economic Community

A customs union formed in 1958 by the *Treaty of Rome* (page 450) among six countries of Europe: Belgium, France, Germany, Italy, Luxembourg, and the Netherlands; predecessor to the *EC* (page 119) in 1967 and the EU in 1992.

European Financial Stability Facility

A pool of funds created by the *Euro Area Member States* (page 138) in 2010 to be used to rescue member countries in crisis by lending to them.

European Free Trade Association

A free trade area made up of countries in Europe that did not join the European Economic Community. EFTA was established in 1960 among Austria, Denmark, Norway, Portugal, Sweden, Switzerland, and the United Kingdom. As of 2013 it included Iceland, Liechtenstein, Norway, and Switzerland.

European Investment Bank

The "long-term lending bank of the *European Union*" (page 141). It supports projects within the member states as well as in countries that are working to become members states of the EU.

European Monetary Agreement

An intergovernmental organization administered by the *OECD* (page 316) that facilitated settlement of balance of payments accounts among its member states from 1958 to 1972. It replaced the *EPU* (page 134), and its functions were taken over by the *IMF* (page 209) in 1972.

European Monetary Institute
A temporary institution that existed from January 1994 to June 1998 during the years leading up to the *European Central Bank* (page 139) and the introduction of the *euro* (page 138). Its purpose was to facilitate cooperation and coordination among the central banks of the *EU* (page 137) and to pave the way for the shift to the euro.

European Monetary System
A *currency union* (page 87) formed by some of the members of the *EEC* (page 126) in 1979 that continued, with changing membership, until replaced by the *EMU* (page 131) and the *euro* (page 138) in 1999.

European Payments Union
An international arrangement for settling payments among member countries in Europe during a period in which many of the countries' currencies were not *convertible* (page 75). The EPU functioned from 1950 to 1958, after which it was replaced by the *EMA* (page 130).

European Recovery Program
See *Marshall Plan* (page 276).

European single market
See *single market* (page 393).

European Trade Study Group
A group that meets annually for conferences on the economics of international trade.

European Union
A group of European countries that have chosen to integrate many of their economic activities, including forming a customs union and harmonizing many of their rules and regulations. Preceded by *EEC* (page 126) and *EC* (page 119). As of December 2013, the EU had 28 member countries.

Eurostat
The statistical office of the *European Union* (see above), which provides statistics on economic and other variables at the level of the EU member countries.

Eurozone

1. The *euro zone* (page 138).

2. Pertaining to the euro zone or the *euro* (page 138).

Eurozone bonds

Bonds (page 36) denominated in *euros* (page 138).

Even case

In international trade models with multiple goods and *factors* (page 156), this is the special case of an equal number of goods and factors. It is convenient for analysis, because the matrix of factor input requirements is square and therefore potentially *invertible* (page 239).

Everything But Arms

The name given by the *EU* (page 137) to its decision in 2001 to eliminate *quotas* (page 360) and *tariffs* (page 421) on all products except arms from the world's 48 poorest countries.

Ex ante

Before the fact; that is, before some event has taken place.

Ex ante analysis

Analysis of the effects of a policy, such as trade liberalization or formation of a *PTA* (page 355), based only on information available before the policy is undertaken. Also *prospective analysis* (page 354).

Ex factory

Applied to a price, this means the price at the factory, and does not include any other charges, such as delivery or subsequent taxes.

Ex post

After the fact; that is, after some event has taken place.

Ex post analysis

Analysis of the effects of a policy, such as trade liberalization or formation of a *PTA* (page 355), based on information available after the policy has been implemented and its performance observed. Also *retrospective analysis* (page 375).

Ex post tariff

Implicit tariff (page 210).

Ex works

Ex factory (see above).

Exception
In a *trade agreement* (page 435), there may be exceptions for *sensitive products* (page 388).

Excess demand
Demand (page 97) minus *supply* (page 416). Thus a country's demand for imports of a *homogeneous good* (page 203) is its excess demand for that good.

Excess profit
Profit of a firm over and above what provides its owners with a normal (market equilibrium) return to capital.

Excess supply
Supply (page 416) minus *demand* (page 97). Thus a country's supply of exports of a *homogeneous good* (page 203) is its excess supply of that good.

Exchange
1. To engage in *trade* (page 435), either within a country or internationally.
2. *Foreign exchange* (page 171).

Exchange appreciation
See *appreciation* (page 15).

Exchange control
Rationing of foreign exchange, typically used when the *exchange rate* (page 144) is fixed and the central bank is unable or unwilling to enforce the rate by *exchange-market intervention* (page 144).

Exchange depreciation
See *depreciation* (page 99).

Exchange economy
See *pure exchange economy* (page 356).

Exchange equalization fund
The unit within a government or central bank that manages a *pegged exchange rate* (page 330). It manages *reserves* (page 373) of foreign currencies, which it uses to buy and sell domestic currency as needed to keep the exchange rate within specified bounds.

Exchange market
1. The market on which national currencies are exchanged for one another.

2. The actual exchange market, which exists primarily among large international banks. Others who wish to exchange currencies do it through these banks.

3. The theoretical representation of the exchange market as either the interaction of supply and demand arising from exchange-market transactions or as an asset market equilibrium between currencies.

Exchange market intervention

Usually done by a country's *central bank* (page 52), this is the purchase and sale of the country's currency on the *exchange market* (page 143) in order to influence or fully determine its price. These transactions, unless they are *sterilized* (page 409), change the *monetary base* (page 285) of the country and thus its *money supply* (page 288).

Exchange rate

The price at which one country's currency trades for another, typically on the *exchange market* (page 143).

Exchange rate determination

The process by which a country's *exchange rate* (see above) comes to be what it is. With a *floating exchange rate* (page 169), this may be modeled in various ways, including the *asset approach* (page 18), the *elasticities approach* (page 129), the *monetary approach* (page 285), and the *portfolio approach* (page 338).

Exchange rate exposure

The extent to which the stock-market value of a firm varies with changes in exchange rates. Also called *economic exposure* (page 122).

Exchange rate mechanism

A system that was operated by some *central banks* (page 52) within the *European Union* (page 141), which intervened in *exchange markets* (page 143) to limit the fluctuations of their currencies relative to one another, while letting all of them collectively *float*.

Exchange rate overshooting

The response of an *exchange rate* (see above) to a shock by first moving beyond where it will ultimately settle. Thought to help

explain exchange rate *volatility* (page 465), this was first modeled by *Dornbusch (1976)* (page 582).

Exchange rate pass-through

See *pass-through* (page 329).

Exchange rate protection

The manipulation of the exchange rate so as to increase the domestic prices of, and demand for, domestically produced goods. Since an *undervalued currency* (page 455) stimulates demand for all domestically produced tradable goods, this form of protection, unlike *tariff protection* (page 423), can only be provided to the tradable sector as a whole, not to individual industries.

Exchange rate regime

The rules under which a country's *exchange rate* (page 144) is determined, especially the way the monetary or other government authorities do or do not *intervene* in the *exchange market* (page 143). Regimes include *crawling peg* (page 81), *currency board* (page 86), *exchange controls* (page 143), *floating exchange rate* (page 169), *managed float* (page 267), and *pegged exchange rate* (page 330).

Exchange rate risk

Exchange risk (see below).

Exchange rate stability

Lack of movement over time in the *exchange rate* (page 144) of a country.

Exchange rate system

Exchange rate regime (see above).

Exchange rate target

See *target* (page 420).

Exchange rationing

See *exchange control* (page 143) or *ration foreign exchange* (page 362).

Exchange regime

See *exchange rate regime* (above).

Exchange risk

Uncertainty (page 454) about the value of an asset, liability, or commitment due to uncertainty about the future value of an

exchange rate. Unless they *cover* (page 80) themselves in the *forward market* (page 174), traders with commitments to pay or receive foreign currency in the future bear exchange risk. So do holders of assets and liabilities denominated in foreign currency.

Exchange stabilization fund

A government institution sometimes used to handle *exchange market intervention* (page 144), charged with the explicit function of smoothing exchange rate fluctuations.

Excise subsidy

A *subsidy* (page 414) paid on production or sale (consumption) of a particular good.

Excise tax

A tax on production or sale (consumption) of a particular good.

Exercise

To execute the terms of a contract. See *option* (page 323).

Exhaustion

1. In *intellectual property* (page 225) regimes, the transaction at which rights terminate. Under *national exhaustion* (page 297), rights end with first sale in a country, preventing *parallel imports* (page 327). Under *international exhaustion* (page 232), rights end with first sale anywhere, permitting parallel imports.

2. *Product exhaustion* (page 350).

Exim Bank

Export-Import Bank of the United States (page 150).

Exogenous

Coming from outside, usually in the context of an economic model, in which it means only that it is not explained within the model.

Exogenous growth

Economic growth (page 122) that occurs without being the result of deliberate policy or behavior. The term arises because *neoclassical growth models* (page 302) converge to a *steady state* (page 409) in which *per capita income* (page 331) is constant over time. Growth, then, requires *exogenous* (see above) *technical progress* (page 426).

Exogenous variable
A variable that is taken as given by an economic model. It therefore is subject to direct manipulation by the modeler. In most models, policy variables such as *tariffs* (page 421) and *par values* (page 327) of *pegged exchange rates* (page 330) are exogenous. Contrasts with *endogenous variable* (page 132).

Exon Florio Act
A law enacted in the United States in 1988 empowering the president to stop a foreign acquisition of a U.S. company (or a merger) if it threatens national security.

Exorbitant privilege
Term of Valery Giscard d'Estaing in the 1960s for the U.S. position in the international monetary system, the *Bretton Woods System* (page 39) of currencies pegged to the U.S. dollar. The U.S. benefited then, and still does, as the issuer of the currency most countries hold as *international reserves* (page 236).

Expansion
Economic expansion (page 122).

Expansionary
Tending to cause aggregate output (*GDP*) and/or the price level to rise. Term is typically applied to *monetary policy* (page 286) (an increase in the money supply or a decrease in interest rates) and to *fiscal policy* (page 167) (an increase in government spending or a tax cut), but may also apply to other macroeconomic shocks. Contrasts *contractionary* (page 74).

Expectation
The expectation of a variable is the same as its *expected value* (see below), and is also used with both meanings.

Expected value
1. The mathematical expected value of a *random variable* (page 361). Equals the sum (or integral) of the values that are possible for it, each multiplied by its probability.
2. What people think a variable is going to be. In general, the expectation in this second sense may be more important than the first for determining behavior on a market, such as the *exchange market* (page 143).

Expenditure function

A function representing the minimum expenditure needed, at a given price vector P, to achieve a given utility U from a vector of goods consumed X: $E(P,U) = \min_X \{PX | U(X) \geq U\}$. Useful for conveniently representing quantities demanded by its partial derivatives.

Expenditure share

The fraction of expenditure (usually consumer expenditure) that is spent on a particular good or purpose. With *Cobb-Douglas* (page 59) preferences, expenditure shares are constant, independent of prices and income.

Experience good

A product whose value can be better known after having consumed it. Producers of experience goods may temporarily charge a price lower than marginal cost to induce buyers to try the product. Done with an export, this would be legally considered *dumping* (page 115).

Exploit

To take advantage of someone or something for one's own benefit. Economists often use the term with a neutral or positive connotation, advocating that one should fully exploit one's resources for example. Others see the term as quite negative, viewing exploitation as being done at the expense of others, which in some cases *(e.g., monopsony* (page 289)) it is.

Export

1. A good that moves outward across a country's border for commercial purposes.

2. A product, which might be a service, that is provided to foreigners by a domestic producer.

3. To cause a good or service to be an export under definitions 1 and/or 2.

Export bias

Any *bias* (page 32) in favor of exporting. Most often applied to growth that is based disproportionately on accumulation of the *factor* (page 156) used *intensively* (page 226) in the export

industry and/or *technological progress* (page 427) favoring that industry.

Export cartel

A *cartel* (page 51) of exporting countries or firms.

Export control

Regulation or restriction of the export of certain goods, sometimes in order to limit access to the *sensitive technologies* (page 388) they embody, sometimes to alleviate domestic shortages.

Export credit

A loan to the buyer of an export, extended by the exporting firm when shipping the good prior to payment, or by a facility of the exporting country's government. In the latter case, by setting a low interest rate on such loans, a country can indirectly *subsidize* (page 414)exports.

Export Credits Arrangement

Arrangement on Export Credits (page 16).

Export credit insurance

A program to guarantee payment to exporting firms who extend *export credits* (see above).

Export duty

Export tax (page 153).

Export elasticity

This could be any of several *elasticities* (page 129), including that of demand for, or supply of, a country's *exports* (page 153), either total or for particular products, with respect to particular prices or income.

Export elasticity of substitution

This is the *elasticity of substitution* (page 129) in demand for a country's *exports* (page 153) of a product relative to the exports of another country of that product, both to a particular importing country, with respect to the relative price of the two exporting countries' exports.

Export Enhancement Program

A program of the U.S. Department of Agriculture to provide *export subsidies* (page 153) for particular products, intended to

"meet the competition from subsidizing countries," especially the *European Union* (page 141).

Export facilitation

Anything intended to make it easier to export, but usually refers to government services or programs with this objective.

Export factoring

The sale by an exporter of an accounts receivable (the foreign importer's commitment to pay), at a discount, to another entity — the *export factor* (see above) — for immediate payment. Similar to *forfaiting* (page 173).

Export guaranty

The promise by an exporter's government to a private lender that it will repay the loan if the buyer of the export does not.

Export-Import Bank of the United States

The official export credit agency of the United States government, the *Exim Bank* (page 146) assists the financing of U.S. exports, both goods and services. It endeavors not to compete with private-sector financing, but "fills gaps," assuming credit and country risks that the private sector does not accept.

Export-import company

A firm whose business consists mainly of international trade: buying goods in one country and selling them in another, thus both exporting and importing. Same as *import-export company* (page 212).

Export incentive

A government program that makes it more attractive for a firm, industry, or country to export. Most simply, an *export subsidy* (page 153).

Export instability

Frequent and large fluctuations, over time, in the quantity and/or value of a country's exports, either individually or in aggregate.

Export insurance

Insurance (page 225) available to those who *export* (page 148) to cover risks such as damage to the product in transit, nonpayment, and political risks.

Export intensity
The fraction of the output of a firm, or sometimes an industry within a country, that is *exported* (page 148).

Export-led growth
Growth of an economy over time that is thought to be caused by expansion of the country's exports. See *engine of growth* (page 132) and *export promotion* (page 152).

Export licensing
See *licensing* (page 258).

Export limitation
Any policy that restricts exports.

Export management company
A firm that handles the process of exporting for other firms. It may do this for a commission or fee, or it may purchase the goods for subsequent sale.

Export multiplier
The *multiplier* (page 294) for a change in exports; that is, the increase in *GDP* (page 183) caused by a one-unit increase in exports.

Export parity price
The price that a producer gets or can expect to get for its product if exported, equal to the *f.o.b.* (page 170) price minus the costs of getting the product from the farm or factory to the border. This and the *import parity price* (page 212) together define a range of the possible equilibrium prices for an equivalent domestically produced good.

Export penetration
The ability of *domestic* (page 111) producers to penetrate foreign markets, as measured by the ratio of exports to output of a domestic firm or industry.

Export performance requirement
Export requirement (page 153).

Export pessimism
The view that efforts to expand exports by *developing countries* (page 101) will lead to a decline in their *terms of trade* (page 429) because of an inability (due to weak demand) or

unwillingness (expressed via *protection* (page 354)) of *developed countries* (page 101) to absorb these exports.

Export platform

The use of a country or region as a place to produce for export to another country. Used especially when a *preferential trade arrangement* (page 342) provides easier access to the destination country.

Export platform FDI

Foreign direct investment (page 171) from a source country into a host country for the purpose of exporting to a third country.

Export price index

Price index (page 345) of the goods that a country *exports* (page 153).

Export processing zone

A designated area in a country in which production for *export* (page 148) is encouraged, usually by special tax treatment and by permitting firms to import *duty-free* (page 116) so long as the imports are used as inputs to production of export. Thus a *free trade zone* (page 177) with additional inducements for export.

Export promotion

A strategy for *economic development* (page 122) that stresses expanding exports, often through policies to assist them such as *export subsidies* (page 153). The rationale is to exploit a country's *comparative advantage* (page 64), especially in the common circumstance where an *over-valued currency* (page 325) would otherwise create bias against exports. Contrasts with *import substitution* (page 214).

Export quantity index

Quantity index (page 359) of the goods that a country *exports* (page 153).

Export quota

A quantitative restriction on exports, often the means of implementing a *VER* (page 464).

Export quota agreement

An agreement among a group of exporters of a product to limit output and divide the market, each promising not to exceed its

quota. Used by a *cartel* (page 51) to stabilize and raise price and thus the incomes of the participants.

Export requirement

A requirement by the government of the host country of *FDI* (page 162) that the investor exports a certain amount or percentage of its output.

Export restraint

Voluntary export restraint (page 465).

Export similarity index

See *Finger-Kreinin Index* (page 166).

Export subsidy

1. A subsidy to exports; that is, a payment to exporters of a good per unit of the good exported.

2. Sometimes applied to any payments to producers that lead to an increase in exports.

Export substitution

1. *Export promotion* (page 152); thus the substitution of production for export in place of production for the domestic market. Contrasts with *import substitution* (page 214).

2. Export of more processed forms of a good instead of only exporting the raw material.

Export tariff

More commonly called an *export tax* (see below).

Export tax

A tax on exports.

Export trading company

Export management company (page 151).

Exported protection

The protective effect that *rules of origin* (page 380) have on the partner country's input producers when applied to a country's imports within a *free trade area* (page 177). Term was first in 1993 working paper version of *Krueger (2001)* (page 588).

Exports

The quantity or value of all that is *exported* (page 148) out of a country.

Exposure

See *exchange rate exposure* (page 144).

Expropriate

To transfer ownership of private property, against the will of its owner, to government. The possibility of *expropriation* (page 154) is one of the risks of *foreign direct investment* (page 171).

Extended Credit Facility

A program of the *International Monetary Fund* (page 235) to provide financial assistance to *low income countries* (page 264) with protracted *balance of payments* (page 24) problems. It replaced the *PRGF* (page 343) in 2009 in response to the *global financial crisis* (page 186).

Extensive margin

Refers to varying the amount of trade (or other activity) of a firm, industry, or country by varying the number of products that it trades, as opposed to the *intensive margin* (page 226) at which it would vary the quantity of trade of a given number of products.

External balance

1. *Balance of payments equilibrium* (page 25).

2. Any *target* (page 420) value for the *balance of payments* (page 24), *balance on current account* (page 26), or *balance on capital account* (page 26). Contrasts with *internal balance* (page 228).

External benefit

A positive (i.e., beneficial) *externality* (page 155).

External cost

A negative (i.e., harmful) *externality* (page 155).

External debt

The amount that a country owes to foreigners, including the debts of both the country's government and its private sector.

External deficit

Trade deficit (page 438) or *current account deficit* (page 88).

External diseconomy

Negative externality (page 300).

External economies of scale
A form of *increasing returns to scale* (page 218) in which productivity and thus costs of individual firms depend on the output of their entire industry, rather than just their own. Unlike more conventional (internal) scale economies, these are consistent with *perfect competition* (page 332).

External economy
Positive externality (page 339).

External equilibrium
External balance (page 154), in contrast to *internal balance* (page 228) or *internal equilibrium* (page 229).

External increasing returns to scale
External economies of scale (see above).

External position
The *balance of trade* (page 25) or the *balance on current account* (page 26).

External returns to scale
External economies of scale (page 155).

External saving
Capital inflow (page 47)

External shock
A *shock* (page 390) that originates from outside of an economic system, especially a country.

Externalities argument for protection
The (*second best* (page 385)) argument that an industry should be *protected* (page 354) because it generates *positive externalities* (page 339) for other industries or consumers.

Externality
An effect of one economic agent's actions on another, such that one agent's decisions make another better or worse off by changing their utility or cost. Beneficial effects are *positive externalities* (page 339); harmful ones are *negative externalities* (page 300).

Facilitating payment

A facilitating (or facilitation) payment is a payment for "routine governmental action," such as providing normal government services. It is, in fact, a *bribe* (page 39).

Factor

1. *Primary factor* (page 346).

2. Sometimes refers to *any* input to production.

3. Anything that helps to cause something, as a "contributing factor."

Factor abundance

The *abundance* (page 156) or *scarcity* (page 159) of a primary factor (page 346) of production. Because, in the short run at least, the supplies of primary factors are more or less fixed; this can be taken as given for determining much about a country's trade and other economic variables. Fundamental to the *HO model* (page 202).

Factor accumulation

An increase in the quantity of a *factor* (see above), usually *capital* (page 45) or sometimes *human capital* (page 206).

Factor augmenting

Said of a *technological change* (page 427) or *technological difference* (page 427) if production functions differ by scaling of a factor input only: $F^2(V_1, V_2) = F^1(\lambda V_1, V_2)$, where $F^1(\cdot)$ and $F^2(\cdot)$ are the production functions being compared, V_1 is the factor being augmented, V_2 is a vector of all other factor inputs, and λ is a constant.

Factor bias

See *bias* (page 32).

Factor content

The amounts of *primary factors* (page 346) used in the production of a good or service, or a vector of quantities of goods and

services, such as the factor content of trade or the factor content of consumption. Can be either *direct* (page 104) or *direct-plus-indirect* (page 105).

Factor content pattern of trade

The *trade pattern* (page 442) of a country or the world, focusing on *factor content* (page 156) of the goods and services that are traded, as opposed to the *commodity pattern of trade* (page 62).

Factor cost

The cost of the *factors* (page 156) used in production. The term is used especially when the value of economic activity in a sector or an economy can be measured or valued either at "factor cost," adding up payments to factors, or at *market value* (page 275) or *market price* (page 274), adding up revenues from goods sold.

Factor cost advantage

A *comparative advantage* (page 64) of a country, or a *competitive advantage* (page 66) of a firm or national industry, that derives from low *factor cost* (see above), as opposed for example to a superior technology.

Factor endowment

The quantity of a *primary factor* (page 346) present in a country. See *endowment* (page 132).

Factor income

The total earnings of a *factor* (page 156), thus its *factor price* (page 158) times the quantity of *factor service* (page 159) that it provides.

Factor intensity

The relative importance of one *factor* (page 156) versus others in production in an industry, usually compared across industries. Most commonly defined by ratios of factor quantities employed at common *factor prices* (page 158), but sometimes by *factor shares* (page 159) or by *marginal rates of substitution* (page 270) between factors.

Factor intensity reversal

A property of the *technologies* (page 427) for two industries such that their ordering of relative factor intensities is different at different factor prices. For example, one industry may be relatively capital intensive compared to the other at high relative wages and

labor intensive at low relative wages. Some propositions of the *Heckscher-Ohlin Model* (page 199) require the absence of *FIRs* (page 166).

Factor intensity uniformity

The absence of *factor intensity reversals* (page 157).

Factor market

The market for a *factor* (page 156) of production, such as labor or capital, in which supply and demand interact to determine the equilibrium price of the factor.

Factor mobility

The degree to which a *factor* (page 156) of production, such as labor or capital, is able to move, either among industries or among countries, in response to differences in its *factor price* (see below), thus tending to eliminate such differences.

Factor movement

International factor movement (page 232).

Factor of production

Factor (page 156) (definition 1).

Factor payment

The amount paid to a *factor* (page 156) for its service in production.

Factor price

The price paid for the services of a unit of a *primary factor* (page 346) of production per unit time. Includes the *wage* (page 466) or salary of labor and the *rental prices* (page 372) of land and capital. Does *not* normally refer to the price of acquiring ownership of the factor itself, which might be called the "purchase price."

Factor price equalization

The tendency for trade to cause *factor prices* (see above) in different countries to become identical. *Ohlin (1933)* (page 593) argued that trade would bring factor prices closer together. *Samuelson (1948, 1949)* (page 595) showed formally the circumstances under which they would actually become equal.

Factor Price Equalization Theorem

One of the major theoretical results of the *Heckscher-Ohlin Model* (page 199) with at least as many goods as factors,

showing that *free* and *frictionless trade* (page 178) will cause *FPE* (page 175) between two countries if they have identical, *linearly homogeneous* (page 260) technologies and their *factor endowments* (page 157) are sufficiently similar to be in the same *diversification cone* (page 109).

Factor price frontier

A curve in *factor space* (page 160) showing the minimum combinations of *factor prices* (page 158) consistent with absence of profit in producing one or more goods, given their prices. Since, with *perfect competition* (page 332), profit implies disequilibrium, this shows a lower bound on equilibrium factor prices.

Factor-price space

A graph with *factor prices* (page 158) on the axes.

Factor productivity

1. The productivity of a single factor may refer to either its *average* (page 22) or its *marginal product* (page 269).

2. *Total factor productivity* (page 434).

Factor proportions

1. The ratios of factors employed in different industries. See *factor intensities* (page 157).

2. The ratios of factors with which different countries are endowed. See *factor endowments* (page 157).

Factor proportions model

The *Heckscher-Ohlin Model* (page 199) of trade.

Factor reversal

See *factor intensity reversal* (page 157).

Factor-saving

Biased in favor of using less of a particular factor.

Factor scarcity

See *factor abundance* (page 156).

Factor service

The input that a *factor* (page 156) provides to the productive process, such as man-hours of labor, acre-months of land, etc.

Factor share

The fraction of payments to *value added* (page 462) in an industry that goes to a particular *primary factor* (page 346).

Factor space
A graph in which the axes measure quantities of *factors* (page 156).

Factor-using
Biased (page 32) in favor of using more of a particular factor.

Factoral terms of trade
Either *single factoral terms of trade* (page 393) or *double factoral terms of trade* (page 113). Both terms were introduced by *Viner (1937)* (page 598).

Factoring
See *export factoring* (page 150).

Factory gate price
Ex factory (page 142) price.

Fair price
1. In the context of the *Fair Trade Movement* (see below), a fair price is a price that, when paid to the individual producers of a product such as coffee or handicrafts, gives them access to a viable standard of living, including nutrition, health care, education, and cultural autonomy.
2. In anti-*dumping* (page 115) cases, *fair value* (page 161).

Fair trade
1. In the context of the *Fair Trade Movement* (see below), this is international trade in which producers are paid a *fair price* (see above).
2. In the context of *trade policy* (page 442), this is trade that is not *unfair* (page 456) — that is, *subsidized* (page 414) or *dumped* (page 115).

Fair Trade Federation
An organization of businesses in North America that adhere to the principles of the *Fair Trade Movement* (see below).

Fair Trade Movement
A system overseen by several international *NGOs* (page 307), in which products of developing countries are purchased at a *fair price* (see above) from individual producers and sold with a fair trade label to consumers in developed countries. These intermediaries also seek to promote other objectives, including

environmental sustainability and capacity building, while keeping prices to consumers low by bypassing more conventional intermediaries.

Fair value

In *anti-dumping* (page 14) cases, the value to which the export price is compared, which is either the price charged in the exporter's own domestic market or some measure of their cost, both adjusted to include any transportation cost and tariff needed to enter the importing country's market. See *dumping* (page 115).

Fairness argument for protection

The view that it is unfair to force domestic firms to compete with foreign firms that have an advantage, either in terms of low wages or due to foreign government policies. This misinterprets economic activity as a game, the purpose of which is to win, rather than as a means of using limited resources to satisfy human needs. See *level playing field* (page 257).

Fama coefficient

See *Fama regression* (below).

Fama puzzle

The *forward premium puzzle* (page 174).

Fama regression

A regression of the future *spot exchange rate* minus the current spot rate on the *forward premium* (page 174), the estimated *coefficient* (page 60) of which is sometimes called the *Fama coefficient* (see above). Due to *Fama (1984)* (page 583).

FAO

Food and Agriculture Organization of the United Nations (page 170).

Farm subsidy

Payments by governments to farmers. These may be in return for producing, as when government buys a crop at a higher-than-market price; for not producing, as when it pays to leave land uncultivated; or for neither, as when payments are made independently of crop size for income maintenance or environmental purposes.

FAS

Same as *FOB* (page 170) but without the cost of loading onto a ship. Stands for "free alongside ship."

FASB

Financial Accounting Standards Board (page 164).

Fast track

A procedure adopted by the U.S. Congress, at the request of the President, committing it to consider trade agreements without amendment. In return, the President must adhere to a specified timetable and other procedures. Introduced in the *Trade Act of 1974* (page 435). See *trade promotion authority* (page 442).

FATS

Foreign Affiliates Trade in Services (page 171).

Favorable balance of trade

An excess of *exports* (page 148) over *imports* (page 211), so that the *balance of trade* (page 25) is positive. This view, that a positive trade balance is good for the country, harks back to *mercantilist* views, and ignores that the country is currently deprived of consuming part of what it produces.

Favorable exchange rate

An *exchange rate* (page 144) different from the *market* (page 274) or *official rate* (page 316), provided by the government on a transaction as an indirect way of providing a *subsidy* (page 414).

FCA

Free carrier (page 176).

FCPE

Formerly centrally planned economy.

FDI

Foreign Direct Investment (page 171).

FDI inflow

Property located within the *domestic* (page 111) country acquired by a foreign owner.

FDI outflow

Property acquired abroad by a *domestic* (page 111) owner.

FDI spillover

See *spillover* (page 404).

Fear of floating

The resistance by many countries with officially *floating exchange rates* (page 169) to allowing their currencies to move as much as the market would require. Term used by *Calvo and Reinhart (2002)* (page 581).

Fed

The Federal Reserve System (see below) of the United States.

Federal budget deficit

The *budget deficit* (page 41) of the federal (i.e., national, in a country composed of states) government.

Federal funds rate

The interest rate on very short-term loans from one commercial bank to another in the United States. This rate is used as a target for *monetary policy* (page 286) by the *Fed* (see above).

Federal Reserve System

The *central bank* (page 52) of the United States.

FEER

Fundamental equilibrium exchange rate (page 179).

Feldstein-Horioka puzzle

The finding by *Feldstein and Horioka (1980)* (page 584) that levels of savings and investment are highly correlated across countries, suggesting that international *capital mobility* (page 48) is less than many had previously thought.

Fiat money

A money whose usefulness results, not from any intrinsic value or guarantee that it can be converted into gold or another currency, but only from a government's order (fiat) that it must be accepted as a means of payment.

Fifty Years Is Enough

See *50 Years Is Enough* (page 476).

FII

Foreign institutional investor (page 172).

Fill rate

See *quota fill rate* (page 360).

Final good
A good that requires no further processing or transformation to be ready for use by consumers, investors, or government. Contrasts with *intermediate good* (page 227).

Final trade barrier
See *definitive* (page 96).

Financial account
This is the term used in the *balance of payments* (page 24) statistics, since sometime in the 1990s, for what used to be called the "capital account." See *capital account* (page 45), the "common" definition 2.

Financial Accounting Standards Board
The private-sector organization that sets accounting standards for the United States, the *Generally Accepted Accounting Principles* (page 184).

Financial asset
An *asset* (page 18) whose value arises not from its physical embodiment (as would a building or a piece of land or capital equipment) but from a contractual relationship: stocks, bonds, bank deposits, currency, etc.

Financial capital
The value of *financial assets* (see above), as opposed to real assets such as buildings and capital equipment.

Financial crisis
A loss of confidence in a country's currency or other financial assets causing international investors to withdraw their funds from the country.

Financial flow
Any and all of the transactions in the *financial account* (see above) of the *balance of payments* (page 24), most importantly international borrowing and lending and acquisition across borders of financial and real assets.

Financial instrument
A document, real or virtual, having legal force and embodying or conveying monetary value.

Financial integration
Financial market integration (page 165).

Financial intermediary

An institution that provides indirect means for funds from those who wish to save or lend to be channeled to those who wish to invest or borrow. Examples include banks and other depository institutions, mutual funds, and some government programs.

Financial market

A market for a *financial instrument* (page 164), in which buyers and sellers find each other and create or exchange financial assets. Sometimes these are organized in a particular place and/or institution, but often they exist more broadly through communication among dispersed buyers and sellers, including banks, over long distances.

Financial market integration

Freedom of participants in the *financial markets* (see above) of two countries to transact on markets in both countries, thereby causing returns on comparable assets in the two countries to be equalized through *arbitrage* (page 16).

Financial panic

A sudden loss of confidence in the financial system, causing widespread attempts to sell stocks and bonds and withdraw funds from banks, often stimulated by a large financial entity (speculator, bank, etc.) making a large loss and defaulting on commitments.

Financial stability

The avoidance of *financial crisis* (page 164).

Financial system

The complex of institutions, including especially banks and the government and international institutions that regulate them, that facilitate payments and link lenders with borrowers and investors with the assets they invest in. Increasingly, separate national financial systems have become integrated to form a global financial system.

Financial transaction

Most transactions — e.g., purchases and sales of goods or property — have a financial component: payment. However, this term usually means a transaction that is only financial, such as the act

of borrowing, depositing funds in a bank account, purchasing a contract on a *forward market* (page 174), etc.

Financial transparency

This, according to the *SEC* (page 384), means "means timely, meaningful and reliable disclosures about a company's financial performance." It is a crucial requirement for informed investment in companies. It is also necessary for exposing, and therefore preventing, *bribery* (page 39) and other forms of *corruption* (page 78).

Finger-Kreinin index

A measure of *export similarity* (page 153) between two countries, introduced by *Finger and Kreinin (1979)* (page 584). With $X_i(c,m)$ = the share of commodity i in country (or region) c's exports to market m, similarity between exports of countries a and b to market m is $S(ab,m) = \{\Sigma_i \min[X_i(a,m), X_i(b,m)]\}100 = 100\{1 - [\Sigma_i|X_i(a,m) - X_i(b,m)|]/2\}$.

FIR

Factor intensity reversal (page 157).

Firm

An organization, possibly as small as a single person or as large as many thousands, that produces a good and/or provides a service that it sells to the public, the government, or other firms, using the proceeds to cover its costs. Also a *business* (page 42), a *company* (page 64), or an *enterprise* (page 132).

First best

See *second best* (page 385).

First degree homogeneous

Homogeneous of degree 1 (page 203).

First mover advantage

The advantage that a firm or country may derive from being the first to enter a market, or from being the first to use a new technology, advertising technique, etc.

First order condition

One of the mathematical necessary conditions for maximization, used routinely in solving economic models. Typically, it consists of setting equal to zero the derivative of the function being

maximized (or its *Lagrangian* (page 251)) with respect to a variable that can be controlled.

First theorem of welfare economics

The proposition of *welfare economics* (page 469) that a *competitive* (page 66) *general equilibrium* (page 184) is *Pareto optimal* (page 328). A corollary is that *free trade* (page 177) is Pareto optimal among countries.

Fiscal aggregate

Fiscal aggregates are the total revenues, and total expenditures, of a government.

Fiscal crisis

This occurs when a unit of government runs a *fiscal deficit* (see below) and is unable to borrow to finance it. For a national government this is most likely due to a large accumulated *debt* (page 93) together with doubts about its ability or willingness to service that debt.

Fiscal deficit

A *deficit* (page 95) in the government budget of a country. Thus the *budget deficit* (page 41).

Fiscal discipline

Management of the government budget so as to avoid excessive *fiscal deficits* (see above). Thus restraint of government spending and/or willingness to tax.

Fiscal drag

The dampening effect on *aggregate demand* (page 9) that occurs when an expanding economy creates additional tax revenues, especially under a *progressive income tax* (page 353). Thus an example of an *automatic stabilizer* (page 21).

Fiscal policy

Any macroeconomic policy involving the levels of government purchases, transfers, or taxes, usually implicitly focused on domestic goods, residents, or firms.

Fiscal stimulus

A tax cut and/or an increase in government spending. So called because it tends to increase *aggregate demand* (page 9) and therefore the level of economic activity in the short run.

Fiscal union
A form of *integration* (page 225) among countries in which they share and coordinate *fiscal policies* (page 167) to some degree. They share tax revenues to some extent, so that some countries need not finance all of their own spending themselves. They may also borrow jointly, issuing *bonds* (page 36) as a group rather than individually.

Fisher Effect
The theory that a change in the expected rate of *inflation* (page 221) will lead to an equal change in the *nominal interest rate* (page 308), thus keeping the *real interest rate* (page 365) unchanged. Due to *Fisher (1930)* (page 584).

Fisher Equation
The equation relating the *nominal interest rate* (page 308), n, to the *real interest rate* (page 365), r, and the *rate of inflation* (page 362), i, in effect defining r: $(1+n) = (1+r)(1+i)$. It is the nominal return needed to yield an inflation-adjusted real return of r. If r and i are small fractions, $n \approx r+i$. Due to *Fisher (1930)* (page 584).

Fixed cost
The cost that a firm bears if it produces at all and that is independent of its output. The presence of a fixed cost tends to imply *increasing returns to scale* (page 218). Contrasts with *variable cost* (page 463).

Fixed exchange rate
Usually synonymous with a *pegged exchange rate* (page 330). Although "fixed" seems to imply less likelihood of change, in practice countries seldom if ever achieve a truly fixed rate.

Fixed factor
A *factor of production* (page 158) the quantity of which cannot be changed. This is usually the case only in the *short run* (page 391).

FLAR
Fondo Latinoamericano de Reservas (page 170).

Flexible exchange rate
Same as *floating exchange rate* (page 169).

Flexible price model

Most microeconomic models and models of international trade assume that prices adjust flexibly so as to achieve *equilibrium* (page 135) in all markets. In contrast, some macroeconomic models assume that some prices are *sticky* (page 410).

Floating exchange rate

A regime in which a country's exchange rate is allowed to fluctuate freely and be determined without *intervention* (page 238) in the exchange market by the government or central bank.

Floor

See *price floor* (page 344).

Flow

A flow, or flow variable, is an economic magnitude describing behavior that occurs over time and is therefore meaningful only relative to the unit of time. Examples are the value of *exports* (page 153) (dollars per year), *demand* (page 97) for *foreign exchange* (page 171) (euros per day), and *migration* (page 281) (persons per month). Contrasts with a *stock* (page 410).

Fluctuate

To move up and down.

Fluctuating exchange rate

Same as *flexible* (page 168) or *floating exchange rate* (see above).

Flying Geese

The Flying Geese model (or *paradigm*) of economic development depicts changing patterns of comparative advantage and trade as developing countries follow more advanced countries from which they acquire technologies through trade and investment. The name derives from a graph of *Akamatsu (1961)* (page 577), (but 1937 in Japanese) that resembles a formation of flying geese. The graph shows paths over time of a developing country's imports, production, and exports of a product, similar to the *product cycle* (page 350).

FMI

Fondo Monetario Internacional (Spanish for *International Monetary Fund* (page 235)).

FOB

The price of a traded good excluding *transport cost* (page 449). It stands for "free on board," but is used only as these initials (usually lower case: f.o.b.). It means the price after loading onto a ship but before shipping, thus *not* including transportation, insurance, and other costs needed to get a good from one country to another. Contrasts with *CIF* (page 57) and *FAS* (page 162).

FOC

First order condition (page 166).

FOGS negotiations

In the *Uruguay Round* (page 461), this portion of the negotiations dealt with the *Functioning of the GATT System* (page 179) and resulted ultimately in the formation of the *WTO* (page 472) and its *dispute settlement mechanism* (page 108).

Fondo Latinoamericano de Reservas

A cooperative arrangement among *seven* countries of Latin America in which they share *international reserves* (page 236) and coordinate *exchange market intervention* (page 144). Similar to the *Chiang Mai Initiative* (page 56).

Food and Agriculture Organization of the United Nations

A *UN* (page 454) body whose purpose is to "defeat hunger" throughout the world mostly by sharing information and expertise.

Food security

1. The reliable availability of a sufficient quantity and quality of nutritious food for a population.

2. As used by some *NGOs* (page 307), the term also requires that localities or regions be *self-sufficient* (page 387), in apparent ignorance of the impossibility of combining this with the first definition.

Footloose factor

A *factor* (page 156) that can move easily across national borders, in contrast to one that, due to inclination or constraints, cannot. Footloose factors are sometimes thought to have an advantage in a *globalized* (page 187) economy.

Footloose industry
An industry that is not tied to any particular location or country, and can relocate across national borders in response to changing economic conditions. Many *manufacturing* (page 268) industries seem to have this characteristic.

Forced labor
The use of labor that is compelled to work, subject to physical punishment if it does not.

Foreign Affiliates Trade in Services
Exports and imports of *services* (page 388) by domestically located affiliates of foreign firms.

Foreign aid
Aid (page 11) provided by one country to another.

Foreign asset position
The amount of assets that residents of a country own abroad. Also used to mean the *net foreign asset position* (page 303).

Foreign Corrupt Practices Act
U.S. law, enacted 1977, that prohibits U.S. firms from bribing foreign officials to obtain or retain business. The law permits, however, *facilitating payments* (page 156).

Foreign debt
The amount a country owes to foreigners. More precisely, the negative of the *net foreign asset position* (page 303).

Foreign direct investment
Acquisition or construction of physical capital by a firm from one (*source*) country in another (*host*) country. The term sometimes refers to the *flow* (page 169) per unit time, sometimes to the accumulated *stock* (page 410).

Foreign exchange
Foreign currency; any currency other than a country's own.

Foreign exchange market
The *exchange market* (page 143).

Foreign exchange market intervention
Exchange market intervention (page 144).

Foreign exchange rate
The *exchange rate* (page 144).

Foreign exchange reserves
International reserves (page 236).

Foreign exchange risk
Exchange risk (page 145).

Foreign institutional investor
An *institutional investor* (page 224) based in another country. Some countries place upper limits on the share of a domestic company that an FII can own.

Foreign investment argument for protection
The use of *protection* (page 354) to attract *FDI* (page 162) from abroad. It does work, since much FDI has been motivated by firms trying to get behind a *tariff wall* (page 424) to sell their products. In an otherwise *nondistorted* (page 311) economy, however, the cost in terms of more expensive goods is higher than the benefit from additional capital.

Foreign portfolio investment
Portfolio investment (page 339) across national borders and/or across currencies.

Foreign repercussion
The feedback effect on a domestic economy when its macroeconomic changes cause large enough changes abroad for those in turn to cause further changes at home. Most commonly, a rise in income stimulates imports, causing an expansion abroad that in turn raises demand for the home country's exports.

Foreign reserves
International reserves (page 236).

Foreign reserves crisis
The *financial crisis* (page 164) that results from (or causes) a central bank coming close to running out of *international reserves* (page 236).

Foreign Sales Corporation
Refers to a provision of the U.S. tax code that grants income-tax rebates to American exporters if they form what may be a largely artificial foreign subsidiary called an FSC. This has been the subject of a *trade dispute* (page 438) with the *EU* (page 137),

which complained to the *WTO* (page 472) that this constitutes an illegal *export subsidy* (page 153).

Foreign sector

This term seems to be used in many ways, including the following:

1. The portion of an economy or an economic model that includes *exports* (page 153) and *imports* (page 215), and perhaps other international transactions.

2. The portion of an economy that is owned by foreigners.

3. The rest of the world, outside of the country being considered.

4. In the accounts of a country, all those involving international transactions.

Foreign trade

Trade (page 435) (definition 3).

Foreign trade deficit

Trade deficit (page 438).

Foreign trade zone

An area within a country where imported goods can be stored or processed without being subject to import duty. Also called a *bonded warehouse* (page 36), *free port* (page 176), or *free zone* (page 177). Usually smaller than a *free trade zone* (page 177).

Forfaiting

The purchase of an exporter's receivables — the amounts owed by importers to whom goods have already been delivered — at a discount by a specialized financing firm or a department of a bank. Similar to *export factoring* (page 150). Both are methods of *trade finance* (page 439).

Formula approach

A procedure for organizing multilateral *trade negotiations* (page 441) using a formula for tariff reductions as a starting point. Contrasts with the *request/offer approach* (page 372).

Forum shopping

Taking advantage of differences among international agreements to pursue a trade complaint under the agreement that is most favorable to one's case. For example, members of *NAFTA*

(page 295) may choose whether to file a complaint within NAFTA or within the *WTO* (page 472).

Forward

On the *forward market* (see below).

Forward contract

A binding commitment to buy or sell currency on a *forward market* (see below).

Forward curve

In a *forward market* (see below), the pattern of *forward rates* (page 175) or *forward premia* (see below), over various time horizons.

Forward discount

Opposite of *forward premium* (see below).

Forward exchange premium

Forward premium (see below).

Forward exchange rate

Forward rate (page 175).

Forward integration

Acquisition by a firm of a larger part of its distribution chain, moving it closer to selling directly to its ultimate customers.

Forward linkage

The provision by one firm or industry of produced inputs to another firm or industry.

Forward market

A market for exchange of currencies in the future. Participants in a forward market enter into a contract to exchange currencies, not today, but at a specified date in the future, typically 30, 60, or 90 days from now, and at a price (*forward exchange rate* (see above)) that is agreed upon today.

Forward premium

The difference between a *forward exchange rate* (see above) and the *spot exchange rate* (page 404), expressed as an annualized percentage return on buying foreign currency spot and selling it forward.

Forward premium puzzle

The *Fama Puzzle* (page 161), based on the *Fama regression* (page 161), that the *forward premium* (see above) systematically

under predicts the change in the *spot rate* (page 404), and sometimes is actually negatively correlated with it. This is a *puzzle*, since it suggests the profitability of betting against the forward rate in a manner that would eliminate this discrepancy.

Forward price

In any *forward market* (page 174), the price of the item being traded for delivery at a future date; in *exchange markets* (page 143), the *forward rate* (see below).

Forward rate

Also called the *forward exchange rate* (page 174), this is the *exchange rate* (page 144) on a *forward market* (page 174) transaction.

Forwarder

Freight forwarder (page 178).

Four-firm concentration ratio

See *concentration ratio* (page 68).

Four Tigers

The four Asian economies that were the first to show rapid economic development after the success of Japan: Hong Kong, South Korea, Singapore, and Taiwan. Also "Four Dragons."

FPE

Factor price equalization (page 158).

Fragmentation

The splitting of production processes into separate parts that can be done in different locations, including in different countries. One of many terms for the same phenomenon, this particular one (which I seem to favor) originated (refer to page 566) with *Jones and Kierzkowski (1990)* (page 587).

Free at frontier

Refers to the value of an imported product at the moment that it falls under the customs jurisdiction of the importing country. Does not include any customs duty. [A bit unclear on how this differs from *c.i.f.* (page 57).]

Free capital markets

This is not a standard term, but it seems to be used, variously, to describe the absence of government regulation of international

capital flows (page 47), the absence of government or central bank *intervention in exchange markets* (pages 144 and 274), and the absence of interference with national financial and development policies by *international financial institutions* (page 233).

Free carrier

A term, abbreviated FCA, denoting that a good for export to a buyer is to be delivered to a *carrier* (page 51) specified by the buyer.

Free enterprise

A system in which economic agents are free to own property and engage in commercial transactions. See *economic freedom* (page 122) and *laissez faire* (page 251).

Free entry

The assumption that new firms are permitted to enter an industry and can do so costlessly. Together with *free exit* (see below), it implies that profit must be zero in equilibrium.

Free exit

The assumption that firms are permitted to leave an industry and can do so costlessly. See *free entry* (above).

Free-floating exchange rate

Floating exchange rate (page 169). Contrasts with a *managed float* (page 267).

Free list

A list of goods that a country has designated as able to be imported without being subject to tariff or import licensing.

Free market

A *market* (page 272) that is not interfered with by government constraints on transactions. Most would say, however, that a market that is subject to a modest and *transparent* (page 449) tax can still be considered free.

Free on board

See *FOB* (page 170).

Free port

See *foreign trade zone* (page 173).

Free rider

Someone who enjoys the benefits of a *public good* (page 355) without bearing the cost. An example, in trade policy, is that trade liberalization benefits the majority of consumers without their lobbying for it. This may tip policy in the direction of protection, for which there are fewer free riders.

Free trade

A situation in which there are no artificial barriers to trade, such as *NTBs* (page 314) and *tariffs* (page 421). Usually used, often only implicitly, with *frictionless trade* (page 178), so that it implies that there are no barriers to trade of any kind. For a traded *homogeneous product* (page 204), it follows that *domestic* (page 111) and *world price* (page 472) must be equal.

Free trade agreement

A negotiated treaty among two or more countries to form a *free trade area* (see below).

Free trade area

A group of countries that adopt free trade (zero tariffs and no other policy restrictions) on trade among themselves, while not necessarily changing the barriers that each member country has on trade with the countries outside the group.

Free Trade Area of the Americas

A *preferential trading arrangement* (page 342) that was, at one time, being negotiated among most of the countries (all but Cuba) of the western hemisphere. It never came into being.

Free trade association

Free trade area (see above).

Free trade zone

A geographic area of a country into and out of which goods pass to and from world markets without going through *customs* (page 89) or paying *tariffs* (page 421). Tariffs apply only when goods pass from the zone into or out of the country. Usually larger than a *foreign trade zone* (page 173).

Free zone

See *foreign trade zone* (page 173).

Freight forwarder
A firm that arranges shipment, including contracting with the *carrier* (page 51) and handling associated documentation.

Frequency
The speed of the up and down movements of a fluctuating economic variable; that is, the number of times per unit of time that the variable completes a cycle of up and down movement. See *destabilizing speculation* (page 100).

Frequency ratio
A measure of the presence of *nontariff barriers* (page 312), defined as the percentage of a country's *tariff lines* (page 423) that are subject to one or a group of NTBs. Contrasts with *coverage ratio* (page 81) and *tariff equivalent* (page 422).

Frictional unemployment
Unemployment (page 456) of people who are changing jobs, careers, or locations.

Frictionless trade
The absence of natural barriers to trade, such as transport costs.

Friedman rule
The rule for the optimal conduct of *monetary policy* (page 286) proposed by *Friedman (1969)* (page 584), that it should generate a rate of *deflation* (page 96) that makes the *nominal interest rate* (page 308) equal to zero.

Friend
See *natural friend* (page 298).

Friends and enemies version
A weak version of the *Stolper-Samuelson Theorem* (page 411), involving *natural friends* (page 298) and *enemies* (page 132), that holds with multiple goods and factors.

FSC
Foreign Sales Corporation (page 172).

FTA
Free trade area (page 177) or *free trade agreement* (page 177).

FTAA
Free Trade Area of the Americas (page 177).

FTZ

Free trade zone (page 177).

Functional currency

The currency of the *primary environment* (page 346) (usually a country) in which a firm generates most of its income and expenses. Contrasts with its *reporting currency* (page 372), which is sometimes different from the currency in which it reports its accounts.

Functional distribution of income

How the income of an economy is divided among the owners of different *factors of production* (page 158), into wages, rents, etc.

Functioning of the GATT System

See *FOGS negotiations* (page 170).

Fundamental equilibrium exchange rate

This seems to mean the same as *equilibrium exchange rate* (page 135). Adding "fundamental" does not seem to remove its ambiguity.

Futures contract

A binding commitment to buy or sell a commodity or currency on a *futures market* (see below).

Futures market

A market for exchange (of currencies, in the case of the exchange market) in the future. That is, participants contract to exchange currencies, not today, but at a specified calendar date in the future, and at a price (exchange rate) that is agreed upon today.

G-3

1. The United States, European Union, and Japan.
2. The United States, Germany, and Japan.

G-6

1. The six largest countries of the world: Canada, France, Germany, Japan, the United Kingdom, and the United States.

2. The six largest countries of the *European Union* (page 141), ministers from which sometimes meet to discuss issues of common concern. The countries are France, Germany, Italy, Poland, Spain, and the United Kingdom.

3. A group of countries that has met several times to resolve disagreements that prevent progress in the *Doha Round* (page 111). The group includes Australia, India, Japan, the United States, the *European Union* (page 141), and either Brazil or China.

G-7

A group of seven major industrialized countries whose heads of state met annually from 1976 to 1997 in summit meetings to discuss economic and political issues. The seven are United States, Canada, Japan, Britain, France, Germany, and Italy (plus the *EU* (page 137)).

G-8

The *G-7* (see above) plus Russia, which met as a full economic and political summit from 1998 to 2008.

G-10

Group of Ten (page 194).

G-15

Group of Fifteen (page 194).

G-20

1. Originally, an international forum of finance ministers and central bank governors from 19 countries and the *EU* (page 137), plus the *IMF* (page 209) and *World Bank* (page 470). Created in 1999 by the finance ministers of the G-7, it meets annually to discuss financial and economic concerns among industrialized economies and emerging markets.

2. Beginning with the financial and economic crisis of 2008, the same *G-20 countries* (page 547) have held summit meetings of their heads of state. This G-20 mix of industrialized and large

emerging-market economies has now supplanted the G-7 and G-8 as the primary venue for addressing global economic problems.

3. A group of developing countries established 20 August 2003 that joined together in the *Cancún Ministerial* (page 44) of the *WTO's* (page 472) *Doha Round* (page 111) in order to negotiate collectively with the U.S. and EU, especially seeking the elimination of developed-country agricultural subsidies. Membership in the group has fluctuated, but the name G-20 now seems to have stuck. The group has been led by Brazil, other important members including Argentina, China, India, and South Africa.

G-24

A group of developing countries established in 1971 with the aim of taking positions on monetary and development finance issues.

G-77

A coalition of developing countries within the *United Nations* (page 458), established in 1964 at the end of the first session of *UNCTAD* (page 455), intended to articulate and promote the collective economic interests of its members and enhance their negotiating capacity. Originally with 77 members, it now (in 2013) has 132.

GAAP

Generally Accepted Accounting Principles (page 184).

GAFTA

Greater Arab Free Trade Area (page 191).

Gains from trade

The net benefits that countries experience as a result of lowering import *tariffs* (page 421) and otherwise *liberalizing* (page 258) trade.

Gains from trade theorem

The theoretical proposition that (in the absence of *distortions* (page 108)) there will be gains from trade for any economy that moves from *autarky* (page 21) to *free trade*, as well as for a *small open economy* (page 395) and for the world as a whole if tariffs are reduced appropriately. Due to *Samuelson (1939)* (page 595), *1962* (page 595)).

Game
A theoretical construct in *game theory* (see below) in which players select actions or *strategies* (page 412) and the payoffs depend on the actions or strategies of all players.

Game theory
The modeling of strategic interactions among agents, used in economic models where the numbers of interacting agents (firms, governments, etc.) are small enough that each has a perceptible influence on the others.

Gastarbeiter
Guest worker (page 196).

GATS
General Agreement on Trade in Services (page 183).

GATT
General Agreement on Tariffs and Trade (page 183).

GATT Articles
The individual sections of the GATT agreement, conventionally identified by their Roman numerals. Most were originally drafted in 1947, but are still included in the *WTO* (page 472).

GATT Codes
Plurilateral agreements (page 336) negotiated under *GATT* (see above) auspices in the *Tokyo Round* (page 433) to limit certain *nontariff barriers* (page 312). Most of these were replaced by the *single undertaking* (page 393) of the *Uruguay Round* (page 461) and the *WTO* (page 472).

GATT discipline
The GATT disciplines are the obligations undertaken by *signatories* (page 392) of the *GATT* (see above) and members of the *WTO* (page 472). Key GATT disciplines are *nondiscrimination* (page 311), *national treatment* (page 298), and *transparency* (page 449).

GATT ministerial
A *ministerial* (page 283) meeting conducted under the *GATT* (see above).

GATT Round
Trade Round (page 443).

GATT-Speak
Variation on *GATT-think* (see below).

GATT-Think
A somewhat derogatory term for the language of *GATT* (page 182) negotiations, in which exports are good, imports are bad, and a reduction in a barrier to imports is a *concession* (page 69). Similar to *mercantilism* (page 279). Due to *Krugman (1991a)* (page 589).

GBTT
Gross barter terms of trade (page 192).

GCC
Gulf Cooperation Council (page 196).

GDP
Gross domestic product (page 193).

GDP deflator
The *deflator* (page 96) for *GDP* (see above), thus the ratio of *nominal* (page 307) GDP to *real GDP* (page 365) (usually multiplied, as with a *price index* (page 345), by 100).

GDP function
Same as *revenue function* (page 377).

GDP per capita
GDP (see above) divided by population.

Geese
See *Flying Geese* (page 169).

General Agreement on Tariffs and Trade
A multilateral treaty entered into in 1948 by the intended members of the *International Trade Organization* (page 237), the purpose of which was to implement many of the rules and negotiated tariff reductions that would be overseen by the ITO. With the failure of the ITO to be approved, the GATT became the principal institution regulating trade policy until it was incorporated into the *WTO* (page 472) in 1995.

General Agreement on Trade in Services
The agreement, negotiated in the *Uruguay Round* (page 461), that brings international trade in services into the *WTO* (page 472). It provides for countries to provide *national treatment*

(page 298) to foreign service providers and for them to select and negotiate the service sectors to be covered under GATS.

General equilibrium

Equality of supply and demand in all markets of an economy simultaneously. The number of markets does not have to be large. The simplest *Ricardian model* (page 378) has markets only for two goods and one factor, labor, but this is a general equilibrium model. Contrasts with *partial equilibrium* (page 328).

General tariff

The tariff on a product levied against imports from a country that is not granted *most favored nation* (page 290) status and is not subject to a *preferential arrangement* (page 342). In the U.S., these are *Column 2* (page 61) tariffs.

Generalized System of Preferences

Tariff preferences for developing countries, by which developed countries let certain manufactured and semi-manufactured imports from developing countries enter at lower tariffs than the same products from developed countries.

Generally Accepted Accounting Principles

The accounting principles set by the *Financial Accounting Standards Board* (page 164) and required for use by United States companies. Contrasts with *International Financial Reporting Standards* (page 233) used in Europe and other countries.

Genetically modified organism

Plants or animals (or products thereof) whose genetic makeup has been determined or altered by genetic engineering. Trade in GMOs has been the source of disagreement and controversy between the U.S. and the EU.

Geneva Ministerial

1. The second *ministerial* (page 283) meeting of the *World Trade Organization* (page 472), held in Geneva, Switzerland, 18–20 May 1998. It did not do much.

2. The WTO's seventh ministerial, also held in Geneva, 30 November–2 December 2009. Held during the *Global Financial Crisis* (page 186) and during a period when the *Doha Round* (page 111) was stalled, the theme of the meeting was "The WTO,

the Multilateral Trading System and the Current Global Economic Environment."

3. The WTO's eighth ministerial, also held in Geneva, 15–17 December 2011.

Geneva Round

The first (1947) and fourth (1955–56) of the *trade rounds* (page 443) conducted under the auspices of the *GATT* (page 182).

Geographical indication

A label identifying where a product is produced or grown, and implying characteristics or quality particular to that location. Use of such labels by producers from other countries, has increasingly been the subject of international dispute.

Geography

See *New Economic Geography* (page 305).

GEP

Global Economic Prospects (page 186).

GI

Geographical indication (see above).

Giffen good

A good that is so *inferior* (page 221) and so heavily consumed at low incomes that the demand for it rises when its price rises. The reason is that the price increase lowers income sufficiently that the positive *income effect* (page 216) (because it is inferior) outweighs the negative *substitution effect* (page 415).

Gilt

More formally a "gilt-edged security," it is a *bond* (page 36) viewed as extremely safe, usually because it is the debt of a strong government. Traditionally it referred to gold-edged bonds issued by the Bank of England, or sometimes bonds of other Commonwealth countries.

Gini coefficient

A measure of income inequality within a population, ranging from zero for complete equality, to one if one person has all the income. It is defined as the area between the *Lorenz curve* (page 263) and the diagonal, divided by the total area under the diagonal.

Global competitiveness
Competitiveness (page 66), applied internationally.

Global Competitiveness Index
An index of the *competitiveness* (page 66) of the nations in the world, compiled each year by the *World Economic Forum* (page 471). It is a weighted average of many different components, measured in publicly available data as well as surveys.

Global Economic Prospects
An annual publication of the *World Bank* (page 470).

Global factory, the
An early term for *fragmentation* (page 175), due to *Grunwald and Flamm (1985)* (page 585).

Global Financial Crisis
The collapse of credit and consequent *global recession* (page 187) that occurred in 2008 as over-extended financial institutions, especially but not exclusively banks, found their assets devalued by defaulting debtors, especially owners of houses whose property values had fallen below their *mortgage* (page 290) values due to the *bursting* (page 42) of the *housing bubble* (page 206).

Global imbalance
The existence of large *trade deficits* (page 438) and large *trade surpluses* (page 444) in different parts of the world, perceived to be a situation that cannot be sustained and requiring *rebalancing* (page 365).

Global optimum
An *allocation* (page 12) that is better, by some criterion, than all others possible; *optimum optimorum* (page 323).

Global production sharing
Trade in intermediate inputs; thus an aspect of *fragmentation* (page 175). Term used by *Feenstra and Hanson (2003)* (page 584).

Global quota
An import *quota* (page 360) that specifies the permitted quantity of imports from all sources combined. This may be without regard to country of origin, and thus available on a first-come-first-served basis, or it may be allocated to specific suppliers.

Global recession

1. A *recession* (page 366) for the global economy, defined in terms of a decline in world *real GDP* (page 365).

2. The recession that resulted from the *Global Financial Crisis* (page 186) of 2008 and spread to enough countries of the world that global real GDP declined.

Global supply chain

A production process that is distributed over many countries, with production in one country providing inputs to production in another, which in turn provides inputs to a third, and so on. An extreme form of *fragmentation* (page 175).

Global System of Trade Preferences

An agreement among the *G-77* (page 181) *developing countries* (page 101) to negotiate *trade preferences* (page 442) among themselves. It went into force in 1989.

Global Trade Alert

An information service reporting government measures that affect international trade. It was begun with the *global financial crisis* (page 186) of 2008 in an effort to track whether the crisis was causing an increase in *protectionism* (page 354).

Global Trade Analysis Project

A project based at Purdue University, providing a data base and *CGE* (page 55) modeling tools for analysis of global trade.

Global Trade Information Services

A subscription service that describes itself as "the leading supplier of international merchandise trade data."

Globalization

1. The increasing world-wide integration of markets for goods, services and capital that began to attract special attention in the late 1990s.

2. Also used to encompass a variety of other changes that were perceived to occur at about the same time, such as an increased role for large corporations (*MNCs* (page 284)) in the world economy and increased intervention into domestic policies and affairs by international institutions such as the *IMF* (page 209), *WTO* (page 472), and *World Bank* (page 470).

3. Among countries other than the United States, especially developing countries, the term sometimes refers to the domination of world economic affairs and commerce by the United States.

GMO

Genetically modified organism (page 184).

GMS

Greater Mekong Subregion (page 191).

GNI

Gross national income (page 193).

Gnomes of Zurich

Term used by the British Labor government to refer to Swiss bankers and financiers who engaged in currency *speculation* (page 403) that forced the *devaluation* (page 101) of the British pound in 1964.

GNP

Gross national product (page 194).

Gold exchange standard

A monetary system that sought to restore features of the gold standard in the 1920s and again in the *Bretton Woods System* (page 39), while economizing on gold. Instead of money being backed directly by gold, central banks issued liabilities against foreign currency assets (mostly U.S. dollars under Bretton Woods) that were in turn backed by gold.

Gold standard

A monetary system in which both the value of a unit of the currency and the quantity of it in circulation are specified in terms of gold. If two currencies are both on the gold standard, then the *exchange rate* (page 144) between them is approximately determined by their two prices in terms of gold.

Gold tranche

See *tranche* (page 446).

Good

A product that can be produced, bought, and sold, and that has a physical identity. Sometimes said, inaccurately, to be anything that "can be dropped on your foot" or, also inaccurately, to be

visible (page 465). Contrasts with *service* (page 388). Trade in goods is much easier to measure than trade in services, and thus much more thoroughly documented and analyzed.

Government budget

1. An itemized accounting of the payments received by government (taxes and other fees) and the payments made by government (purchases and transfer payments).

2. The net inflow (surplus) or outflow (deficit) of these payments.

Government debt

The amount that a country's government has borrowed as a result of *budget deficits* (page 41), usually by issuing government *bonds* (page 36) or, in *developing countries* (page 101), from *international financial institutions* (page 233). Often called the *national debt* (page 297).

Government procurement

Purchase of goods and services by government and by state-owned enterprises. Transparency in government procurement is one of the *Singapore Issues* (page 393).

Government Procurement Agreement

A *plurilateral agreement* (page 336) in the *WTO* (page 472) binding participants to principles of openness, transparency, and nondiscrimination on categories of *government procurement* (see above) that they have offered to be covered.

Government procurement practice

The methods by which units of government and state-owned enterprises determine from whom to purchase goods and services. When these methods include a preference for domestic firms, they constitute an *NTB* (page 314). Subject of a *Tokyo Round Code* (page 433), and later a *WTO* (page 472) *plurilateral agreement* (page 336).

Government regulation

Includes all of the government-imposed restrictions on, and requirements of, people, firms, and organizations in a country, including on foreign people and firms that travel or engage in business there. Regulation of the latter, especially, can constitute *nontariff barriers* (page 312) to trade in goods and services.

GPA

Government Procurement Agreement (page 189).

GPI

Gross progress indicator (page 194).

Graduation

Termination of a country's eligibility for *GSP* (page 195) tariff preferences on the grounds that it has progressed sufficiently, in terms of per capita income or another measure, that it is no longer in need of *special and differential treatment* (page 401).

Grandfather clause

A provision in an agreement, including the *GATT* (page 182) but not the *WTO* (page 472), that allows signatories to keep certain of their previously existing laws that otherwise would violate the agreement.

Granularity

The presence within an industry of large firms. *Gabaix (2011)* (page 584) shows that random idiosyncratic shocks hitting such firms, unlike those hitting very small firms, can cause aggregate fluctuations, including in exports and the trade balance.

Gravity equation

An estimated equation of the *gravity model* (see below).

Gravity model

A model of the flows of *bilateral* (page 33) trade based on analogy with the law of gravity in physics: $T_{ij} = AY_iY_j/D_{ij}$, where T_{ij} is exports from country i to country j, Y_i, Y_j are their national incomes, D_{ij} is the distance between them, and A is a constant. Other constants as exponents and other variables are often included. Due independently to *Tinbergen (1962)* (page 597) and *Pöyhönen (1963)* (page 593).

Gray area measure

Grey area measure (page 192).

Gray market

Refers to goods that are sold for a price lower than, or through a distributor different from, that intended by the manufacturer. Most commonly, goods that are intended by their manufacturer

for one national market that are bought there, exported, and sold in another national market. See *parallel imports* (page 327).

Grease payment

Same as *facilitating payment* (page 156).

Great Depression

The *depression* (page 100) that began in 1929 and lasted well into the 1930s, in the United States, Europe, and other industrialized parts of the world.

Great Moderation

The period between the late 1980s, when inflation abated, and about 2007, when the *Global Financial Crisis* (page 186) hit. During this period, rates of *inflation* (page 221) remained low in most of the world, *economic growth* (page 122) was steady and in many cases unprecedented, and most countries avoided prolonged *recessions* (page 366).

Greater Arab Free Trade Area

A pact by members of the *Arab League* (page 15) aimed at establishing a *free trade area* (page 177).

Greater Mekong Subregion

The six countries sharing the Mekong river: Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Vietnam, and parts of the People's Republic of China (Yunnan Province and Guangxi Zhuang Autonomous Region).

Green box

Category of *subsidies* (page 414) permitted under the *WTO* (page 472) *Agriculture Agreement* (page 11); includes those not directed at particular products, direct income support for farmers unrelated to production or prices, subsidies for environmental protection and regional development. See *box* (page 38).

Green exchange rate

An exchange rate used within the *EU's* (page 137) *Common Agricultural Policy* (page 62) to convert subsidy and support payments into local currencies, avoiding the variability of the rate set in the *exchange market* (page 143).

Green field investment

FDI (page 162) that involves construction of a new plant, rather than the purchase of an existing plant or firm. Contrasts with *brown field investment* (page 40).

Green room group

A group of GATT/*WTO* (page 472) member countries or their delegates — including the larger members and selected smaller and less developed ones — that have met together during negotiations (originally in a green room at WTO Geneva headquarters) to agree among themselves, before taking decisions to the full membership for the required consensus.

Green Seal

See *eco-label* (page 120).

Green tariff

Carbon tariff (page 49).

Gresham's Law

The proposition that "bad money drives out good." It means that if two moneys have equal value in exchange, perhaps by *fiat* (page 163), but different values for other purposes (as when melted down), then the more valuable money will disappear from circulation, perhaps by leaving the country. Named after Sir Thomas Gresham (1519–1579).

Grexit

The exit of Greece from the *eurozone* (page 142), presumably by adopting its own currency. Word coined (refer to page 567) by *Buiter and Rahbari (2012)* (page 581).

Grey area measure

A policy or practice whose conformity with existing rules is unclear, such as a *VER* (page 464) under the *GATT* (page 182) prior to the *WTO* (page 472).

Gross

Before deduction. Contrasts with *net* (page 303). Just what is deducted to get from gross to net depends on the context.

Gross barter terms of trade

The ratio of the quantity of a country's imports, Q_m, to the quantity of its exports, Q_x, and thus the quantity that it recieves in exchange for the quantity that it sells: $GBTT = Q_m/Q_x$.

If trade is *balanced* (page 26), so that $P_xQ_x = P_mQ_m$, then $GBTT = NBTT$. *Given* this name by *Taussig (1927)* (page 597).

Gross capital formation

Same as *gross domestic investment* (see below).

Gross domestic investment

The additions to the *capital stock* (page 49) located within the country, without any deductions for *depreciation* (page 99) of capital that had been previously produced.

Gross domestic product

The total value of new goods and services produced in a given year within the borders of a country, regardless of by whom. It is "gross" in the sense that it does *not*, in contrast to *NDP* (page 300), deduct *depreciation* (page 99) of previously produced *capital* (page 45).

Gross exports

Exports, as opposed to *net exports* (page 303).

Gross fixed capital formation

The value of a firm's acquisitions, less disposals, of fixed assets (plant, equipment, etc.) during a time period. Differs from *gross capital formation* (see above) by not including change in inventories.

Gross international reserves

International reserves (page 236), without any deduction for the fact that some of them may have been borrowed. Contrasts with *net international reserves* (page 304).

Gross investment

The value of *investment* (page 239) before deducting *depreciation* (page 99). For a country, it usually refers to *gross domestic investment* (see above).

Gross national expenditure

Total expenditures by a country's people, firms, and government. Differs from *gross national product* (page 194) by including *imports* (page 215) and excluding *exports* (page 153).

Gross national income

1. *National income* (page 297) plus *capital consumption allowance* (page 46).

2. Same as *gross national product* (page 194).

Gross national product
The total value of new goods and services produced in a given year by a country's domestically owned factors of production, regardless of where. It is "gross" in the sense that, in contrast to *NNP* (page 307), it does *not* deduct *depreciation* (page 99) of previously produced *capital* (page 45).

Gross output
The total output of a firm, industry, or economy without deducting intermediate inputs. For a firm or industry, this is larger than its *value added* (page 462) which is net of its own intermediate inputs. For an economy, gross output is greater than *net output* (page 304), which deducts the amount of the good itself used as an intermediate input.

Gross progress indicator
An alternative to *gross domestic product* (page 193) that is intended to take account of costs that are not internalized by economic agents, such as crime and pollution.

Gross substitutes
Two goods are gross substitutes if a rise in the price of one causes an increase in demand for the other.

Group of Fifteen
The Summit Level Group of Developing Countries, or *Group of Fifteen*, is a group of developing countries, now numbering 17, formed in 1989 to meet regularly and issue "pronouncements reflecting their common standpoint on the major developments in the world economy and international economic relations."

Group of Seven (or Eight)
G-7 (page 180) (or *G-8* (page 180)).

Group of Seventy-Seven
G-77 (page 181).

Group of Ten
A *group* of ten countries, members of the *IMF* (page 209), that together with Switzerland agreed to make resources available outside their *IMF quotas* (page 209). Since 1963 the governors of

the G10 central banks have met on the occasion of the bimonthly *BIS* (page 35) meetings.

Growth

See *economic growth* (page 122).

Growth accounting

Decomposition of the sources of *economic growth* (page 122) into the contributions from increases in *capital* (page 45), labor, and other *factors* (page 156). What remains, called the *Solow residual* (page 398), is usually attributed to *technology* (page 427).

Growth model

A model of an economy in which quantities of *factors* (page 156) can expand over time. The model on which most others are based is the *Solow Model* (page 398).

Growth regression

The attempt to ascertain the causes of economic growth by *regression* (page 369) of country growth rates on country characteristics. The main pitfall is that many characteristics may themselves have been altered by growth, making causation ambiguous.

Grubel-Lloyd Index

The measure of the *intra-industry trade* (page 238) suggested by *Grubel and Lloyd (1975)* (page 585). For an industry i with exports X_i and imports M_i the index is $I = [(X_i + M_i) - |X_i - M_i|]100/(X_i + M_i)$. This is the fraction of total trade in the industry, $X_i + M_i$, that is accounted for by IIT (times 100).

GSP

Generalized System of Preferences (page 184).

GSP social clause

See *social clause* (page 396).

GSTP

Global System of Trade Preferences (page 187).

GTAP

Global Trade Analysis Project (page 187).

GTIS

Global Trade Information Services (page 187).

Guest worker
A foreign worker who is permitted to enter a country temporarily in order to take a job for which there is shortage of domestic labor.

Gulf Cooperation Council
An agreement among six countries of the Persian Gulf region in 1981 with the aim of coordinating and integrating their economic policies.

Gyosei-shido
Administrative guidance (page 7).

Haircut
The loss of asset value for a *creditor* (page 82) when a *debtor* (page 94) *defaults* (page 95) and then renegotiates downward the value of the loan. Sizable haircuts have often been experienced by international lenders as the result of *debt* (page 93) and *financial crises* (page 164).

Handicraft method
An approach to quantifying the price effects of a *nontariff measure* (page 312) by comparing the prices of goods that are affected by the NTM with prices of goods that are not affected. The term was coined by *Ferrantino (2006)* (page 584).

Handmaiden of growth
The metaphor proposed by *Kravis (1970)* (page 588) as more accurate than *engine of growth* (page 132) to capture the role that trade plays in facilitating economic growth, which he argued was due mainly to "internal factors" with trade providing only an "added stimulus."

Harberger-Laursen-Metzler Effect
The conjecture or result that a *terms of trade* (page 429) deterioration will cause a decrease in savings due to the decrease in

real income, and therefore that a *real depreciation* (page 364) will cause an increase in real expenditure. Due to *Harberger (1950)* (page 585) and *Laursen and Metzler (1950)* (page 589).

Harberger triangle

The triangular area, or areas, in a supply and demand diagram that measures the net welfare loss, or *deadweight loss* (page 92) due to a market *distortion* (page 108) or policy, such as a *tariff* (page 421).

Hard currency

A *currency* (page 85) that is widely accepted around the world, usually because it is the currency of a country with a large and stable market. Examples today include the U.S. dollar and the *euro* (page 138).

Hard peg

A *pegged exchange rate* (page 330) with a credible commitment never to change the *par value* (page 327), thus subordinating *monetary policy* (page 286) to the needs of the exchange market and denying access to *devaluation* (page 101) as a policy tool. In practice, the effects of a hard peg are achieved only through a *currency board* (page 86) or by adopting another country's currency, e.g., *dollarization* (page 111).

Harkin bill

The *Child Labor Deterrence Act* (page 56), introduced into the U.S. Senate by Iowa Senator Tom Harkin several times from 1992 through 1999 but never passed into law.

Harmful externality

Negative externality (page 300).

Harmonization

1. The changing of government regulations and practices, as a result of an international agreement, to make those of different countries the same or more compatible.

2. In the case of *tariffs* (page 421), this means making tariff rates more similar across industries and/or across countries.

Harmonized System

An international system for classifying goods in international trade and for specifying the tariffs on those goods. It was adopted

at the beginning of 1989, replacing the previously used schedules in over 50 countries, including the *Brussels Tariff Nomenclature* (page 40).

Harrod-Balassa-Samuelson Effect

The *Balassa-Samuelson Effect* (page 26).

Harrod neutral

A particular specification of *technological change* (page 427) or *technological difference* (page 427) that is *labor augmenting* (page 248).

Hat algebra

The *Jones (1965)* (page 586) technique for *comparative static* (page 64) analysis in trade models. By totally differentiating a model in the logarithms of its variables, a linear system is obtained relating small proportional changes (denoted by carats ($\hat{}$), or "hats") in terms of various elasticities and shares. (The published article used *, not $\hat{}$, because of typographical constraints.)

Havana Charter

The charter for the never-implemented *International Trade Organization* (page 237). The draft was completed at a conference in Havana, Cuba, in 1948.

HDI

Human Development Index (page 207).

Head-Ries Index

An inverse measure of trade costs between two countries, i, j, defined as $[X_{ij}X_{ji}/X_{ii}X_{jj}]^{1/2}$, where X_{ij} is exports from i to j and X_{ii} is sales by country i to itself. Used by *Head and Ries (2001)* (page 585) and named by *Eaton et al. (2011)* (page 583).

Headcount index

A common measure of poverty, defined as the percentage of the population living below the *poverty line* (page 340).

Headline inflation

The rate of *inflation* (page 221) that attempts to include everything that contributes to the *cost of living* (page 78). Contrasts with *core inflation* (page 76), which excludes prices of food and energy.

Headquarters services

The activities of a firm that typically occur at its main location and that contribute in a broad sense to its productivity at all of its locations and plants. These may include management, accounting, marketing, and *R&D* (page 361).

Heavily indebted poor countries

The name given to those poor countries with large debts, the target of initiatives to forgive that debt as a means of assisting *development* (page 101).

Heckscher-Ohlin core propositions

See *core propositions* (page 77).

Heckscher-Ohlin Model

A model of international trade in which *comparative advantage* (page 64) derives from differences in relative *factor endowments* (page 157) across countries and differences in relative *factor intensities* (page 157) across industries. Sometimes refers only to the *textbook* (page 430) or $2 \times 2 \times 2$ model (page 476), but more generally includes models with any numbers of factors, goods, and countries. Model was originally formulated by *Heckscher (1919)* (page 585), fleshed out by *Ohlin (1933)* (page 593), and refined by *Samuelson (1948, 1949, 1953)* (page 595).

Heckscher-Ohlin Theorem

The proposition of the *Heckscher-Ohlin Model* (see above) that countries will have *comparative advantage* (page 64) in, and therefore export, the goods that use relatively *intensively* (page 226) their relatively *abundant factors* (page 4).

Heckscher-Ohlin-Samuelson Model

Usually synonymous with the *Heckscher-Ohlin Model* (see above), although sometimes the term is used to distinguish the more formalized, mathematical version that Samuelson used from the more general but less well-defined conceptual treatment of Heckscher and Ohlin.

Heckscher-Ohlin-Vanek Model

The *Heckscher-Ohlin Model* (see above) for the case of identical *techniques* (page 427) of production (due either to *FPE* (page 175) or *Leontief technologies* (page 256)), used to derive

the strong prediction about the *factor content* (page 156) of trade known as the *Heckscher-Ohlin-Vanek Theorem* (see below).

Heckscher-Ohlin-Vanek Theorem

The prediction of the *HOV model* (page 206) that a country's net *factor content* (page 156) of trade equals its own factor endowment minus its world-expenditure share of the world factor endowment. That is, for country i, $F^i = V^i - s_i V^W$, where F^i is the factor content of its trade, V^i, V^W its and the world's factor endowments, and s_i its share of world expenditure. Due to *Vanek (1968)* (page 598).

Hedge

To offset risk. In the foreign exchange market, hedgers use the *forward market* (page 174) to *cover* (page 80) a transaction or *open position* (page 320) and thereby reduce *exchange risk* (page 145). The term applies most commonly to trade.

Hedonic pricing

The use of statistical techniques such as *regression analysis* (page 369) to determine, from the prices of goods with different measurable characteristics, the prices that are associated with those characteristics. The latter can then be used to construct what the comparable price of a good would be from its characteristics.

Helms-Burton Act

A United States law enacted in 1996 that penalized companies for doing business in Cuba. Since the law applied to non-U.S. companies as well as U.S. companies, other governments objected.

Herfindahl Index

A standard measure of *industry concentration* (page 220), defined as the sum of the squares of the market shares (in percentages) of the firms in the industry.

Heterogeneous

Not all the same. Not *homogeneous* (page 203).

Heterogeneous firm model

An economic model in which firms in an industry are not all the same, as for example a *Melitz Model* (page 279).

HIC

High income country (page 201).

Hicks Kaldor improvement

Potential Pareto improvement (page 340).

Hicks neutral

Said of a *technological change* (page 427) or *technological difference* (page 427) if production functions differ by scaling of output only: $F^2(V) = \lambda F^1(V)$, where $F^1(\cdot)$ and $F^2(\cdot)$ are the production functions being compared, V is a vector of factor inputs, and $\lambda > 0$ is a constant.

Hicksian composite unit-value isoquant

For given *constant-returns-to-scale* (page 71) technologies for two or more goods and given prices of those goods, this is the *convex hull* (page 76) of the *unit value isoquants* (page 457) of those goods. It thus represents the most efficient ways of allocating factors so as to produce one unit of value by producing one or more of the goods.

Hicksian surplus

See *Marshallian surplus* (page 277).

High beta economy

An economy that is *volatile* (page 465), usually in terms of movements in its *GDP* (page 183) and usually because of high exposure to international markets through international trade and/or capital flows.

High dimension

In trade theory, this refers to having more than two goods, factors, and/or countries, or to having arbitrary numbers of these. Contrasts with the *two-ness* (page 453) of the *2 × 2 × 2 model* (page 476).

High income country

The top income group in the *World Bank's* (page 470) classification of countries by *GNI per capita* (page 331), calculated by the *Atlas method* (page 20). Based on July 2012 data, these were countries with incomes of $12,616 or more. Other groups are *low income countries* (page 264) and *middle income countries* (page 281).

High powered money

Same as *monetary base* (page 285), in the sense of currency plus commercial bank reserves.

High technology

This is a rather vague term referring to products and industries that arise from recently developed *technologies* (page 427) such as electronics, genetic engineering, nanotechnology, etc. The presumption often is that specialization in these industries generates greater economic *welfare* (page 468) than more traditional industries.

High value-added

Like *high technology* (see above), this too is a vague term. If taken literally as an industry with a high proportion of *value added* (page 462), it would simply mean that it uses little in *intermediate inputs* (page 228), and thus is *vertically integrated* (page 464). But from the use of the term, that is surely not meant. Instead it seems to refer to a high ratio of price to labor input, so that it can support high wages and high profits.

HIPC

Heavily indebted poor countries (page 199).

HO model

Heckscher-Ohlin Model (page 199).

Holdup problem

In the context of a potential mutually beneficial agreement, the disincentive for one party to invest in that agreement, due to the potential for the other party to extract such benefits, after the investment, as would leave the first party at a loss. Problem arises in many contexts, including international trade that requires, say, an exporter to bear an initial fixed cost.

Hollowing out

The shrinking of the manufacturing sector that has sometimes been thought to result from international trade or outsourcing.

Home bias

1. A preference, by consumers or other demanders, for products produced in their own country compared to otherwise identical imports. This was proposed by *Trefler (1995)* (page 597) as a possible explanation for the *mystery of the missing trade* (page 295).

2. A tendency for wealth holders to hold a disproportional part of their wealth in assets of their own country, rather than *diversifying* (page 109) across assets of many countries as theory would predict.

Home bias puzzle

The observation that assets owned by countries are far more concentrated in domestic assets than would seem to be optimal in order to reduce risk.

Home market effect

The tendency in industries with increasing returns to scale for large countries to be net exporters. Due to *Krugman (1980)* (page 588).

Homogeneous

1. Having the property that all constituent elements are the same, as a *homogeneous good* (see below). Contrasts with *heterogeneous* (page 200).

2. Possessing a certain form of uniformity, as a *homogeneous function* (see below).

Homogeneous function

A function with the property that multiplying all arguments by a constant changes the value of the function by a monotonic function of that constant: $F(\lambda V) = g(\lambda)F(V)$, where $F(\cdot)$ is the homogeneous function, V is a vector of arguments, $\lambda > 0$ is any constant, and $g(\cdot)$ is some strictly increasing positive function. Special cases include *homogeneous of degree N* (see below) and *linearly homogeneous* (page 260).

Homogeneous good

A good all units of which are the same; a *homogeneous product* (page 204).

Homogeneous of degree 1

The same as *linearly homogeneous* (page 260) and, for a *production function* (page 351), *constant returns to scale* (page 71). See *homogeneous of degree N* (below).

Homogeneous of degree *N*

A *homogeneous function* (see above) where the monotonic function is the constant raised to the exponent N: $F(\lambda V) = \lambda^N F(V)$.

For $N > 1$, see *increasing returns to scale* (page 218); for $N < 1$, see *decreasing returns to scale* (page 95).

Homogeneous of degree zero

The property of a function that, if you scale all arguments by the same proportion, the value of the function does not change. See *homogeneous of degree N* (page 203). In the *HO model* (page 202), *CRTS* (page 84) *production functions* (page 351) imply that *marginal products* (page 269) have this property, which is critical for *FPE* (page 175).

Homogeneous product

The product of an industry in which the outputs of different firms are indistinguishable. Contrasts with *differentiated product* (page 103).

Homohypallagic

Having a constant *elasticity of substitution* (page 129). One of the inventors of the *CES function* (page 54) tried to christen it this in *Minhas (1962)* (page 592), where he also explored its theoretical and empirical implications for the *Heckscher-Ohlin Theorem* (page 199), but the name did not catch on.

Homothetic

A function of two or more arguments is homothetic if all ratios of its first partial derivatives depend on only the ratios of the arguments, not their levels. For competitive consumers or producers optimizing subject to homothetic utility or production functions, this means that ratios of goods demanded depend only on relative prices, not on income or scale.

Homothetic demand

Demand functions derived from *homothetic* (see above) preferences. The demand functions are not themselves literally homothetic.

Homothetic preferences

Together with *identical preferences* (page 208), this assumption is used for many propositions in trade theory, in order to assure that consumers with different incomes but facing the same prices will demand goods in the same proportions.

Homothetic tastes

Homothetic preferences (page 204).

Hong Kong Ministerial

The 6th *WTO* (page 472) *ministerial* (page 283) meeting, held in Hong Kong, China, 13–18 December 2005. Intended to achieve significant progress in the negotiations for the *Doha Round* (page 111), it ended with only minimal progress but was nonetheless declared a success.

Horizontal discipline

The use of a rule, as in the regulations of trade policies under the *GATT* (page 182) or *GATS* (page 182), that applies across the board to all sectors of the economy.

Horizontal FDI

Foreign direct investment (page 171) by a firm to establish manufacturing facilities in multiple countries, all producing essentially the same thing but for their respective domestic or nearby markets. Contrasts with *vertical FDI* (page 464).

Horizontal integration

Production of different varieties of the same product, or different products at the same level of processing, within a single firm. This may, but need not, take place in subsidiaries in different countries.

Horizontal intra-industry trade

Intra-industry trade (page 238) in which the exported and imported are *differentiated* (page 103) by characteristics other than quality, or (less commonly) are at the same stage of processing. Contrasts with *vertical IIT* (page 465).

Horizontal mechanism

A procedure for dealing with *NTBs* (page 314) that has been proposed by the *EU* (page 137) as part of the *Doha Round* (page 111) negotiations, solving problems between member countries by using an expert panel to advise parties and seek mutually agreed but non-binding solutions.

Horizontal reduction

In *trade negotiations* (page 441), a cut in all tariffs by the same percentage. See *linear cut* (page 260).

Hormone dispute

See *beef hormone case* (page 30).

HOS model

Heckscher-Ohlin-Samuelson Model (page 199).

Host country

The country into which a *foreign direct investment* (page 171) is made.

Hostage effect

One reason why a firm might choose to acquire less than 100% of a foreign firm that it buys, in spite of the extra administrative cost of managing shared ownership: It gives the seller a stake in the acquired firm, and thus incentive to behave and communicate helpfully.

HOT

Heckscher-Ohlin Theorem (page 199).

Hot money

Holdings of very *liquid* (page 260) assets, which may be sold or cashed on short notice and then removed from a country, often in response to expectations of *devaluation* (page 101) or other *financial crisis* (page 164).

Housing bubble

A *bubble* (page 40) in the prices of housing. Especially the bubble that occurred leading up to the *Global Financial Crisis* (page 186) of 2008, which was caused by the decline of house prices especially in the U.S. and Europe.

HOV model

Heckscher-Ohlin-Vanek Model (page 199).

HS

Harmonized System (page 197).

Hub and spoke integration

A pattern of economic *integration* (page 225) in which one country (the "hub") forms *preferential trading arrangements* (page 342) with two or more other countries (the "spokes") that do not form such arrangements with each other.

Human capital

1. The stock of knowledge and skill, embodied in an individual as a result of education, training, and experience, that makes him or her more productive economically.

2. The stock of knowledge and skill embodied in the population of an economy.

Human capital density

The amount of *human capital* (page 206) per unit land area in a country.

Human Development Index

An *index* (page 218) produced by *UNDP* (page 455) for 187 countries (as of December 2013) to measure three aspects of human development: life expectancy and health; knowledge; and *standard of living* (page 407).

Human rights

The conditions and expectations to which every person, by virtue of his or her existence as a human being, is entitled.

Hyperinflation

Inflation (page 221) at a very high and rising rate. Defined by *Cagan (1956)* (page 581) to be over 50%.

Hysteresis

1. The failure of an economic variable to return to its initial equilibrium after a temporary shock. For example, an industry or trade flow might disappear due to an exchange rate change, then not reappear after the change is reversed.

2. A time lag between a cause and an effect. (Though this seems to be the more standard dictionary definition, economists seem to prefer definition 1.)

IADB

Inter-American Development Bank (page 226).

IASB

International Accounting Standards Board (page 230).

IBRD

International Bank for Reconstruction & Development (page 230).

ICA

International commodity agreement (page 231).

ICC

International Chamber of Commerce (page 231).

Iceberg transport cost

A cost of transporting a good that uses up only some fraction of the good itself, rather than using any other resources. Based on the idea of floating an iceberg, which is costless except for the amount of the iceberg itself that melts. It is a very tractable way of modeling transport costs since it impacts no other market. Due to *Samuelson (1954)* (page 595).

ICN

International Competition Network (page 231).

ICOR

Incremental capital output ratio (page 218).

ICP

International Comparison Program (page 231).

ICSID

International Centre for Settlement of Investment Disputes (page 230).

IDA

International Development Association (page 232).

IDB

1. *Islamic Development Bank* (page 241)

2. *Inter-American Development Bank* (page 226) (more commonly, *IADB* (page 207)).

Identical preferences

The assumption that individuals — either within a country or in different countries — have the same preferences. To be useful, since individuals' and countries' incomes may differ, the assumption is often used together with *homothetic* (page 204) preferences.

IFAD

International Fund for Agricultural Development (page 233).

IFC
International Finance Corporation (page 233).

IFI
International financial institution (page 233).

IFRS
International Financial Reporting Standards (page 233).

IFS
International Financial Statistics (page 233).

IFSWF
International Forum of Sovereign Wealth Funds (page 233).

IGO
Intergovernmental organization (page 227).

IIDE
Institute for International and Development Economics (page 224).

IIE
Institute for International Economics (page 224), now the *Peterson Institute for International Economics* (page 334).

IIT
Intra-industry trade (page 238).

ILO
International Labor Organization (page 234).

Imbalance
1. Any departure from equality.
2. In the *balance of payments* (page 24), any *surplus* (page 418) or *deficit* (page 95).

IMF
International Monetary Fund (page 235).

IMF quota
The amount of money that each *IMF* (see above) member country is required to contribute to the institution, partly in their own currency and partly in U.S. dollars, gold, or other member-country currencies. A country's quota is based upon the country's *GDP* (page 183). Countries have voting power in the IMF in proportion to their IMF quotas.

Immigration
The *migration* (page 281) of people *into* a country.

Immiserizing growth
Economic growth that makes the country worse off. *Bhagwati (1958)* (page 579) coined (refer to page 567) this term for growth that expands exports and worsens the *terms of trade* (page 429) sufficiently that real income falls. *Johnson (1955)* (page 586) had shown that a market *distorted* (page 108) by a tariff could lose from growth and had also, independently, worked out conditions for Bhagwati's result.

Immiserizing transfer
A *transfer* (page 448) that makes the receiving country worse off.

Impairment
See *nonviolation* (page 312).

Imperfect capital mobility
Any departure from *perfect capital mobility* (page 331), permitting interest rates or returns to capital to differ between countries.

Imperfect competition
Any departure from *perfect competition* (page 332). However, imperfect competition usually refers to one of the *market structures* (page 275) other than perfect competition.

Imperfectly competitive
Refers to an economic agent (firm or consumer), group of agents (industry), model, or analysis that is characterized by *imperfect competition* (see above). Contrasts with *perfectly competitive* (page 332).

Implicit price deflator
A broad measure of prices derived from separate estimates of real and nominal expenditures for *GDP* (page 183) or a subcategory of GDP. Without qualification the term refers to the GDP deflator and is thus an index of prices for everything that a country produces, unlike the *CPI* (page 81), which is restricted to consumption and includes prices of imports.

Implicit tariff
1. *Tariff revenue* (page 423) on a good or group of goods, divided by the corresponding value of imports. Often lower than the

official or statutory tariff, due both to *PTAs* (page 355) and to failures in customs collection.

2. The difference between the price just inside a border and the price just outside it, especially in the case of a good protected by an import *quota* (page 360).

Import

1. A good that crosses into a country, across its border, for commercial purposes.

2. A product, which might be a service, that is provided to domestic residents by a foreign producer.

3. To cause a good or service to be an import under definitions 1 and/or 2.

Import authorization

The requirement that imports be authorized by a special agency before entering a country, similar to import *licensing* (page 258).

Import bias

1. Any *bias* (page 32) in favor of importing.

2. Applied to growth, it tends to mean a bias *against* importing, and against trading more generally. Thus growth that is based disproportionately on accumulation of the *factor* (page 156) used *intensively* (page 226) in the import-competing industry and/or *technological progress* (page 427) favoring that industry.

Import-competing

Refers to an industry that competes with imports. That is, in a two-good model with trade, one good is the export good and the other is the import-competing good.

Import cover

The number of months of imports that could be paid for by a country's *international reserves* (page 236); thus a measure of the adequacy of its reserves as a hedge against a crisis.

Import coverage ratio

See *coverage ratio* (page 81).

Import demand elasticity

The *elasticity of demand for imports* (page 129) with respect to price.

Import deposit
A requirement that importers put some amount of money in an account for some period of time. The purpose may be to assure that import duties will be paid, if they apply (as in the case of a tourist bringing in a car), or the deposit may simply be a *nontariff barrier* (page 312) intended to discourage imports. See *prior deposit* (page 348).

Import duty
A *tariff* (page 421) on imports.

Import elasticity
Usually means the *import demand elasticity* (page 211).

Import-export company
A firm whose business consists mainly of international trade: buying goods in one country and selling them in another, thus both exporting and importing. Same as *export-import company* (page 150).

Import liberalization
Trade liberalization (page 441).

Import license
The license to import under an import *quota* (page 360) or under *exchange controls* (page 143).

Import licensing
See *licensing* (page 258).

Import monitoring
A practice introduced by the U.S., first for steel and later for textiles and apparel, whereby the Department of Commerce records the volume of imports of specified products in order to make these data publicly available earlier than would otherwise be possible. Implicitly, these procedures are intended to facilitate faster *administered protection* (page 7).

Import parity price
The price that a purchaser pays or can expect to pay for an imported good, thus the *c.i.f.* (page 57) import price plus tariff plus transport cost to the purchaser's location. This and the *export parity price* (page 151) together define a range of the

possible equilibrium prices for an equivalent domestically produced good.

Import penetration

A measure of the importance of imports in the domestic economy, either by sector or overall, usually defined as the value of imports divided by the value of *apparent consumption* (page 15).

Import price index

Price index (page 345) of the goods that a country *imports* (page 211).

Import promotion

Any policy that encourages imports. A policy of *export promotion* (page 152) generally has the side effect of stimulating imports as well. Today the term is more commonly used for policies used by developed countries intended to assist developing countries in exporting to them.

Import propensity

The *marginal propensity to import* (page 270) (or sometimes the *average propensity* (page 23), if they are different).

Import protection

See *protection* (page 354).

Import quantity index

Quantity index (page 359) of the goods that a country *imports* (page 215).

Import quota

See *quota* (page 360).

Import quota auction

See *auction quota* (page 20).

Import relief

Usually refers to restraint of imports in a sector so as to assist domestic producers, with the connotation that they have been suffering from import competition. If done formally under existing statutes, it is *administered protection* (page 7), but it may also be done informally by a *VER* (page 464) or other *nontariff barrier* (page 312).

Import restriction
Any measure to reduce imports, including a *tariff* or *nontariff barrier* (page 312).

Import sensitivity
The extent to which an industry is vulnerable to losing sales, profits, or employment due to an increase in imports.

Import share
The fraction of domestic purchases in an industry that are spent on imports.

Import substitute
A good produced on the domestic market that competes with imports, either as a *perfect substitute* (page 332) or as a *differentiated product* (page 103).

Import substituting industrialization
A strategy for economic development based on replacing imports with domestic production (ISI).

Import substitution
A strategy for *economic development* (page 122) that replaces imports with domestic production. It may be motivated by the *infant industry argument* (page 221), or simply by the desire to mimic the industrial structure of advanced countries. Contrasts with *export promotion* (page 152).

Import surcharge
A tax levied uniformly on most or all imports, in addition to already existing tariffs.

Import surge
An unusual increase in the quantity of imports of a product, such as may be used as the basis for requesting *safeguard protection* (page 381).

Import surveillance
The monitoring of imports, usually by means of *automatic licensing* (page 21).

Import tariff
Tariff (page 421).

Import tax
Tariff (page 421).

Import-weighted average tariff

See *trade weighted average tariff* (page 445).

Imports

The quantity or value of all that is *imported* (page 211) into a country.

Impossible trinity

The impossibility of combining all three of the following: *monetary independence* (page 286), *exchange rate stability* (page 145), and full *financial market integration* (page 165).

Impost

1. A tax or *tariff* (page 421). (This is not a commonly used word.)

2. The extra cost per unit of an import imposed on the importer in order to satisfy some requirement, such as a *technical barrier to trade* (page 426).

Improve the terms of trade

To increase the *terms of trade* (page 429); that is, to increase the relative price of exports compared to imports. Because it represents an increase in what the country gets in return for what it gives up, this is associated with an improvement in the country's welfare, although whether that actually occurs depends on the reason prices change.

Improve the trade balance

This conventionally refers to an increase in exports relative to imports, which thus causes the *balance of trade* (page 25) to become larger if positive or smaller if negative. The terminology ignores that exports drain resources while imports satisfy domestic needs, and reflects instead the association of exports with either accumulation of wealth or jobs.

In kind

Referring to a payment made with goods instead of money.

Incidence

See *tax incidence* (page 426).

Income

1. The amount of money (*nominal* (page 307) or *real* (page 363)) received by a person, household, or other economic unit per unit time in return for services provided or goods sold.

2. *National income* (page 297).

3. The return earned on an *asset* (page 18) per unit time.

Income disparity

Inequality of income, usually referring to differences in average *per capita* (page 331) incomes across countries.

Income distribution

A description of the fractions of a population that are at various levels of income. The larger are the differences in income, the "worse" the income distribution is usually said to be, the smaller the "better." International trade and *factor movements* (page 158) can alter countries' income distributions by changing prices of low- and high-paid *factors* (page 156).

Income effect

That portion of the effect of price on quantity demanded that reflects the change in real income due to the price change. Contrasts with *substitution effect* (page 415).

Income elastic

Having an *income elasticity* (see below) greater than one.

Income elasticity

Normally the income elasticity of demand; that is, the *elasticity* (page 129) of demand with respect to income.

Income-expenditure analysis

The simplest *Keynesian* (page 246) model for determining national income, in which desired expenditure (consumption plus investment plus government purchases) depends on income, which is in turn determined so that desired expenditure equals income. Gives rise to the *income-expenditure multiplier* (page 294).

Income inelastic

Having an *income elasticity* (see above) less than one.

Income redistribution argument for a tariff

The argument that tariffs should be used in order to redistribute income toward the poor. In a rich country, where unskilled labor is the scarce factor, this can make sense as explained in the *Stolper-Samuelson Theorem* (page 411), but it is a *second-best argument* (page 385).

Income tax

A tax levied on incomes of persons or corporations. International differences in income tax rates sometimes induce persons and corporations to relocate to lower-tax jurisdictions.

Income terms of trade

The purchasing power, in terms of the price of imports, P_m, of the value (price times quantity) of a country's exports: $ITT=P_xQ_x/P_m$. Concept and term introduced (refer to page 569) by *Dorrance (1948)* (page 583).

Incomplete information

See *complete information* (page 67).

Incomplete specialization

Production of goods that compete with imports.

Incoterms

International commercial terms; that is, the language of international commerce. Examples include *CIF* (page 57), *ex works* (page 142), and *FOB* (page 170). The name was coined by the *International Chamber of Commerce* (page 231), which maintains and updates their definitions.

Increasing cost

1. Referring to a single firm or industry, the rise in cost of production that occurs when output is increased by expanding variable inputs while holding some fixed input constant. A corollary of the *law of diminishing returns* (page 253).

2. In general equilibrium, *increasing opportunity cost* (see below).

Increasing opportunity cost

The characteristic of an economy that the *opportunity cost* (page 321) of a good rises as it produces more of it, resulting in a *transformation curve* (page 448) that is *concave* (page 68) to the origin. In the *HO model* (page 202), this happens in spite of *CRTS* (page 84) if sectors have different *factor intensities* (page 157).

Increasing returns industry

An industry whose technology displays substantial *increasing returns to scale* (page 218). Such an industry may be a *natural monopoly* (page 298). It also may provide an argument for

industrial policy (page 220) to such an industry to locate in the domestic economy rather than abroad.

Increasing returns to scale

A property of a *production function* (page 351) such that changing all inputs by the same proportion changes output more than in proportion. Common forms include *homogeneous of degree greater than one* (page 203) and production with constant *marginal cost* (page 269) but positive *fixed cost* (page 168). Also called *economies of scale* (page 125), *scale economies* (page 383), and simply *increasing returns* (page 218). Contrasts with *decreasing returns* (page 95) and *constant returns* (page 71).

Incremental capital output ratio

The amount of additional *capital* (page 45) that a *developing country* (page 101) requires to increase its output by one unit; thus the reciprocal of the *marginal product* (page 269) of capital. Used as an (inverse) indicator of how efficiently a country is using the scarce capital it acquires.

Indebtedness

The amount that is owed; thus amount of an entity's (individual, firm, or government's) financial obligations to creditors.

Index

A quantitative measure, usually of something the measurement of which is not straightforward, such as an average of many diverse prices, or a concept such as economic development or human rights.

Index number

A numerical *index* (see above), usually indicating, by comparison with a base value of 100, the size of the index relative to a base year or other benchmark for comparison. Thus, for example, a *CPI* (page 81) of 115 in 2004 with a base year of 1999 means that prices have risen 15% from 1999 to 2004.

Index number problem

A question the answer to which depends on a choice of weights. For example, the effect of trade on the *real wage* (page 365) of labor in the *specific-factors model* (page 402) is an index number

problem, depending on how much workers consume of (lower-priced) imported and (higher-priced) exported goods.

Index of openness

Openness index (page 321).

Index of sustainable economic welfare

An alternative to *GDP* (page 183) intended as a measure of welfare rather than simply production. As such it would take account of such things as income distribution, environmental impact, and leisure. No single measure of ISEW seems to have been agreed upon.

Indifference curve

A means of representing the preferences and well-being of consumers. Formally, it is a curve representing the combinations of arguments in a *utility function* (page 462) that yield a given level of utility.

Indigenous innovation policy

A policy introduced by China in 2009 requiring that purchases by government agencies favor products whose *intellectual property* (page 225) has been developed, owned, and registered in China.

Indirect exchange rate

The foreign-currency price of a unit of domestic currency. (This definition appears in several places, but it is unclear why this is any less direct than its reciprocal.)

Indirect export

Export (page 148) of a good by someone other than the firm that produced it, such as by a trading company or by a foreign purchaser.

Indirect export subsidy

An *upstream subsidy* (page 461).

Indirect tax

A tax levied on expenditure, such as a sales tax, *excise tax* (page 146), or *value added tax* (page 462). Contrasts with *direct tax* (page 105).

Indirect trade deflection

Same as *internal trade deflection* (page 229). This term seems to be more commonly used than internal trade deflection.

Industrial concentration

The extent to which a small number of firms dominates an industry, often measured by a *concentration ratio* (page 68) or by a *Herfindahl Index* (page 200). Concentration is, in effect, the opposite of *competition* (page 65), although in an open economy imports complicate the relationship.

Industrial policy

Government policy to influence which industries expand and, perhaps implicitly, which contract, via *subsidies* (page 414), *tax breaks* (page 425), and other aids for favored industries. The purpose, aside from political favor, may be to foster *competitive advantage* (page 66) where there are beneficial *externalities* (page 155) and/or *scale economies* (page 383).

Industrial targeting

Industrial policy (see above).

Industrialization

The establishment and subsequent growth of industrial production in a country, usually meaning heavy manufacturing.

Industrialized

Having experienced substantial *industrialization* (see above). Industrialized countries are usually the same as *developed countries* (page 101).

Industry

1. The portion of an economy that produces a particular related group of products; e.g., the motor vehicle industry, the tourism industry, and the mining industry. A list of industries might well include agriculture.

2. One of three main sectors of an economy, the other two being the agriculture and service sectors. Industry in turn includes mining and manufacturing.

Inelastic

Having an elasticity less than one. For a *price elasticity* (page 344) of *demand* (page 97), this means that expenditure falls as price falls. For an *income elasticity* (page 216) it means that expenditure share falls with rising income. Contrasts with *elastic* (page 128) and *unit elastic* (page 457).

Inelastic offer curve

An *offer curve* (page 316) with *inelastic* (page 220) demand for imports. That inelasticity implies that exports decline as imports increase, and it therefore means that the offer curve is *backward bending* (page 24). Strictly speaking, the natural definition of an offer curve's elasticity would be negative in this case, not just less than one, but that definition is seldom used.

Inequality

Differences in *per capita* (page 331) income or household income across populations within a country or across countries.

Infant industry argument

The theoretical rationale for *infant industry protection* (see below).

Infant industry protection

Protection (page 354) of a newly established domestic industry that is less productive than foreign producers. If productivity will rise with experience enough to pass *Bastable's* (page 29) and *Mill's* (page 282) tests, there is a *second-best argument* (page 385) for protection. The term is very old, but a classic treatment may be found in *Baldwin (1969)* (page 578).

Inferior good

A good the demand for which falls as income rises. The *income elasticity* (page 216) of demand is therefore negative.

Infinitely elastic

Having an elasticity that is infinitely large, usually with respect to price, in which case what it means in effect is that the price is constant, given, or fixed. A *small open economy* (page 395), usually by definition, faces world supply and demand that are infinitely elastic at a given world price.

Inflation

Increase in the overall price level of an economy, usually as measured by the *CPI* (page 81) or by the *implicit price deflator* (page 210).

Inflation adjusted

Adjusted for inflation (page 6).

Inflation rate

The percentage increase in the price level per year. See *inflation* (page 221).

Inflation targeting

A principle of *monetary policy* (page 286) that the rate of *inflation* (page 221) should be kept within a pre-specified range, using *expansionary* (page 147) policy when the rate is below that range and *contractionary* (page 74) policy above it.

Inflation tax

The use of *monetary expansion* (page 286) and consequent *inflation* (page 221) to finance a government *deficit* (page 95) by reducing the *real* (page 363) value of outstanding *nominal* (page 307) *debt* (page 93). Foreign holders of debt bear the tax, without experiencing inflation, due to *exchange rate* (page 144) *depreciation* (page 99).

Inflow

See *capital inflow* (page 47).

Inframarginal

Inside of, as opposed to at, the margin. Example: For a firm that is producing 100 units, marginal cost is the cost of the 101st unit, while inframarginal cost refers, usually only qualitatively and without a precise definition, to the cost of units $1, \ldots, 100$.

Inframarginal rent

The *quasi rent* (page 360) earned by a *perfectly competitive* (page 332) firm in the *short run* (page 391). If price equals marginal cost, then it earns nothing on the marginal unit, but if marginal cost increases with output due to a *fixed factor* (page 168), then price exceeds marginal cost for *inframarginal* (see above) units.

Infrastructure

The facilities that must be in place in order for a country or area to function as an economy and as a state, including the capital needed for transportation, communication, and provision of water and power, and the institutions needed for security, health, and education.

Injury

Harm to an industry's owners and/or workers. Import protection under the *Safeguards* (page 381), *AD* (page 5), and *CVD* (page 91) provisions of the *GATT* (page 182) requires a finding of *serious* (page 388) (for Safeguards) or *material* (page 277) (for AD/CVD) injury (as determined by, in the U.S., the *ITC* (page 243)). Known as the *injury test* (see below).

Injury margin

In cases of *anti-dumping* (page 14) and *countervailing duties* (page 79), the difference between the import price and the price that would be needed to prevent *injury* (see above).

Injury test

The determination by an administrative authority, in a request for *administered protection* (page 7), of whether the domestic industry has experienced sufficient *injury* (see above) to meet the requirement of the protection requested: *material injury* (page 277) in cases of *unfair trade* (page 456) or *serious injury* (page 388) in cases of *Safeguards* (page 381).

Innovation

The creation or introduction of something new, especially a new product or a new way of producing something.

Input

1. Anything that is used in a production process, including both the services of *primary factors* (page 346) and *intermediate inputs* (page 228).

2. Sometimes input refers only to *intermediate inputs* (page 228), as distinct from *primary factors* (page 346).

Input-output

Refers to the structure of *intermediate transactions* (page 228) among industries, in which one industry's output is an input to another, or even to itself.

Input-output table

A table of all inputs and outputs of an economy's industries, including *intermediate transactions* (page 228), primary inputs, and sales to final users. As developed by Wassily Leontief, the

table can be used to calculate *gross outputs* (page 194) and primary factor inputs needed to produce specified *net outputs* (page 304). *Leontief (1954)* (page 590) used this to find the *factor content* (page 156) of U.S. trade, generating the *Leontief paradox* (page 256).

Inshoring

Term used occasionally as an opposite to *offshoring* (page 317), when a foreign firm relocates a part of its productive activity into the domestic economy.

Insignificant

1. Too small to matter, usually meaning that the size of a variable or effect is small enough that it will not be noticed in comparison to whatever else is going on.

2. Not *statistically significant* (page 409).

Insolvency

See *solvency* (page 399).

Insourcing

Same as *inshoring* (see above), and opposite of *outsourcing* (page 325).

Instability

The property of not being *stable* (page 405); thus, moving around over time, and/or uncertain in its movement over time.

Institute for International and Development Economics

A web-based network of research economists in Europe and North America focusing on the global economy, trade and financial integration, and international development.

Institute for International Economics

See *Peterson Institute for International Economics* (page 334).

Institutional investor

An owner of financial assets other than a person, and for whom such ownership is a main part of its business. Main examples are banks, hedge funds, insurance companies, mutual funds, and pension funds.

Instrument

1. An economic variable that is controlled by policy makers and can be used to influence other variables, called *targets*

(page 420). Examples are *monetary* (page 286) and *fiscal policies* (page 167) used to achieve *external* (page 154) and *internal balance* (page 228).

2. See *financial instrument* (page 164).

Insurance

A financial arrangement to reduce *risk* (page 379). The purchaser of insurance pays a fixed amount, in return for which the seller agrees to pay some larger amount if an unlikely adverse event occurs.

Intangible service

Same as *service* (page 388), since all services are intangible.

Integrated World Economy

A hypothetical, theoretical benchmark in which both goods and *factors* (page 156) move costlessly between countries. The IWE is associated with a rectangular diagram depicting allocation of factors to countries, showing conditions for *FPE* (page 175). The name was coined by *Dixit and Norman (1980)* (page 582), but the concept and technique was introduced by *Travis (1964)* (page 597).

Integrated World Economy diagram

A box diagram, somewhat analogous to an *Edgeworth box* (page 126), depicting alternative allocations of world endowments of two factors between two countries. It is used to illustrate the conditions for *factor price equalization* (page 158). Refer to *Picture Gallery* (page 487).

Integration

Economic integration refers to reducing barriers among countries to transactions and to movements of goods, capital, and labor, including harmonization of laws, regulations, and standards. Common forms include *FTAs* (page 178), *customs unions* (page 90), and *common markets* (page 63). Sometimes classified as *shallow integration* (page 389) vs. *deep integration* (page 95).

Intellectual property

Products of the mind, such as inventions, works of art, music, writing, film, etc.

Intellectual property protection
Laws that establish and maintain ownership rights to intellectual property. The principal forms of *IP* (page 240) protection are patents, trademarks, and copyrights.

Intellectual property right
The right to control and derive the benefits from something one has invented, discovered, or created.

Intensity
The amount that something is used, as compared to something else. See *factor intensity* (page 157).

Intensive
Of production, using a relatively large amount of an input. See *factor intensity* (page 157).

Intensive margin
Refers to varying the amount of trade (or other activity) of a firm, industry, or country by varying the quantity that it trades of a given number of products, as opposed to the *extensive margin* (page 154) at which it would vary the number of products.

Inter-American Development Bank
A *development bank* (page 102) for the countries of Latin America and the Caribbean.

Interbank rate
The rate of interest charged by a bank on a loan to another bank. See *LIBOR* (page 258).

Interdependence
See *economic interdependence* (page 123).

Interest
The amount paid by a borrower to a lender above the amount (the *principal* (page 347)) that has been borrowed.

Interest arbitrage
A form of *arbitrage* (page 16) intended to profit from a difference in *interest rates* (page 227) in different markets. It consists of simultaneously borrowing at the low interest rate and lending at the higher interest rate in order to profit from the difference. If done in two different currencies, it may be *covered* (page 81) or *uncovered* (page 454).

Interest bearing account
An account in a bank or other financial institution that pays *interest* (page 226) to the depositor.

Interest equalization tax
A tax levied between 1963 and 1974 by the United States of 15% on interest received from foreign borrowers, intended to discourage *capital outflows* (page 49).

Interest parity
Equality of returns on otherwise identical financial assets denominated in different currencies. May be *uncovered* (page 454), with returns including expected changes in exchange rates, or *covered* (page 81), with returns including the *forward premium* (page 174) or discount. Also called *interest rate parity* (see below) and interest parity condition.

Interest rate
The rate of return on bonds, loans, or deposits. When one speaks of "the" interest rate, it is usually in a model where there is only one.

Interest rate parity
Interest parity (see above).

Interest rate spread
See *spread* (page 404).

Intergovernmental organization
An organization the members of which are national governments, including the *United Nations* (page 458), its subsidiary organizations such as *UNCTAD* (page 455), and a great many others.

Inter-industry trade
Trade in which a country's exports and imports are in different industries. Typical of models of *comparative advantage* (page 64), such as the *Ricardian model* (page 378) and *Heckscher-Ohlin Model* (page 199). Contrasts with *intra-industry trade* (page 238).

Intermediate good
Same as *intermediate input* (page 228).

Intermediate input

An input to production that has itself been produced and that, unlike *capital* (page 45), is used up in production. As an input it is in contrast to a *primary input* (page 346) and as an output it is in contrast to a *final good* (page 164). A very large portion of international trade is in intermediate inputs.

Intermediate transaction

The sale of a product by one firm to another, presumably to be used as an *intermediate input* (see above).

Intermittent dumping

Dumping (page 115) that occurs for short periods of time, presumably to dispose of temporary surpluses of goods and not intended to eliminate competition. Same as *distress dumping* (page 109) and *sporadic dumping* (page 404).

Intermodalism

The use of more than one form (mode) of transportation, as when a shipment travels by both sea and rail.

Internal balance

A *target* (page 420) level for domestic aggregate economic activity, such as a level of *GDP* (page 183) that minimizes unemployment without being inflationary. See the *assignment problem* (page 18). Contrasts with *external balance* (page 154).

Internal debt

The amount owed by a country to, in effect, itself. It includes, for example, the portion of the *government debt* (page 189) that is denominated in the country's own currency and held by domestic residents.

Internal devaluation

Reduction in a country's *nominal* (page 307) wages and prices in order to make it more *competitive* (page 66) internationally. Achieves the same purpose as an *exchange rate* (page 144) *devaluation* (page 101) but at much greater cost, since it normally requires *recession* (page 366) to make it happen.

Internal economies of scale

Economies of scale (page 125) that are internal to a firm; that is, the firm's average costs fall as its own output rises. Likely to be

inconsistent with *perfect competition* (page 332). Contrasts with *external economies of scale* (page 155).

Internal equilibrium

Internal balance (page 228).

Internal market

Term used for a target of European *integration* (page 225), which would remove all barriers between national markets so that they would become, in effect, a single European market.

Internal rate of return

A way of quantifying the stream over time of returns on an investment relative to its cost. Defined as the *interest rate* (page 227) at which the *present value* (page 343) of the returns equals the cost.

Internal trade deflection

The shift of domestic sales from a low-tariff member of an *FTA* (page 178) to a high-tariff member, displacing imports there and inducing additional imports at home, thus having the same effects as *trade deflection* (page 438) without potential for interruption by *rules of origin* (page 380). Identified and named by *Richardson (1995)* (page 594), though others have used the equivalent *indirect trade deflection* (page 219).

Internalization

One of the three pillars of the *OLI paradigm* (page 318) for understanding *FDI* (page 162) and the formation of *multinational enterprises* (page 293), this refers to the advantage that a firm derives from keeping multiple activities within the same organization.

Internalize

To cause, usually by a tax or subsidy, an *external* (page 154) cost or benefit of someone's actions to be experienced by them directly, so that they will take it into account in their decisions.

International

Involving transactions or relations between nations. The term, according to *Suganami (1978)* (page 596), was coined by *Bentham (1789/1948)* (page 578).

International Accounting Standards Board
An independent body, based in London, that sets accounting standards in the form of the *International Financial Reporting Standards* (page 233).

International adjustment process
1. Any mechanism for change in international markets.
2. The mechanism by which *payments imbalances* (page 330) diminish under *pegged exchange rates* (page 330) and *nonsterilization* (page 312). Similar to the *specie flow mechanism* (page 402), *exchange market intervention* (page 144) causes *money supplies* (page 288) of *surplus* (page 418) countries to expand and vice versa, leading to price and interest rate changes that correct the *current* (page 88) and *capital account* (page 45) imbalances.

International Bank for Reconstruction & Development
The largest of the five institutions that comprise the *World Bank* (page 470) Group, IBRD provides loans and development assistance to middle-income countries and credit-worthy poorer countries.

International Bovine Meat Agreement
A *plurilateral* (page 336) agreement on trade in bovine meat, originally negotiated as part of the *Tokyo Round* (page 433), continued as a plurilateral agreement after the *Uruguay Round* (page 461), but terminated in 1997.

International capital movement
The acquisition or sale of assets, financial or real, across international borders. Measured in the *financial account* (page 164) of the *balance of payments* (page 24).

International cartel
See *cartel* (page 51).

International Centre for Settlement of Investment Disputes
One of the five institutions that comprise the *World Bank* (page 470) Group, ICSID provides facilities for the settlement — by conciliation or arbitration — of investment disputes between foreign investors and their host countries.

International Chamber of Commerce
Calling itself the "voice of world business," the ICC promotes the cause of international business and open markets. It produces the *Open Markets Index* (page 320).

International Cocoa Organization
An intergovernmental organization set up in 1973 to administer the International Cocoa Agreement, the most recent version of which was negotiated in 2001. See *international commodity agreement* (see below).

International Coffee Organization
An intergovernmental organization set up in 1963 that administers the International Coffee Agreement. See *international commodity agreement* (see below).

International commodity agreement
An agreement among producing and consuming countries to improve the functioning of the global market for a *commodity* (page 62). May be administrative, providing information, or economic, influencing world price, usually using a *buffer stock* (page 41) to *stabilize* (page 405) it. ICAs are overseen by *UNCTAD* (page 455).

International Comparison Program
A program currently coordinated by the *World Bank* (page 470) to gather extensive information about prices in many countries so as to ascertain the purchasing power of their currencies and thus permit international comparisons of *real incomes* (page 365).

International Competition Network
A network for cooperation among the *anti-trust* (page 14) agencies of a large number of both developed and developing countries.

International competitiveness
See *competitiveness* (page 66).

International Cotton Advisory Committee
An association of governments dealing with cotton. It grew out of an International Cotton Meeting in 1939. See *international commodity agreement* (above).

International Dairy Agreement
A *plurilateral* (page 336) agreement on trade in dairy products, originally negotiated as part of the *Tokyo Round* (page 433), continued as a plurilateral agreement after the *Uruguay Round* (page 461), but terminated in 1997.

International Development Association
One of the five institutions that comprise the *World Bank* (page 470) Group, IDA provides interest free loans and other services to the poorest countries.

International economics
The study of economic interactions among countries — including *financial transactions* (page 165), *investment* (page 239), *trade* (page 435), and movement of people — and the policies and institutions that influence them.

International exhaustion
See *exhaustion* (page 146).

International externality
An *externality* (page 155) that extends across national borders. A negative example is emission of greenhouse gases that contribute to global warming. A positive example is technological innovation that diffuses to other countries.

International factor movement
The international movement of any *factor* (page 156) of production, including primarily labor and capital. Thus includes *migration* (page 281) and *foreign direct investment* (page 171). Also may include the movement of *financial capital* (page 164) in the form of international borrowing and lending.

International finance
The monetary side of international economics, in contrast to the *real* (page 363) side, or *real trade* (page 365). Also often called *international monetary economics* (page 235) or *international macroeconomics* (page 235), each term has a slightly different meaning, and none seems entirely right for the entire field. "International finance" is best for the study of international financial markets including exchange rates.

International Finance Corporation
One of the five institutions that comprise the *World Bank* (page 470) Group, IFC promotes growth in the developing world by financing private sector investments and providing technical assistance and advice to governments and businesses.

International financial institution
Usually refers to intergovernmental organizations dealing with financial issues, most often the *IMF* (page 209) and/or the *World Bank* (page 470).

International Financial Reporting Standards
A set of accounting standards set by the *International Accounting Standards Board* (page 230) and required for use throughout Europe and parts of Asia, Africa and Latin America. Other countries have committed to adopt or converge toward these standards, and the United States permits non-U.S. companies to report under them, although U.S. companies use the *Generally Accepted Accounting Priciples* (page 184).

International Financial Statistics
Publication of the *International Monetary Fund* (page 235).

International Fisher Effect
The theory that exchange rate changes will match, or be expected to match, international differences in nominal interest rates. It follows from the (domestic) *Fisher Effect* (page 168) together with *purchasing power parity* (page 356).

International Forum of Sovereign Wealth Funds
A voluntary group of *sovereign wealth funds* (page 400) that meets to exchange views and propagate the *Santiago Principles* (page 382). As of December 2013, it had 24 member countries.

International Fund for Agricultural Development
A *United Nations* (page 458) specialized agency that finances projects primarily for food production in developing countries.

International Grains Council
An intergovernmental organization, concerned with grains trade, that administers the Grains Trade Convention of 1995. See *international commodity agreement* (page 231).

International indebtedness
The amount that a country's government and/or its private sector has borrowed from other countries and/or *international financial institutions* (page 233).

International institution
An organization established by multiple national governments, usually to administer a program or pursue a purpose that the governments have agreed upon.

International investment
1. International *capital movement* (page 48).
2. *Foreign direct investment* (page 171).

International investment position
The total value of assets, real and financial, owned abroad by a country's people, firms, and government, minus the total value of foreign-owned assets in the country.

International Jute Organization
The organization set up in 1984 to implement the International Agreement on Jute and Jute Products, 1982, now called the *International Jute Study Group.* See *international commodity agreement* (page 231).

International Labour Organization
A United Nations specialized agency that establishes and monitors compliance with international standards for human and labor rights.

International law
The rules that countries recognize as governing their relations with one another. May be divided broadly into *customary international law* (page 88) and *conventional international law* (page 75).

International Lead and Zinc Study Group
The international organization formed in 1959 to share information about lead and zinc. See *international commodity agreement* (page 231).

International liquidity
Refers to the adequacy of a country's, or the world's, *international reserves* (page 236). Under the *Bretton Woods System*

(page 39), liquidity was a problem, since it depended on U.S. dollars and thus a U.S. deficit. The *SDR* (page 384) was an attempt to fix this.

International macroeconomics

Same as *international finance* (page 232), but with more emphasis on the international determination of macroeconomic variables such as *national income* (page 297) and the *price level* (page 345).

International monetary economics

Same as *international finance* (page 232), but with more emphasis on the role of money and less on other financial assets.

International Monetary Fund

An organization formed originally to help countries to stabilize exchange rates, but today pursuing a broader agenda of financial stability and assistance. As of December 2013, it had 188 member countries.

International Olive Oil Council

The intergovernmental organization in charge of administering the International Olive Oil Agreement, which originated in 1956. See *international commodity agreement* (page 231).

International Organization for Migration

International organization assisting migrants and the management of migration.

International Organization for Standardization

An *NGO* (page 307) that develops and publishes international *standards* (page 406). It is a network of national standards institutes from 164 countries (as of December 2013). Some of these institutes are parts of governments, while others are private-sector partnerships of industry associations.

International parity conditions

Refers collectively to *purchasing power parity* (page 356) and *interest parity* (page 227).

International political economy

A field of study within social science, especially political science, that addresses the interrelationships between *international economics* (page 232) and political forces and institutions.

International price

World price (page 472).

International relations

1. All aspects of interactions among nations.

2. The field within the discipline of political science that studies the mechanisms and institutions through which countries interact.

International reserves

The assets denominated in foreign currency, plus gold, held by a central bank, sometimes for the purpose of *intervening* (page 238) in the *exchange market* (page 143) to influence or peg the *exchange rate* (page 144). Usually includes foreign currencies themselves (especially U.S. dollars), other assets denominated in foreign currencies, gold, and a small amount of *SDRs* (page 384).

International Rubber Study Group

An intergovernmental organization, founded in 1944, that provides a forum for the discussion of matters affecting the supply and demand for both synthetic and natural rubber. See *international commodity agreement* (page 231).

International sanction

See *sanction* (page 382) definition 2.

International Services Agreement

A proposed *plurilateral* (page 336) agreement to be negotiated by a group of willing countries outside the framework of the *Doha Round* (page 111), liberalizing trade in services. The idea seems to have begun in 2011 or 2012, as of which time it is unclear whether it will ever happen.

International specialization

See *specialization* (page 401).

International Standard Industrial Classification

A *classification system* (page 58) for industries, organized by the activity performed by the industry, and used for recording and reporting data on industrial activities, including output and employment.

International Sugar Organization

An intergovernmental body that administers the International Sugar Agreement of 1992. See *international commodity agreement* (page 231).

International tax

1. This could mean, if it existed, a tax levied by an international body on the governments or private sector actors throughout the world. This does not exist, however, except among small groups of countries that have agreed to share resources, such as the *European Union* (page 141).

2. The field of study that deals with how separate national taxing authorities interact and how private sector actors respond to international differences in taxing regimes.

International trade

See *trade* (page 435).

International Trade Administration

A part of the United States Department of Commerce, the ITA acts on behalf of U.S. businesses in global competition. In trade policy, its Import Administration has the duty of determining whether imports are dumped or subsidized.

International Trade Centre

An international agency whose purpose is to help developing countries export. It is a "joint technical cooperation agency" of *UNCTAD* (page 455) and the *WTO* (page 472).

International Trade Commission

The *United States International Trade Commission* (page 459).

International Trade Organization

Conceived as a complement to the *Bretton Woods* (page 39) institutions — the *IMF* (page 209) and *World Bank* (page 470) — the ITO was to provide international discipline in the uses of trade policies. The *Havana Charter* (page 198) for the ITO was not approved by the United States Congress, however, and the initiative died, replaced by the continuing and growing importance of the *GATT* (page 182).

International Tropical Timber Organization
An organization created in 1983 for consultation among producers and consumers of tropical timber. An objective was that all timber traded by members should originate from sustainably managed forests.

International Working Group of Sovereign Wealth Funds
A group of countries that maintain *sovereign wealth funds* (page 400) and that formulated the *Santiago Principles* (page 382). In 2009 the group established the *International Forum of Sovereign Wealth Funds* (page 233).

Internationalization
Another term for *fragmentation* (page 175). Used by *Grossman and Helpman (1999)* (page 585).

Intertemporal
Occurring across time, or across different periods of time.

Intertemporal trade
Trade across time, as when a country imports in one time period paying for the imports with exports in a different time period, earlier or later. An *imbalance* (page 209) in the *balance of trade* (page 25) is presumed to reflect intertemporal trade.

Intervention
See *market intervention* (page 274) and *exchange market intervention* (page 144).

Intervention currency
A currency that is commonly used by *central banks* (page 52) for *exchange market intervention* (page 144). See *reserve currency* (page 373).

Intra-firm trade
International trade conducted within a firm, as when a subsidiary of a company exports to or imports from another subsidiary or the parent company in a different country.

Intra-industry trade
Trade in which a country exports and imports in the same industry, in contrast to *inter-industry trade* (page 227). Ubiquitous in the data, much IIT is due to *aggregation* (page 10). Can be *horizontal* or *vertical*. *Grubel and Lloyd (1975)* (page 585) wrote the

book on IIT and introduced the *Grubel-Lloyd Index* (page 195) to measure it.

Intra-mediate trade

Another term for *fragmentation* (page 175). Used by *Antweiler and Trefler (2002)* (page 577).

Intra-product specialization

Another term for *fragmentation* (page 175). Used by *Arndt (1997)* (page 577).

Inventories

Goods being kept on hand for future use in production or future sale.

Inverse demand function

A function representing the relationship between quantity demanded and price, specified for convenience with price as a function of quantity instead of the more usual quantity as a function of price. Thus if a conventional demand function is $Q_D = a - bP$, then the inverse demand function is $P = (a/b) - Q_D/b$.

Inverse supply function

A function representing the relationship between quantity supplied and price, specified for convenience with price as a function of quantity instead of the more usual quantity as a function of price. Thus if a conventional supply function is $Q_S = a + bP$, then the inverse supply function is $P = Q_S/b - (a/b)$. Especially appropriate if supply is *infinitely elastic* (page 221) (i.e., constant cost).

Invertible

Said of a matrix if its inverse exists. That is, a matrix A is invertible if there exists another matrix B such that $BA = I$, where I is the identity matrix.

Investment

1. Addition to the stock of *capital* (page 45) of a firm or country.

2. Purchase of an *asset* (page 18), real or financial.

3. The use of resources today for the purpose of increasing productivity or income in the future.

Investment bank
A commercial institution that provides a variety of services to firms and other entities that seek to raise funds and/or invest their own funds. These services include underwriting, advising, managing assets, and providing their own or borrowed funds. The largest investment banks today operate in many countries.

Investment deflection
In the context of a *free trade area* (page 177), investment in the member country with a lower tariff on an imported input, causing *production deflection* (page 351).

Investment performance requirement
See *performance requirement* (page 333).

Invisible
In referring to international trade, used as a synonym for *service* (page 388). "Invisibles trade" is trade in services. Contrasts with *visible* (page 465).

Invoice
The itemized bill for a transaction, stating the nature of the transaction and its cost. In international trade, the *invoice price* is often the preferred basis for levying an *ad valorem tariff* (page 5).

Inward FDI
Foreign direct investment (page 171) by a foreign firm establishing a facility within the domestic country. Contrasts with *outward FDI* (page 325).

Inward-oriented development
A strategy of promoting *development* (page 101) by encouraging production, as well as research and development, for domestic markets. Seems to be the same as *import substitution* (page 214), although proponents make a distinction between them.

IOM
International Organization for Migration (page 235).

IP
Intellectual property (page 225).

IPE
International political economy (page 235).

IPRs
Intellectual property rights (page 226).

IRR
Internal rate of return (page 229).

IRS
Increasing returns to scale (page 217) = IRTS.

IRTS
Increasing returns to scale (page 218).

ISA
International Services Agreement (page 236).

IS curve
In the *IS-LM model* (see below), the curve representing the combinations of national income and interest rate at which aggregate demand equals supply for goods. It is normally downward sloping because a rise in income increases output by more than aggregate demand (through consumption), while a rise in the interest rate reduces aggregate demand through investment.

ISEW
Index of sustainable economic welfare (page 219).

ISI
Import substituting industrialization (page 214).

Islamic Development Bank
A *development bank* (page 102) for Muslim countries and communities.

ISIC
International Standard Industrial Classification (page 236).

IS-LM model
A Keynesian macroeconomic model, popular especially in the 1960s, in which national income and the interest rate were determined by the intersection of two curves, the *IS curve* (see above) and the *LM curve* (page 261).

IS-LM-BP diagram
See *IS-LM-BP model* (page 242). Refer to *Picture Gallery* (page 490).

IS-LM-BP model
A particular version of the *Mundell-Fleming Model* (page 294) that extends the *IS-LM model* (page 241) by including in the *diagram* a third curve, the *BP curve* (page 39), representing the *balance of payments* (page 24) and/or the *exchange market* (page 143).

ISO
Acronym of the *International Organization for Standardization* (page 235), chosen to be used in all languages even though it may not exactly match the organization's name in any.

ISO 9000
A family of *standards* (page 406) for quality management systems, maintained by the *International Organization for Standardization* (page 235).

Iso-price curve
A curve along which price is (or prices are) constant, most commonly in *factor-price space* (page 159) where it shows the combinations of prices of *factors* (page 156) consistent with zero profit in producing a good at a specified price of the good.

Isocost line
A line along which the cost of something — usually a combination of two *factors* (page 156) of production — is constant. Since these are usually drawn for given prices, which are therefore constant along the line, an isocost line is usually a straight line, with slope equal to the ratio of the (factor) prices.

Isoquant
A curve representing the combinations of *factor* (page 156) inputs that yield a given level of output in a *production function* (page 351).

Israel-US Free Trade Area
A *free trade area* (page 177) that was initiated in 1985 between the United States and Israel.

ITA
International Trade Administration (page 237).

ITC
1. *International Trade Centre* (page 237).
2. *International Trade Commission* (page 237) (USITC).

ITO
International Trade Organization (page 237).

ITT
Income terms of trade (page 217).

IWE
Integrated World Economy (page 225).

IWG
International Working Group of Sovereign Wealth Funds (page 238).

J curve
The dynamic path followed by the balance of trade in response to a devaluation, which typically causes the trade balance to worsen before it improves, tracing a path that looks like a letter "J".

J-List
In U.S. law, goods that are exempted from the requirement of *country-of-origin* (page 79) labeling, because their nature makes them difficult to mark.

Jobless rate
Same as *unemployment rate* (page 456).

Jobless recovery
After a *recession* (page 366), an expansion of *real GDP* (page 365) that is not accompanied by a significant expansion of *employment* (page 131). This is possible, for example, if *labor productivity* (page 249) expands.

Jobs argument for protection
Employment argument for protection (page 131).

Joint product
One of two or more products (goods and/or services) that are produced by a single production process, such as milking a cow to produce both milk and cream. Most *trade theories* (page 444) assume away joint products for simplicity.

Joint venture
An undertaking by two parties for a specific purpose and duration, taking any of several legal forms. Two corporations, for example, perhaps from two different countries, may undertake to provide a product or service that is distinct, in kind or location, from what the companies do on their own.

Jones Act
A U.S. law that prohibits foreign ships from transporting goods or people between one U.S. location and another. Such a restriction on *cabotage* (page 43) is an example of a barrier to *trade in a service* (page 440).

Jones' hat algebra
See *hat algebra* (page 198).

Jubilee 2000
A movement, begun in the early 1990s, advocating the cancellation of debts that burden developing countries, intended to occur in the year 2000.

Judicial review
In a case of *unfair trade* (page 456), the mechanism for appealing a decision.

Juridical person
An entity other than a *natural person* (page 299), such as a partnership or a corporation, that is given some of the same rights as persons under the law.

JV
Joint venture (see above).

K

In economic models, K is commonly used to represent "capital." This is presumably due to the fact that German for "capital" is "kapital," and also the fact the C is more commonly used to represent consumption.

Kaldor improvement

Potential Pareto improvement (page 340).

Kaldor-Hicks criterion

The criterion that, for a change in policy or policy regime to be viewed as beneficial, the gainers should be able to compensate the losers and still be better off. The criterion does *not* require that the *compensation* (page 65) actually be paid, which, if it did, would make this the same as the *Pareto criterion* (page 328). Due to *Kaldor (1939)* (page 587), *Hicks (1940)* (page 586).

Kaldor-Hicks improvement

Potential Pareto improvement (page 340).

Kaleidoscope comparative advantage

A variant of *fragmentation* (page 175) due to *Bhagwati and Dehejia (1994)* (page 579).

Keiretsu

A group, or network, of manufacturing and other companies in Japan, usually centered around a bank and including a trading company. Keiretsus are characterized by cross-ownership of shares, strategic coordination, and preference for transactions within the network. See also *zaibatsu* (page 474).

Kemp-Wan Theorem

The proposition, due to *Kemp and Wan (1976)* (page 587), that any group of countries can form a *customs union* (page 90) that is *Pareto improving* (page 328) for the world, so long as nondistorting lump-sum transfers within the union are possible. This is accomplished by setting the vector of *common external tariffs* (page 63) so as to leave world prices unchanged.

Kennedy Round
The sixth *round* (page 380) of multilateral trade negotiations that was held under *GATT* (page 182) auspices, commencing 1964 and completed 1967. It was the first to move beyond negotiating only tariff reductions into such trade rules as *anti-dumping* (page 14).

Keynesian
Referring to models of the aggregate economy based on ideas stemming from *Keynes (1936)* (page 587). Keynesian models depart from *neoclassical* (page 301) assumptions primarily by allowing for *disequilibrium* (page 107) in labor markets, with aggregate employment and output being determined instead by *aggregate demand* (page 9).

Kimberly Process
An international certification system for export and import of diamonds, initiated in 2000, intended to stop the trade in *blood diamonds* (page 35).

Kindleberger spiral
A diagram introduced by *Kindleberger (1973)* (page 588) showing the dramatic downward spiral of world trade during the first years, 1929–33, of the Great Depression. Its twelve axes radiate out from the origin and measure world trade by calendar month for each year.

KK model
Knowledge capital model (see below).

Knowledge capital
The knowledge-based assets that a firm acquires — for example through *R&D* (page 361) or by licensing technology from others — that it is then able to use for its activities throughout the firm, including in multiple production facilities.

Knowledge capital model
A model of a *multinational enterprise* (page 293) in which *knowledge capital* (see above) plays an essential role. Named and estimated by *Carr et al. (2001)* (page 581), who attribute it to earlier work by Markusen and others.

Knowledge economy

This term refers loosely to modern advanced economies in which knowledge — both *human capital* (page 206) and advanced *technology* (page 427) — is thought to be more important than other factors, such as *capital* (page 45) and *natural resources* (page 299), for economic success.

Knowledge transfer

In the context of international economics, this means more or less the same as *technology transfer* (page 428), although it could also include international education services.

Kondratieff cycle

A cycle in economic activity hypothesized by *Kondratieff (1926)* (page 588) to operate over a period of several decades and divided into four phases: spring (expansion), summer (recession), autumn (plateau), and winter (depression). Also called the Kondratieff wave or long wave.

Kravis-Lipsey-Bhagwati Effect

The effect that *factor-endowment* (page 157) differences, if large enough to prevent *factor-price equalization* (page 158), have on prices of *nontradables* (page 312), and thus price levels, in high- and low-income countries. Due to *Kravis and Lipsey (1983)* (page 588) and *Bhagwati (1984)* (page 579).

Krugman specialization index

A measure of the extent to which a country's production patterns differ from those of a comparison group of countries. It runs from zero, if the country and group produce the same goods in the same proportions, to two if they produce only different goods. Letting s_i be the share of industry i in the country's output and s_i* be that share in the group, the index is $K = \Sigma_i |s_i - s_i^*|$. Due to *Krugman (1991b, p. 76)* (page 589).

Kuznets curve

An inverse U-shaped relationship between per capita income and inequality, suggesting that inequality is low in very poor countries, rises as they develop, and then ultimately falls as income rises still further. Hypothesized by *Kuznets (1955)* (page 589).

Kyoto Convention

The *International Convention on the Simplification and Harmonization of Customs Procedures*, adopted in 1974 and revised in 1999 by the *WCO* (page 468), is the "blueprint for modern and efficient Customs procedures." It is based on the principles of transparency, predictability, standardization, and simplification, among others.

Labeling

A requirement to label imported goods with information about how they were produced. This is often suggested as an alternative to trade restrictions as a means to pursue particular trade-related objectives involving, for example, environment or *labor standards* (page 249).

Labor abundant

A country is labor abundant if its *endowment* (page 132) of labor is large compared to other countries. Relative labor abundance can be defined by either the *quantity definition* (page 358) or the *price definition* (page 344).

Labor augmenting

Said of a *technological change* (page 427) or *technological difference* (page 427) if one production function produces the same as if it were the other, but with a larger quantity of labor. Same as *factor augmenting* (page 156) with labor the augmented factor. Also called *Harrod neutral* (page 198).

Labor force

The number of available workers in a country, defined as the sum of those who are employed and those who are classed as *unemployed* (page 456).

Labor intensive

Describing an industry or sector of the economy that relies relatively heavily on inputs of labor, usually relative to capital but sometimes to human capital or skilled labor, compared to other industries or sectors. See *factor intensity* (page 157).

Labor market

A *market* (page 272) for labor. Can refer to anything from local interactions between workers and employers to country-wide (not usually world-wide) markets dominated by broadly based labor unions, industry associations, and sometimes governments.

Labor market restriction

A *market restriction* (page 275) in the labor market, most often limits on wages and on the ability of firms to terminate workers.

Labor mobility

The ability of workers to move between industries and locations to obtain higher wages or more favorable working conditions. Most models of international trade assume that labor is perfectly mobile within a country between industries and locations but not mobile at all between countries.

Labor productivity

The value of output per unit of labor input. The reciprocal of the *unit labor requirement* (page 457).

Labor right

See *labor standard* (below).

Labor-saving

A *technological change* (page 427) or *technological difference* (page 427) that is *biased* (page 32) in favor of using less labor, compared to some definition of *neutrality* (page 305).

Labor scarce

A country is labor scarce if its *endowment* (page 132) of labor is small compared to other countries. Relative labor scarcity can be defined by either the *quantity definition* (page 358) or the *price definition* (page 344).

Labor standard

Any of many conditions of workers in the workplace that are viewed as important for their well-being, and minimum levels

of which are advocated by labor rights activists and have been agreed to by many of the countries that are members of the *ILO* (page 209).

Labor standards argument for protection

The view that trade restrictions (*trade sanctions* (page 443)) should be used as a tool to improve *labor standards* (page 249), limiting imports, for example, from countries that do not enforce such labor rights as freedom of association and collective bargaining.

Labor theory of value

The theory that the value of any produced good or service is equal to the amount of labor used, directly and indirectly, to produce it. Sometimes said to underlie the *Ricardian model* (page 378) of international trade.

Labor-using

A *technological change* (page 427) or *technological difference* (page 427) that is *biased* (page 32) in favor of using more labor, compared to some definition of *neutrality* (page 305).

Lading

See *bill of lading* (page 34).

Lafay index

An index of *specialization* (page 401) or *revealed comparative advantage* (page 376) that takes account of both exports and imports and is therefore more suitable for a country with *intra-industry trade* (page 238). Due to *Lafay (1992)* (page 589). This index for country i good j is $LI_{ij} = 100[(X_{ij} - M_{ij})/(X_{ij} + M_{ij}) - \Sigma_k(X_{ik} - M_{ik})/\Sigma_k(X_{ik} + M_{ik})](X_{ij} + M_{ij})/\Sigma_k(X_{ik} + M_{ik})$, where X and M are exports and imports.

Laffer curve

An inverse-U-shaped curve representing tax revenue as a function of the tax rate, named after economist Arthur Laffer, who is said to have sketched it on a napkin during a lunch with Nixon-Ford administration officials to argue for a tax cut. Although the idea that a rise in tax rate can reduce tax revenue is mostly based on induced reduction of work effort, for some types of taxes — especially corporate — movement of activity to another tax jurisdiction or country can have the same effect.

LAFTA

Latin American Free Trade Association (page 252).

Lagging indicator

A measurable economic variable that varies over the *business cycle* (page 42), reaching *peaks* (page 330) and *troughs* (page 452) somewhat later than other macroeconomic variables such as *GDP* (page 183) and *unemployment* (page 456). Contrasts with *leading indicator* (page 254).

Lagrangian

A function constructed in solving economic models that include maximization of a function (the "objective function") subject to constraints. It equals the objective function minus, for each constraint, a variable "Lagrange multiplier" times the amount by which the constraint is violated.

LAIA

Latin American Integration Association (page 252).

Laissez faire

Free enterprise (page 176). The doctrine or system of government non-interference in the economy except as necessary to maintain *economic freedom* (page 122). Includes *free trade* (page 177).

Land reform

The process of changing the pattern of ownership of land in a country, usually by breaking up large holdings and distributing smaller parcels of land to a larger portion of the population. This can be done in various ways, including with or without compensation of the previous owners.

Landed duty paid

The *landed value* (see below) of a good plus any import duties.

Landed value

CIF (page 57) value.

Large country

A country that is large enough for its international transactions to affect economic variables abroad, usually for its trade to matter for world prices. Contrasts with a *small open economy* (page 395).

Latin American Debt Crisis
The default on government debt, and subsequent *rescheduling* (page 372), by more than two dozen *less developed countries* (page 257) including many in Latin America, in the early 1980s starting with Mexico on August 12, 1982.

Latin American Free Trade Association
A group of Latin American countries formed in 1960 with the aim of establishing a *free trade area* (page 177). This aim was never achieved, and LAFTA was replaced in 1980 with the *Latin American Integration Association* (see below).

Latin American Integration Association
An organization of Latin American countries that replaced the failed *LAFTA* (page 251). LAIA has the more limited goal of encouraging free trade but with no timetable for achieving it.

Laurel-Langley Agreement
A trade agreement between the Philippines and the United States replacing the *Bell Trade Act* (page 30), signed in 1955 and expired in 1974. It made reciprocal a controversial "parity" clause of the Bell Act, whereby Americans were given some of the same rights as Filipinos within the Philippines.

Laursen-Metzler Effect
See *Harberger-Laursen-Metzler Effect* (page 196).

Law of comparative advantage
The principle that, given the freedom to respond to market forces, countries will tend to export goods for which they have *comparative advantage* (page 64) and import goods for which they have comparative disadvantage, and that they will experience *gains from trade* (page 181) by doing so. Idea due to *Ricardo (1817)* (page 594).

Law of demand
The observation that when price rises, quantity demanded falls. This is not necessary in theory, but it is *very* rarely violated in practice, including in demands for imports and exports, as well as demand for foreign exchange (barring effects on expectations).

Law of diminishing returns

The principle that, in any *production function* (page 351), as the input of one *factor* (page 156) rises holding other factors fixed, the *marginal product* (page 269) of that factor must eventually decline.

Law of one price

The principle that identical goods should sell for the same price throughout the world if trade were *free* (page 177) and *frictionless* (page 178).

Law of similars

Regulations that limit imports of a good, or alter its *tariff* (page 421) if a "similar" good is produced in the country. Also called a *market reserve policy* (page 274).

Law of supply and demand

This says, most simply, that prices depend on *supply* (page 416) and *demand* (page 97). More precisely, price is determined so as to equate quantities supplied and demanded. Even more precisely, a price tends to rise when demand exceeds supply, and vice versa.

Lawson doctrine

The view, attributed to Nigel Lawson, U.K. Chancellor of the Exchequer in the 1980s, that a *current account deficit* (page 88) that results from a shift in private-sector savings or investment, is not a cause for concern.

LDC

For many years, the acronym LDC has stood for *less developed country* (page 257), which was more or less the same as *developing country* (page 101). However, in recent years LDC has also been used for *least developed country* (page 255), which has a narrower and more formal definition.

LDP

Landed duty paid (page 251).

Lead time

The amount of time between when an action is initiated and when it is completed, and thus the amount of time before

you want it to be done that you must initiate the action. In commerce, this often refers to how long before you want something to be delivered that you must order it, a time that is likely to be longer if it involves transport from abroad.

Leading indicator

A measurable economic variable that varies over the *business cycle* (page 42), reaching *peaks* (page 330) and *troughs* (page 452) somewhat earlier than other macroeconomic variables such as *GDP* (page 183) and *unemployment* (page 456), and therefore useful for forecasting them. Contrasts with *lagging indicator* (page 251).

League of Arab States

An association of mainly Arabic-speaking countries founded in Cairo in 1945 to strengthen ties amoung the members, coordinate policies among them, and promote their common interests. As of December 2013, it had 22 members.

League of Nations

An intergovernmental organization founded at the end of World War I to prevent wars. Its main tool was economic *sanctions* (page 382) to curb aggressive behavior. The U.S. did not join, however, and although the League had some successes, it failed to prevent World War II and was replaced after that by the *United Nations* (page 458).

Leamer triangle

A diagram introduced by *Leamer (1987)* (page 590) depicting both relative *factor endowments* (page 157) and relative *factor intensities* (page 157) with three factors and any number of goods.

Leaning against the wind

Use of *exchange market intervention* (page 144) to try to slow the movement of the *exchange rate* (page 144) under a *managed float* (page 267), and/or to reduce the *amplitude* (page 13) of its *fluctuations* (page 169).

Learning by doing

Refers to the improvement in *technology* (page 427) that takes place in some industries, early in their history, as they learn by

experience, so that *average cost* (page 22) falls as accumulated output rises. See *infant industry protection* (page 221), *dynamic economies of scale* (page 117).

Learning curve

A relationship representing either *average cost* (page 22) or *average product* (page 22) as a function of the accumulated output produced. Usually reflecting *learning by doing* (page 254), the learning curve shows cost falling, or average product rising.

Least developed country

A country designated by the *UN* (page 454) as least developed based on criteria of low per capita *GDP* (page 183), weak human resources (life expectancy, calorie intake, etc.), and a low level of economic diversification (share of manufacturing and other measures). As of December 2013, 48 countries were designated as LDCs.

Lender of Last Resort

An institution that has the capacity and willingness to make loans when no one else can. Within a country, the *central bank* (page 52) may play that role, since it can create money. Some have argued that the *IMF* (page 209) or other institution should play that role internationally, to avert *financial crises* (page 164).

Lens condition

In *Heckscher-Ohlin* trade theory with many goods, factors, and countries, a necessary condition for *free* (page 177) and *frictionless trade* (page 178) to lead to *factor price equalization* (page 158). The condition, due to *Deardorff (1994)* (page 582), states that a lens-shaped set formed from countries' *factor endowments* (page 157) must encompass another lens-shaped set formed from the *factor intensities* (page 157) of the industries in an *integrated world economy* (page 225). It formalizes differences in factor intensities being smaller than differences in factor endowments.

Leontief composite

A composite of two or more goods or factors that includes them in fixed proportions, analogous to the *Leontief technology* (page 256).

Leontief paradox

The finding of *Leontief (1954)* (page 590) that U.S. imports embodied a higher ratio of capital to labor than U.S. exports. This was surprising because it was thought that the U.S. was *capital abundant* (page 45), and the *Heckscher-Ohlin Theorem* (page 199) would then predict that U.S. exports would be relatively *capital intensive* (page 48).

Leontief production function

See *Leontief technology* (below).

Leontief technology

A production function in which no substitution between inputs is possible: $F(V) = \min_i(V_i/a_i)$, where V is a vector of inputs V_i, and a_i are the constant per unit input requirements. *Isoquants* (page 242) are L-shaped.

Lerner diagram

This diagram, drawn for given prices and technology, uses *unit-value isoquants* (page 458) of two or more goods to deduce *patterns of specialization* (page 329) and *factor prices* (page 158) as they depend on goods' prices and *factor endowments* (page 157). Due *originally* to *Lerner (1952)* (page 590) and popularized by *Findlay and Grubert (1959)* (page 584). Refer to *Picture Gallery* (page 495).

Lerner paradox

The possibility, identified by *Lerner (1936)* (page 590), that a *tariff* (page 421) might worsen a country's *terms of trade* (page 429). This can happen only if the country spends a disproportionately large fraction of the tariff *revenue* (page 376) on the imported good, and it will not happen (from a *stable* (page 405) equilibrium) if the tariff revenue is *redistributed* (page 368). See *offer curve diagram* (page 316).

Lerner-Pearce diagram

This name is sometimes given (for years, by me at least) to the *Lerner diagram* (see above). In fact, *Pearce's (1952)* (page 593) diagram uses *unit isoquants* (page 457) rather than *unit-value isoquants* (page 458) and is much more cumbersome.

Lerner symmetry theorem

The proposition that a tax on all imports has the same effect as an equal tax on all exports, if the revenue is spent in the same way. The result depends critically on *balanced trade* (page 26), as in a *real model* (page 365), so that a change in imports leads to an equal change in the value of exports. Due to *Lerner (1936)* (page 590).

Less developed country

Refers to any country whose per capita income is low by world standards. Same as *developing country* (page 101).

Less-than-fair-value

Less than *fair value* (page 161) in a case of *dumping* (page 115).

Lesser duty rule

Setting an *anti-dumping duty* (page 14) equal to the *injury margin* (page 223) when that is smaller than the *dumping margin* (page 115). This is the practice in the *European Union* (page 141), but not in the United States.

Letter of credit

A common means of payment in international trade, this is a written commitment by a bank to make payment to an exporter on behalf of an importer, under specified conditions.

Level playing field

The goal of those who advocate protection on the grounds that foreign firms have an unfair advantage. A level playing field would remove such advantages, although it is unclear what sorts of advantage (including *comparative advantage* (page 64)) could remain. See *fairness argument for protection* (page 161).

Levy

1. A tax or tariff.

2. To impose and collect a tax or tariff.

LHS

Left-hand side, usually referring to what appears to the left of the equal sign in an equation, and therefore usually the dependent variable that is explained by the right-hand side.

Liability

An amount that is owed, in contrast to an *asset* (page 18). A liability may result from borrowing, from obligation to pay for a product or service received, etc.

Liberal

Associated with freedom and/or generosity. Thus in England to be liberal (or to be a liberal) is to favor free markets, including *free trade* (page 177). But in the U.S. it tends to mean favoring a generous, active government pursuing social and redistributive policies, with no implication for views on free trade.

Liberal trade

Free trade (page 177), or something approximating that. Thus a trade regime in which *tariffs* (page 421) are low or zero and in which *nontariff barriers* (page 312) are largely absent.

Liberalism

The set of views associated with being *liberal* (see above), in the sense of freedom.

Liberalization

1. The process of making policies less constraining of economic activity.

2. Reduction of *tariffs* (page 421) and/or removal of *nontariff barriers* (page 312).

LIBOR

London interbank offered rate (page 263).

LIC

Low income country (page 264).

Licensing

1. The requirement that importers and/or exporters get government approval prior to importing or exporting. Licensing may be *automatic* (page 21), or it may be *discretionary* (page 107), based on a *quota* (page 360), a *performance requirement* (page 333), or some other criterion.

2. Granting of permission, in return for a licensing fee, to use a *technology* (page 427). When done by firms in one country to firms in another, it is a form of *technology transfer* (page 428). See *compulsory licensing* (page 68).

Life cycle

See *product cycle* (page 350).

Life expectancy

The *expected value* (page 147) of the number of years a person has yet to live at a given age or, if age is unspecified, at birth, based on the distribution of actual deaths in the population to which the person belongs. Life expectancy in a country is an important indicator of its level of development and well-being.

Lifetime employment

The practice, common in Japan since the early 20th century and covering about 20% of the labor force, of (male) workers remaining employed by the same large firm from graduation to retirement. This results from a non-contractual understanding that firms would not lay off workers and workers would not resign.

LIFFE

London International Financial Futures and Options Exchange (page 263).

Light manufacturing

Sectors of the economy that produce manufactured goods without large amounts of *physical capital* (page 335), thus likely to be *labor intensive* (page 249).

Limit pricing

The act of setting a selling price just below the level at which other sellers would find it profitable to enter a market.

Limited liability

The maximum that an owner (or partial owner, such as a stockholder or partner) of a business can be required to lose in the event that the business fails or acquires financial obligations greater than its value. Some forms of business organization, such as a corporation or a limited partnership, set that maximum at the amount that the owner has contributed to the business.

Linder hypothesis

The theory that a country's ability to export depends on domestic demand, so that countries that demand similar goods will trade more with each other than will countries with dissimilar demands. From *Linder (1961)* (page 590).

Linear cut
A reduction in *tariffs* (page 421) with the size of reduction linearly related to the initial tariff: $\%\Delta t = a + bt$, where $\%\Delta t$ is the percent reduction in the tariff, t is the initial tariff, and a, b are constants. The simplest linear cut, a *horizontal reduction* (page 205), reduces all tariffs by the same percentage. Contrasts with the *Swiss Formula* (page 420).

Linear reduction
Same as *linear cut* (see above).

Linear regression model
A linear relationship between a dependent variable Y and one or more independent variables X plus a *stochastic* (page 410) disturbance u: $Y_i = b_0 + b_1 X_{1i} + \cdots + b_n X_{ni} + u_i$.

Linearly homogeneous
Homogeneous of degree 1 (page 203). Sometimes called "linear homogeneous."

Liner Code
The United Nations Convention on a Code of Conduct for Liner Conferences.

Liner conference
An agreement between two or more shipping companies to coordinate schedules and prices. Likely to be *anti-competitive* (page 14).

LINK
See *Project LINK* (page 353).

Linkage
See *forward linkage* (page 174) and *backward linkage* (page 24).

Linking scheme
A requirement that, in order to get an *import license* (page 212), the importer must buy a certain amount of the same product from local producers.

Liquid
Possessing *liquidity* (page 261).

Liquid assets
The assets in a *portfolio* (page 338) that possess *liquidity* (page 261), or the total value of those assets.

Liquidity

1. The property of an asset that it can be turned quickly into cash.

2. In a portfolio of assets, the value of the portion that has this property. Cash itself (i.e., money) is the most *liquid* (page 260) asset.

Liquidity crisis

A financial crisis that occurs due to lack of *liquidity* (see above). In *international finance* (page 232), it usually means that a government or central bank runs short of *international reserves* (page 236) needed to *peg its exchange rate* (page 330) and/or to service its foreign loans.

Liquidity trap

A situation in which expansionary *monetary policy* (page 286) fails to stimulate the economy. As used by *Keynes (1936)* (page 587), this meant interest rates so low that expectations of their increase made people unwilling to hold *bonds* (page 36). Today it usually means a *nominal interest rate* (page 308) so near zero that lowering it further is impossible or ineffective.

Lisbon Treaty

The treaty that went into force on 1 December 2009, revising the institutions of the *European Union* (page 141). It is intended to make the EU more democratic and more efficient.

Living standard

Standard of living (page 407).

Living wage

A *real wage* (page 365) that is high enough for the worker and family to survive and remain healthy and comfortable, sometimes called meeting *basic needs* (page 29). Term is used in calling for higher wages in both developed and developing countries, where concepts of basic needs may be very different.

LM curve

In the *IS-LM model* (page 241), the curve representing combinations of income and interest rate at which demand for money equals the *money supply* (page 288) in the domestic *money market* (page 288). It is normally upward sloping because an increase in income increases demand for money while an increase in the interest rate reduces demand for money.

Loan

An amount, usually of money, conveyed by one to another in the expectation that it will be returned, perhaps with specified *interest* (page 226), at a later date. When the lender and borrower are in different countries with separate monetary and legal systems, loans bear extra *risk* (page 379).

Lobby

To attempt to influence government policy by talking to lawmakers and bureaucrats, and perhaps by using other means such as monetary contributions or assistance. Lobbyists often play a role in influencing trade policies, including *tariffs* (page 421) and *administered protection* (page 7).

Local content requirement

Same as *domestic content requirement* (page 112).

Local optimum

An *allocation* (page 12) that by some criterion is better than all those in its *neighborhood* (page 301).

Locational advantage

Any reason for a firm to locate production, or a stage of production, in a particular place, such as availability of a *natural resource* (page 299), *transport cost* (page 449), or barriers to trade. May explain why a country's firms succeed in trade, or why a *multinational firm* (page 293) locates there. (See *OLI* (page 318).)

Locomotive effect

The effect that economic expansion in one large country can have on other parts of the world economy, causing them to expand as well, as the large country demands more of their exports.

Logarithm

A particular mathematical transformation often used to express economic variables. Advantages: 1) If a variable grows at a constant percentage rate over time, the graph of its logarithm is a straight line. 2) A small change in the logarithm of a variable is approximately its percentage change.

Logrolling

The exchange of political favors, especially among legislators who agree to support each others' initiatives. Logrolling contributed importantly to the *Smoot-Hawley Tariff* (page 395).

Lomé Convention

An agreement originally signed in 1975 committing the *EU* (page 137) to programs of assistance and preferential treatment for the *ACP countries* (page 5). The Lomé Convention replaced the *Yaoundé Convention* (page 473) and was itself replaced by the *Cotonou Agreement* (page 78) in June 2000.

London interbank offered rate

The *interest rate* (page 227) that the largest international banks charge each other for loans, usually of *Eurodollars* (page 138). In fact, LIBOR includes rates quoted each day for many currencies, excluding the euro, but it is the rate for dollar loans that is used as a benchmark for other transactions.

London International Financial Futures and Options Exchange

An organized market for a variety of financial instruments, including *bonds* (page 36), *commodities* (page 62), *equities* (page 135), *short term interest rate* (page 391) futures, and *swaps* (page 419).

Long position

Opposite of a *short position* (page 391), a person with a long position has acquired an asset (or a currency) and is holding it in expectation that it will rise in value.

Long run

Referring to a long time horizon. This is not always well defined, but in trade models it usually means long enough for industries to vary the amounts of all factors they employ, and therefore for the factors to be mobile across industries. Contrasts with *short run* (page 391).

Long-term capital

In the *capital account* (page 45) of the *balance of payments* (page 24), long-term capital movements include *FDI* (page 162) and movements of *financial capital* (page 164) with maturity of more than one year (including *equities* (page 135)).

Lorenz curve

The graph of the percent of income owned by the poorest x percent of the population, for all x. Provides a picture of the income distribution within the population, and is used to construct the *Gini coefficient* (page 185).

Lost decade

There is, sadly, no single meaning for this term, as it has been applied to many episodes of economies that stagnated for most of a decade. Examples: Argentina and Latin America in the 1980s; Japan in the 1990s; and the *least developed countries* (page 255) in the 1990s.

Louvre Accord

An agreement reached in 1987 among the central banks of France, Germany, Japan, U.S., and U.K. to stop the decline in the value of the U.S. dollar that they had initiated at the *Plaza Accord* (page 336).

Love of variety

Preference for variety (page 342).

Low income country

The bottom income group in the *World Bank's* (page 470) classification of countries by *GNI* (page 188) *per capita* (page 331), calculated by the *Atlas method* (page 20). Based on July 2012 data, these were countries with incomes of $1,035 or less. Other groups are *middle income countries* (page 281) and *high income countries* (page 201).

Lower-middle income country

See *middle income country* (page 281).

LSE

1. *London School of Economics and Political Science*, a renowned university with a traditional strength in international economics.

2. *London Stock Exchange*, a company that handles the trading of the stocks of around 3000 companies from over 70 countries.

Ltd

The abbreviation used in the United Kingdom to represent a limited liability company, thus analogous to "Inc", for incorporated, in the United States and *AG* (page 8) in German speaking countries.

Lucas critique

The observation that economic equations estimated under one policy regime are unlikely to be valid under another policy regime, since market participants will take the policy regime

into account in forming their behavior. What is needed is to model *rational expectations* (page 362), which internalize all information, including the policy regime. Due to *Lucas (1976)* (page 590).

Lump sum

Describes a tax or subsidy that does not distort behavior. By using a tax (or subsidy) in an amount (the lump sum) independent of any aspect of the payer's or recipient's behavior, it does not alter behavior. Nondistorting lump sum taxes and subsidies do not exist, but they are a convenient fiction for theoretical analysis, especially of *gains from trade* (page 181).

M

In economic models involving international trade, M is usually chosen to represent imports, and X to represent exports, perhaps because I and E have too many other uses.

M1

The smallest of several measures of the stock of money in an economy, this consisting primarily of *currency* (page 85) held by the public and *demand deposits* (page 98). Also includes several other very *liquid* (page 260) items: travelers' checks and other accounts on which checks can be written.

M2

A measure of the stock of money in an economy that includes, in addition to all that is in *M1* (see above), savings deposits and other relatively *liquid* (page 260) assets such as small certificates of deposit and money market mutual funds.

M&A

Mergers and Acquisitions (page 280).

Maastricht Treaty
The 1991 treaty among members of the *EU* (page 137) to work toward a monetary union, or common currency. This ultimately resulted in adoption of the *euro* (page 138) in 1999.

Macroeconometric model
An *econometric model* (page 120) of *macroeconomic* (see below) relationships, usually intended to capture the overall functioning of a national economy.

Macroeconomic
Referring to the variables or performance of an economy as a whole, or its major components, as opposed to that of individual industries, firms, or households.

Macroeconomic closure
The assumptions made in an economic model, especially in a *CGE* (page 55) model to assure that it has a solution for all variables. A *neoclassical* (page 301) closure has all markets *clear* (page 58) and all agents satisfy *budget constraints* (page 41). For short-run policy purposes, some assume that certain markets (labor, foreign exchange) do not clear, or that government budgets are not balanced.

Macroeconomic policy
Any policy intended to influence the behavior of important *macroeconomic* (see above) variables, especially *unemployment* (page 456) and *inflation* (page 221). Macroeconomic policies include *monetary* (page 286) and *fiscal* (page 167) policies, but also such things as *price controls* (page 344) and incentives for *economic growth* (page 122).

Macroeconomic stabilization
See *stabilization policy* (page 405).

Made-to-measure tariff
A tariff set so as to raise the price of an imported good to the level of the domestic price, so as to leave domestic producers unaffected. Also called a *scientific tariff* (page 384).

Madrid Agreement
The *Madrid Agreement Concerning the International Registration of Marks*, signed in 1891, standardized the registration

and protection of *trademarks* (page 445) and *service marks* (page 388).

Maghreb

The region of West and Central North Africa comprised of Algeria, Libya, Mauritania, Morocco, Tunisia, and Western Sahara. Also spelled "Maghrib."

Magnification effect

The property of the *Heckscher-Ohlin Model* (page 199) that changes in certain exogenous variables lead to larger changes in the corresponding endogenous variables: goods prices as they affect factor prices in the *Stolper-Samuelson Theorem* (page 411); factor endowments as they affect outputs in the *Rybczynski Theorem* (page 381). Due to *Jones (1965)* (page 586).

MAI

Multilateral Agreement on Investment (page 292).

Main refinancing operations

The mechanism by which the *European Central Bank* (page 139) provides the bulk of *liquidity* (page 261) to the banking system.

Majority-owned foreign affiliate

A company in another country more than 50% of which is owned by a domestic person or company; thus one form of *foreign direct investment* (page 171).

Managed float

An *exchange rate regime* (page 145) in which the rate is allowed to be determined in the *exchange market* (page 143) without an announced *par value* (page 327) as the goal of *intervention* (page 238), but the authorities do nonetheless intervene at their discretion to influence the rate.

Managed trade

The use of trade policies to manipulate trade for political purposes.

Mandated countertrade

A requirement by government that importing firms engage in *countertrade* (page 79), as a means of increasing exports.

Manipulation

Currency manipulation (page 86).

Manufactured good

A *good* (page 188) that is produced by *manufacturing* (see below).

Manufacturing

Production of *goods* (page 188) primarily by the application of labor and capital to raw materials and other intermediate inputs, in contrast to *agriculture* (page 11), mining, forestry, fishing, and *services* (page 388).

Manufacturing value added

Value added (page 462) in the *manufacturing* (see above) sector of an economy; thus the income generated there for labor and other *primary factors* (page 346). Those who believe that manufacturing is somehow more important than other sectors of the economy regard a decline in this as cause for concern.

Maquiladora

A program for the temporary importation of goods into Mexico without duty, under the condition that they contribute — through further processing, transformation, or repair — to exports. The program was established in 1965, and expanded in 1989.

Margin

1. The edge. In economics it usually refers to the last (in terms of quantity, not of time) unit consumed or produced by a consumer or firm.

2. A gap between one number and another, such as a *dumping margin* (page 115) or *injury margin* (page 223).

Margin of preference

1. The extent to which one person or group is given more favorable treatment than others.

2. The percentage by which particular imports from one country are subject to lower tariffs than the *MFN* (page 280) rate, as in a *preferential trading arrangement* (page 342).

Marginal analysis

The determination of optimal behavior by comparing benefits and costs at the margin, that is, benefits and costs that result from small (i.e., marginal) changes. Optimality requires that

marginal benefit equal marginal cost, since otherwise a rise or fall could increase benefit more than cost.

Marginal benefit

The increase in well-being caused by an additional unit of some activity, such as the consumption of a good. Exactly whose well-being this refers to depends on the context.

Marginal change

A small change in some quantity.

Marginal cost

The increase in cost that accompanies a unit increase in output; the partial derivative of the *cost function* (page 78) with respect to output.

Marginal cost pricing

The outcome of *perfectly competitive* (page 332) markets in which the price of each good is equal to its *marginal cost* (see above).

Marginal intra-industry trade

The portion of a change in trade, usually from one year to the next, that is *intra-industry trade* (page 238). The term was introduced by *Hamilton and Kniest (1991)* (page 585), who provided a measure of it. Other measures have appeared since.

Marginal product

In a *production function* (page 351), the marginal product of a *factor* (page 156) is the increase in output due to a unit increase in the input of the factor; that is, the partial derivative of the production function with respect to the factor. In a *competitive* (page 66) equilibrium, the equilibrium price of any factor is its *marginal value product* (page 271) in every sector where it is employed.

Marginal profit

The amount by which a firm's *profit* (page 352) rises or falls when output increases by one unit; thus *marginal revenue* (page 270) minus *marginal cost* (see above).

Marginal propensity

The fraction of a change in income devoted to an activity, such as consumption, importing, or saving. See *propensity* (page 353).

Marginal propensity to consume
The fraction of a change in income (or perhaps *disposable income* (page 108)) spent on consumption. Contrasts with *average propensity to consume* (page 23).

Marginal propensity to import
The fraction of a change in income (or perhaps *disposable income* (page 108)) spent on imports. Contrasts with *average propensity to import* (page 23).

Marginal propensity to save
The fraction of a change in income (or perhaps *disposable income* (page 108)) that is saved.

Marginal rate of substitution
In a *production function* (page 351) or a *utility function* (page 462), the ratio at which one argument (input) substitutes for another along an *isoquant* (page 242) or *indifference curve* (page 219).

Marginal rate of technical substitution
More complete name for the *marginal rate of substitution* (see above) between *factors* (page 156) in a *production function* (page 351), sometimes used to distinguish it from the analogous concept in a *utility function* (page 462).

Marginal rate of transformation
The increase in output of one good made possible by a one-unit decrease in the output of another, given the technology and *factor endowments* (page 157) of a country; thus the absolute value of the slope of the *transformation curve* (page 448).

Marginal returns
1. Loosely, the extra that you get in return for doing more of something.
2. *Marginal product* (page 269).

Marginal revenue
The amount by which a firm's revenue increases when it expands output by one unit, taking into account that to sell one more unit it may need to reduce price on all units.

Marginal revenue product

The additional revenue generated by the extra output from employing one more unit of a *factor* (page 156) of production. In a competitive industry this equals the *marginal value product* (see below), but with *imperfect competition* (page 210) it is smaller, due to the implied price reduction. Determines factor prices in competitive factor markets.

Marginal social benefit

The *marginal benefit* (page 269) of an activity, such as consuming an additional unit of a good, where benefit here includes all positive effects on society as a whole, such as *positive externalities* (page 339), not just the benefit accruing to the consumer of the good. *Negative externalities* (page 300) should also be deducted.

Marginal social cost

The *marginal cost* (page 269) of an activity, such as producing an additional unit of a good, where cost here includes all negative effects on society as a whole, such as *negative externalities* (page 300), not just the cost borne by the producer of the good. *Positive externalities* (page 339) should also be deducted.

Marginal tax rate

The amount that a taxpayer's total tax bill rises due to a one-unit increase in the activity being taxed. Referring to an *income tax* (page 217), it is the tax on an additional dollar of income. Contrasts with *average tax rate* (page 23).

Marginal utility

In a *utility function* (page 462), the increase in utility associated with a one-unit increase in consumption of one good; or the partial derivative of the utility function.

Marginal value product

The value of the *marginal product* (page 269) of a *factor* (page 156) in an industry; that is, the price of the good produced times the marginal product. Determines factor prices when all markets are competitive.

Marginalism

1. The belief that *marginal analysis* (page 268) provides a useful theory of economic behavior.

2. The belief that economic value reflects *marginal utility* (page 271).

Marine Mammal Protection Act

The 1972 U.S. law prohibiting the "taking" (harassing, hunting, capturing, or killing) of marine mammals, and also prohibiting the import of any marine mammal product or any fish that has been associated with the taking of marine mammals. See *tuna-dolphin case* (page 452).

Mark 2

Washington Consensus Mark 2 (page 467) (or Mark II).

Mark of origin

A physical mark on a good, indicating its *country of origin* (page 79). Most countries require these on most imported goods. (But see *J-List* (page 243)).

Market

1. The interaction between *supply* (page 416) and *demand* to determine the *market price* (page 274) and corresponding quantity bought and sold.

2. The determination of economic *allocations* (page 12) by decentralized, voluntary interactions among those who wish to buy and sell, responding to freely determined *market prices* (page 274).

Market access

The ability of firms from one country to sell in another.

Market adjustment

The process by which the economy moves to a new *market equilibrium* (page 273) when conditions change.

Market balance

Market equilibrium (page 273).

Market capitalization

The stock-market value of a company, as measured by the number of publicly traded shares outstanding times their market price.

Market clearing
Equality of quantity supplied and quantity demanded. A *market-clearing condition* is an equation (or other representation) stating that supply equals demand. A market-clearing price is a price that causes quantities supplied and demanded to be equal.

Market disruption
The effect of an *import surge* (page 214), if large enough to cause *serious injury* (page 388) and justify *safeguard protection* (page 381).

Market dynamics
The process by which *market adjustment* (page 272) takes place. Common examples include *Marshallian* (page 277) and *Walrasian* (page 467) .

Market economy
A country in which most economic decisions are left up to individual consumers and firms interacting through *markets* (page 272). Contrasts with *central planning* (page 53) and *nonmarket economy* (page 310).

Market equilibrium
Equality of quantity supplied and quantity demanded. See *equilibrium* (page 135).

Market failure
Any *market imperfection* (see below), but especially the complete absence of a market due to incomplete or *asymmetric information* (page 19).

Market forces
The forces of *demand* (page 97) and *supply* (page 416) that cause prices to rise and to fall, as opposed, for example, to the actions of particular market participants or government which might otherwise be blamed for such changes.

Market imperfection
Any departure from the ideal benchmark of *perfect competition* (page 332), due to *externalities* (page 155), taxes, *market power* (page 274), etc. Same as *distortion* (page 108).

Market integration
Removal of barriers between two markets for the same product, so that prices on the two markets become more closely linked.

Trade liberalization (page 441) contributes to international market integration.

Market intervention

The act, usually by a government or central bank, of buying or selling in a market so as to influence the price. Most common is *exchange market intervention* (page 144), but governments also sometimes intervene in other markets, such as for agricultural products and *primary commodities* (page 346).

Market mechanism

The process by which a market solves a problem allocating resources, especially that of deciding how much of a good or service should be produced, but other such problems as well. The market mechanism is an alternative, for example, to having such decisions made by government.

Market potential

The capacity of a location, such as a country, to become or to grow as a demander of goods and services that outside suppliers might provide. Various measures of market potential are provided especially for *emerging economies* (page 130), intended as guides to *exports* (page 148) and *foreign direct investment* (page 171).

Market power

1. Ability of a firm or other market participant to influence price by varying the amount that it chooses to buy or sell. Equivalently, ability to set price, as opposed to being a *price taker* (page 346).

2. Ability of a country to influence world prices by altering its trade policies.

Market price

1. The price at which a *market* (page 272) *clears* (page 58).

2. Alternative to *factor cost* (page 157).

Market rate

The *interest rate* (page 227) or *exchange rate* (page 144) at which a *market* (page 272) *clears* (page 58).

Market reserve policy

See *law of similars* (page 253).

Market restriction
Any government-imposed or legal requirement that impedes the ability of suppliers and demanders to interact freely, such as limits on quantity or price. Restrictions are most common in *labor markets* (page 249) and on foreign-owned service providers.

Market segmentation
Segmented markets (page 386).

Market share
Usually refers to the fraction of sales in a national or international market for a product that is by a particular firm. However, the term is also sometimes used for the share for sellers from a particular country, as "the Japanese share of the U.S. auto market."

Market structure
The way that suppliers and demanders in an industry interact to determine price and quantity. There are four main idealized market structures that have been used in trade theory: *monopoly* (page 289), *monopolistic competition* (page 289), *oligopoly* (page 318), and *perfect competition* (page 332).

Market value
See *factor cost* (page 157).

Marketing
The activities in which a firm engages intended to induce buyers to select its product. Models of *perfect competition* (page 332) omit this activity, assuming that each firm can sell all it wishes at the prevailing price. Models of *imperfect competition* (page 210) are more likely to include this, though in practice models of international trade seldom do.

Marketing board
A form of *state trading enterprise* (page 408), a marketing board typically buys up the domestic supply of a good and sells it on the international market.

Marking duty
An additional *duty* (page 116) added to the price of an imported good if its *country of origin* (page 79) is not properly marked, to cover the cost of marking it.

Markup

1. The amount (percentage) by which price exceeds marginal cost. A profit-maximizing seller facing a price *elasticity* (page 129) of demand η will set a markup equal to $(p - c)/p = 1/\eta$. One effect of international trade that increases competition is to reduce markups.

2. In *WTO* (page 472) terminology, sometimes used for the extent to which an *applied tariff* exceeds the *bound rate* (page 38).

Marrakesh Ministerial

The final *ministerial* (page 283) meeting of the *GATT* (page 182), in Marrakesh, Morroco, April 1994, at which the *Uruguay Round* (page 461) was concluded and the *World Trade Organization* (page 472) created, replacing the GATT.

Marrakesh Protocol

The agreement entered into by all signatories of the *GATT* (page 182) at the April 1994 *ministerial* (page 283) in Marrakesh, Morroco. This agreement adopted the Final Act of the *Uruguay Round* (page 461) which, among other things, created the *World Trade Organization* (page 472).

Marshall Plan

A U.S. program to assist the economic recovery of certain European countries after World War II. Also called the *European Recovery Program* (page 141), it was initiated in 1947 and it dispersed over $12 billion before it was completed in 1952.

Marshall-Lerner Condition

The condition that the sum of the elasticities of demand for exports and imports exceed one (in absolute value); that is, $\eta_X + \eta_M > 1$, where η_X, η_M are the *demand elasticities* (page 98) for a country's exports and imports respectively, both defined to be positive for downward sloping demands. Under certain assumptions, this is the condition for a *depreciation* (page 99) to *improve the trade balance* (page 215), for the *exchange market* (page 143) to be *stable* (page 405), and for international *barter* (page 28) exchange to be *stable* (page 405).

Marshallian adjustment

A market *adjustment mechanism* (page 6) in which quantity rises when *demand price* (page 98) exceeds *supply price* (page 417) and falls when supply price exceeds demand price.

Marshallian surplus

1. This refers to the concepts of *consumer surplus* (page 73) and *producer surplus* (page 350), as they were introduced by Alfred Marshall.

2. For consumer surplus, the Marshallian definition uses the *demand curve* (page 98) holding income constant, in contrast to the *Hicksian* (page 201) definitions, due to John Hicks, of *compensating* (page 65) and *equivalent* (page 136) variation.

Marxist

Referring to the writings of Karl Marx and to a body of economic thought based, more or less loosely, on those writings.

Maskus curve

A graph of how *intellectual property protection* (page 226) varies with *per capita income* (page 331), first falling as income rises, then rising. Due to *Maskus and Penubarti (1995)* (page 591).

Material injury

The *injury* (page 223) requirement of the *AD* (page 5) and *CVD* (page 91) statutes, understood to be less stringent than *serious injury* (page 388) but otherwise apparently not precisely defined.

Maturity

The date at which a *bond* (page 36) *matures*, that is, the date at which the issuer of the bond makes the final payment.

Maximum price system

Similar to a *minimum price system* (page 282), except that the price specified is the highest, rather than the lowest, permitted for an imported good.

Maximum revenue tariff

A tariff set to collect the largest possible revenue for the government.

MCC

Millennium Challenge Corporation (page 282).

MDG

Millennium Development Goals (page 282).

Meade geometry

The geometric technique introduced by *Meade (1952)* (page 591) of deriving a country's *offer curve* (page 316) from its *transformation curve* (page 448) and *community indifference curves* (page 64) by first constructing a set of *trade indifference curves* (page 440).

Meade Index

Meade (1955a) (page 591) used a measure of the *gains from trade* (page 181) that has since been called the Meade Index. It can be expressed as $I = \Sigma_i(\Delta X_i)t_i + \Sigma_i(\Delta M_i)t_i$, where ΔX_i and ΔM_i are changes in exports and imports in sector i, each valued at the supply price in the exporting country, and t_i is the *ad valorem* (page 5) *tariff* (page 421) on that trade.

Mean

The arithmetic average of the values of an economic or statistical variable. For a variable x with values x_i, $i = 1, \ldots, n$, the average is $(x) = \Sigma_{i=1\ldots n}(x_i/n)$.

Measure of economic welfare

An aggregate figure that adjusts *GDP* (page 183) in an attempt to measure a country's economic well-being rather than its production, with adjustments for leisure, environmental degradation, etc.

Median

1. In a sample of data, a value above which half the values lie and below which half the values lie.

2. In a probability distribution, a value above which there is 50% probability and below which there is 50% probability.

Medium of exchange

Anything that is used, like *money* (page 287), to make payments for goods, services, and assets. For payments between countries with different *currencies* (page 85), if the national currencies are not trusted, another country's currency or gold may be used.

Medium-term expenditure framework
An integrated approach to policy, planning, and budgeting by developing countries that estimates expenditures three years into the future. It has been advocated by the *World Bank* (page 470) and applied in a number of developing countries.

Melitz Model
A *heterogeneous firm model* (page 200) in which firms employ labor as their only input, firm productivity is chosen randomly, and firms die with some constant probability. With trade, only firms with productivity above some cutoff level are able to export. Due to *Melitz (2003)* (page 591).

MENA
Middle East and North Africa. The acronym is used frequently by international organizations, but without a uniform definition of which countries are included.

Mercantilism
An economic philosophy of the 16th and 17th centuries that international commerce should primarily serve to increase a country's financial wealth, especially of gold and foreign currency. To that end, exports are viewed as desirable and imports as undesirable unless they lead to even greater exports.

Merchandise trade
Exports and imports of *goods* (page 188). Contrasts with trade in *services* (page 388).

Merchanting
The act by a resident of one country of buying a good in another country and reselling it in that or a third country, without the good ever entering the merchant's country of residence.

MERCOSUR
A *common market* (page 63) orignally among Argentina, Brazil, Paraguay and Uruguay, known as the "Common Market of the South" ("Mercado Común del Sur"), created in 1991. In June 2012, Paraguay was suspended for undemocratically impeaching its president. In July, Venezuela was admitted as a full member.

Mergers and acquisitions
The combination of what were previously two separate firms into one, either by their joining (merging) together as more or less equals or by one acquiring the other. These occur increasingly across national borders, thus constituting an important form of *foreign direct investment* (page 171).

METI
Ministry of Economy, Trade and Industry (page 283).

Metzler diagram
A diagram showing the joint determination of savings, investment, and the interest rate in two countries. Invented by *Metzler (1960)* (page 591).

Metzler paradox
The possibility, identified by *Metzler (1949)* (page 591), that a *tariff* (page 421) may lower the domestic *relative price* (page 370) of the imported good. This will happen if it drives the world price down by even more than the size of the tariff, as it may do if the foreign demand for the importing country's export good is *inelastic* (page 220).

MEW
Measure of economic welfare (page 278).

MFA
Multifiber Arrangement (page 292).

MFN
Most favored nation (page 290).

MFN rate
MFN tariff (see below).

MFN status
The status given by the U.S. to some non-members of the *GATT* (page 182)/*WTO* (page 472) whereby they are charged *MFN tariffs* (see below) even though they are eligible for higher tariffs. See *PNTR* (page 336).

MFN tariff
The tariff level that a member of the *GATT* (page 182)/*WTO* (page 472) charges on a good to other members.

MIC

Middle income country (see below).

Microeconomic

Referring to the behavior of and interactions among individual economic agents, especially firms and consumers, and especially in *markets* (page 272). Contrasts with *macroeconomic* (page 266).

Microfinance

Refers to institutions that specialize in making very small loans to very poor persons in developing countries. Instead of using collateral to assure repayment, these lenders harness social pressure within the borrower's community. Originally done on a nonprofit basis, it is now being done increasingly by for-profit companies.

Middle income country

The middle income group in the *World Bank's* (page 470) classification of countries by *GNI* (page 188) *per capita* (page 331), calculated by the *Atlas method* (page 20). Based on July 2012 data, these were countries with incomes between $1,036 and $12,615. The group is also split into *lower-middle* and *upper-middle*, below and above $4,085 respectively. Other groups are *low income countries* (page 264) and *high income countries* (page 201).

Middle product

A good that has undergone some processing and that requires further processing before going to final consumers; an *intermediate good* (page 227). *Sanyal and Jones (1982)* (page 595) introduced the term, observing that almost all international trade is of middle products, and they provided a model based on that assumption.

MIGA

Multilateral Investment Guarantee Agency (page 292).

Migration

The permanent relocation of people from one country to another. See *emigration* (page 131) and *immigration* (page 209).

MIIT

Marginal intra-industry trade (page 269).

Mill's test

One of two conditions needed for *infant industry protection* (page 221) to be welfare-improving, this requires that the protected industry become, over time, able to compete internationally without protection. See also *Bastable's test* (page 29).

Millennium Challenge Corporation

"An innovative and independent U.S. foreign aid agency that is helping lead the fight against global poverty." It provides aid to the world's poorest countries in the form of partnerships, but only to countries that meet certain eligibility criteria with regard to "good governance, economic freedom, and investments in their citizens."

Millennium Development Goals

A set of objectives for *economic development* (page 122) agreed upon at a September 2000 meeting of world leaders at the *United Nations* (page 458), and intended to be achieved by the year 2015.

Millennium Round

The name suggested by the *European Union* (page 141) for the *trade round* (page 443) that they and others hoped would be initiated at the *Seattle Ministerial* (page 384) in 1999. That ministerial ended without agreement to start a new round.

Minimum efficient scale

The smallest output of a firm consistent with minimum *average cost* (page 22). In small countries, in some industries the level of demand in *autarky* (page 21) is not sufficient to support minimum efficient scale.

Minimum import price

See *minimum price system* (see below).

Minimum price system

Specification of the lowest price permitted for an import. Prices below the minimum may trigger a *tariff* (page 421), hence a *variable levy* (page 463), or *quota* (page 360). See *maximum price system* (page 277). These have several names: *basic import price* (page 29), *minimum import price* (see above), *reference price* (page 368), and *trigger price* (page 451).

Minimum valuation

A *customs valuation procedure* (page 90) that sets a minimum value for an imported good, regardless of its *transaction value* (page 447) and thus, with an *ad valorem tariff* (page 5), sets a higher *duty* (page 116) than it otherwise would.

Minister of International Trade

Title, in many but not all countries, of the *trade minister* (page 441).

Ministerial

A meeting of ministers. In the context of the *GATT* (page 182) and *WTO* (page 472), it is a meeting of the *trade ministers* (page 441) from the member countries (including, from the U.S., *USTR* (page 462)).

Ministerial Declaration

The outcome of a successful *ministerial* (see above): a document that the ministers have agreed upon.

Ministry of Economy, Trade and Industry

The Japanese government ministry that deals with economic issues, including the vitality of the private sector, external economic relations, energy policy, and industrial development.

Ministry of International Trade and Industry

The Japanese government ministry that deals with trade and industrial policies. Established in 1949 as the Ministry of Commerce and Industry, MITI was renamed *METI* (page 280) as of 6 January 2000.

Mirror statistics

The approach of inferring a country's trade data, or checking their accuracy, by using the trade data of the countries with which it trades.

Misalignment

Currency misalignment (page 87).

Misery index

1. The sum of the rates of *unemployment* (page 456) and *inflation* (page 221). Originated by Arthur Okun as advisor to President Lyndon Johnson.

2. The *Barro Misery Index* (page 28) due to *Barro (1999)* (page 578) which adds the increase in the long-term *interest rate* (page 227) and the shortfall of *GDP* (page 183) from potential.

Missing trade

See *mystery of the missing trade* (page 295).

MITI

Ministry of International Trade and Industry (page 283).

Mixed credit

A form of *trade financing* (page 439) that provides an element of *aid* (page 11), through a low interest rate or long credit period, and therefore is partially an *export subsidy* (page 153).

Mixed economy

An economy in which some production is done by the private sector and some by the state, in *state-owned enterprises* (page 408).

Mixed tariff

Compound tariff (page 67).

Mixing regulation

1. Specification of the proportion of domestically produced content in products sold on the domestic market.

2. Specification of an amount of domestically produced product that must be bought by an importer for given quantities of imports, under a *linking scheme* (page 260).

Mixing requirement

Mixing regulation (see above).

MNC

Multinational Corporation (page 293).

MNE

Multinational Enterprise (page 293).

Mobility

See *labor mobility* (page 249).

Modality

Method or procedure. *WTO* (page 472) documents speak of modalities of negotiations, i.e., the outlines (formulas or other approaches) of how the negotiations are to be conducted. Getting agreement on modalities is often extremely difficult.

Mode of supply

The method by which suppliers of internationally *traded services* (page 444) deliver their service to buyers. The four modes usually identified are: **Mode 1** — *cross-border supply* (page 83); **Mode 2** — *consumer movement* (page 72); **Mode 3** — *producer presence* (page 349); and **Mode 4** — *movement of natural persons* (page 290).

Modes 1 to 4

See *mode of supply* (above).

Model

A stylized simplification of reality in which behavior is represented by variables and by assumptions about how they are determined and interact. Models enable one to think consistently and logically about complex issues, to work out how changes in an economic system matter, and (sometimes) to make predictions about economic performance.

Moderation

See *Great Moderation* (page 191).

MOFA

Majority-owned foreign affiliate (page 267).

Monetary aggregate

Any of several definitions of a country's *money supply* (page 288).

Monetary approach

A framework for analyzing *exchange rates* (page 144) and the *balance of payments* (page 24) that focuses on supply and demand for money in different countries. A *floating exchange rate* (page 169) is assumed to equate supply and demand and thus to reflect relative growth rates of money supplies and determinants of demand. Under a *pegged exchange rate* (page 330), the *balance of payments surplus* (page 25) or deficit equals the excess demand or supply, respectively, for a country's money.

Monetary base

Usually, the currency and central bank deposits that together provide the base for the money supply under fractional reserve banking. Also defined as the central bank assets the acquisition of which creates this monetary base by injecting domestic

money into the economy. The latter definition usually includes *international reserves* (page 236) and *domestic credit* (page 112). By either definition, the monetary base changes as a result of *open market operations* (page 320) and *exchange market intervention* (page 144).

Monetary contraction

Contractionary (page 74) *monetary policy* (see below).

Monetary easing

Expansionary (page 147) *monetary policy* (see below).

Monetary expansion

Expansionary (page 147) *monetary policy* (see below); thus printing money or otherwise increasing the *money supply* (page 288).

Monetary independence

The ability of a country to determine its own *monetary policy* (see below), as opposed to allowing the money supply to be determined by the *exchange market intervention* (page 144) required to maintain a *fixed exchange rate* (page 168).

Monetary integration

The adoption of a *common currency* (page 62) by two or more countries.

Monetary neutrality

The principle that the quantity of money should not affect *real* (page 363) variables in the long run.

Monetary overhang

Money overhang (page 288).

Monetary policy

The use of the *money supply* (page 288) and/or the *interest rate* (page 227) to influence the level of macroeconomic activity and other policy objectives including the *balance of payments* (page 24) or the *exchange rate* (page 144).

Monetary stimulus

Expansionary (page 147) *monetary policy* (see above). So called because, by lowering *interest rates* (page 227), it stimulates *investment* (page 239) and thus *aggregate demand* (page 9).

Monetary tightening

Contractionary (page 74) *monetary policy* (see above).

Monetary transmission mechanism

1. Any of several channels by which a change in the *money supply* (page 288) of a country can cause changes in *real* (page 363) variables. Most operate primarily within a country, but some, as through the *exchange rate* (page 144), operate through international transactions.

2. Any of several ways that real and monetary *shocks* (page 390) in one economy can be transmitted to another through monetary channels involving *interest rates* (page 227), *exchange rates* (page 144), and *international capital flows* (page 230).

Monetary union

Two or more countries sharing a *common currency* (page 62).

Monetize

1. To turn anything into money.

2. To convert government debt into currency.

Monetize debt

To pay off government debt by printing money.

Money

1. Anything that serves the three basic purposes of money: *medium of exchange* (page 278); *store of value* (page 411); and *unit of account* (page 457).

2. In modern economies, a *currency* (page 85) issued by an agency of government.

3. As an adjective, "money" refers to the value of something denominated in the prevailing currency and not corrected for inflation; contrasts with *real* (page 363).

Money GDP

Nominal (page 307) GDP; contrasts with *real GDP* (page 365).

Money income

Nominal (page 307) income; contrasts with *real* (page 363) income.

Money laundering

The conversion of large amounts of money the source of which one wants to hide (e.g., from drug trafficking) into a form that appears to be legitimate. The process often involves multiple

international transactions across currencies and financial institutions in order to obscure the source.

Money market

The money market, in macroeconomics and international finance, refers to the equilibration of demand for a country's domestic money to its *money supply* (see below). Both refer to the quantity of money that people in the country hold (a stock), not to the quantity that people both in and out of the country choose to acquire during a period in the *exchange market* (page 143), mostly for the purpose of then using it to buy something else.

Money multiplier

When a *central bank* (page 52) engages in *open market operations* (page 320) to change the *monetary base* (page 285), the money multiplier is the ratio of the resulting change in the *money supply* (see below) to the change in the base. If banks and others keep the base at a fraction, ρ, of the money supply (e.g., if only banks hold currency, with a fixed *reserve ratio* (page 373), ρ), then the money multiplier is $1/\rho$.

Money neutrality

Monetary neutrality (page 286).

Money overhang

A money supply that is larger than what people want to hold at prevailing prices, perhaps because of shortages or rationing of goods in the past. This was said to be a major cause of *inflation* (page 221) in Russia after the fall of the Soviet Union, which left an excess of money in circulation.

Money price

The *nominal* (page 307) price; thus the price as it would actually be observed, in *current dollars* (page 88). Contrasts with the *real* (page 363) price, which is adjusted for inflation.

Money supply

There are several formal definitions, such as *M1* (page 265) and *M2* (page 265), but all include the quantity of currency in circulation plus the amount of *demand deposits* (page 98). The money supply, together with the amount of real economic activity in a

country, is an important determinant of its price level and its *exchange rate* (page 144).

Monopolistic

Having some power to set price.

Monopolistic competition

A *market structure* (page 275) in which there are many sellers each producing a *differentiated product* (page 103). Each can set its own price and quantity, but is too small for that to matter for prices and quantities of other producers in the industry.

Monopoly

A *market structure* (page 275) in which there is a single seller.

Monopoly argument

The monopoly argument for a tariff is the same as the *optimal tariff argument* (page 322). It gets its name from the fact that a country using a tariff to *improve the terms of trade* (page 215) is acting much like a monopoly firm, restricting its sales to get a better price.

Monopoly price

The *profit-maximizing* (page 352) price charged by a *monopolist* (see above). Because a monopoly faces a *demand elasticity* (page 98), $\eta > 0$, that is finite, this price — whose markup over marginal cost $(P - MC)/P = 1/\eta$ — exceeds marginal cost.

Monopsony

A *market structure* (page 275) in which there is a single buyer. Term introduced in *Robinson (1932)* (page 594).

Monotonic

Changing in one direction only; thus either strictly rising or strictly falling, but not reversing direction.

Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer, signed in 1987, limited trade in products containing *CFCs* (page 54). It was the first major agreement to restrict trade for *environmental* (page 134) purposes.

Moral hazard

The tendency of individuals, firms, and governments, once insured against some contingency, to behave so as to make that

contingency more likely. A pervasive problem in the insurance industry, it also arises internationally when international financial institutions assist countries in financial trouble.

Moral rights

In terms of *IP* (page 240), these are the rights of an author or other creative person over how their creation is used, modified, etc., after the economic rights have been transferred to somebody else by *copyright* (page 76). Moral rights are not uniform across IP jurisdictions and are not regulated by the *WTO's* (page 472) *TRIPS Agreement* (page 451).

Mortgage

A loan the collateral for which is a house or other real estate. I would not have thought this term needed to appear in a glossary of international economics, until 2008 when we learned that *mortgage-backed securities* (see below) had been traded internationally and were contributing to the global *financial crisis* (page 164) when borrowers *defaulted* (page 95).

Mortgage-backed security

A financial instrument that packages the ownership of shares in a large number of *mortgages* (see above).

Most favored nation

The principle, fundamental to the *GATT* (page 182), of treating imports from a country on the same basis as that given to the other most favored nation. That is, and with some exceptions, every country gets the lowest tariff that any country gets, and reductions in tariffs to one country are provided also to others.

Mothballing

The preservation of a production facility without using it to produce, but keeping the machinery in working order and supplies available. This may be preferable — if the facility's operating costs are high and the aim is to have it available in time of war — to having it produced in peacetime under a *subsidy* (page 414) or *import protection* (page 213). See *national defense argument* (page 297).

Movement of natural persons

Mode 4 of four *modes of supply* (page 285) under the *GATS* (page 182), this involving the temporary movement across

national borders of *natural persons* (page 299) employed by or associated with a firm in order to participate in the firm's business. Also called *temporary producer movement* (page 428).

MPC

Marginal propensity to consume (page 270).

MRO

Main refinancing operations (page 267).

MRS

Marginal rate of substitution (page 270).

MRT

Marginal rate of transformation (page 270).

MRTS

Marginal rate of technical substitution (page 270).

MTEF

Medium-term expenditure framework (page 279).

MTN

Multilateral trade negotiation (page 293).

MTO

Multilateral Trade Organization (page 293).

Multi-cone equilibrium

A free-trade equilibrium in the *Heckscher-Ohlin Model* (page 199) in which prices are such that all goods cannot be produced within a single country, and instead there are multiple *diversification cones* (page 109). This, or a *two-cone equilibrium* (page 453), will arise if countries' *factor endowments* (page 157) are sufficiently dissimilar compared to *factor intensities* (page 157) of industries. Contrasts with *one-cone equilibrium* (page 319).

Multi-level governance

A theoretical perspective on the organization of modern states that acknowledges flexible structures of overlapping jurisdictions, both above and below the national government as well as in a lateral relationship to it.

Multifactor model

A model with more than two *factors* (page 156). In the context of *trade theory* (page 444) this is likely to mean a *Heckscher-Ohlin Model* (page 199) with more than two factors.

Multifiber Arrangement
An agreement (*OMA* (page 318)) among developed country importers and developing country exporters of textiles and apparel to regulate and restrict the quantities traded. It was negotiated in 1973 under *GATT* (page 182) auspices as a temporary exception to the rules that would otherwise apply, and was superseded in 1995 by the *ATC* (page 20).

Multifunctionality
Refers to the purposes that an industry may serve in addition to producing its output. Most often applied to agriculture by countries that wish to subsidize it, arguing that subsidies are needed to serve these other purposes, such as rural viability, land conservation, cultural heritage, etc.

Multigood model
A model with more than two goods.

Multilateral
Among a large number of countries, usually including all countries that are members of a large international organization, such as the *WTO* (page 472). Contrasts with *bilateral* (page 33) and *plurilateral* (page 336).

Multilateral agreement
An agreement among a large number of countries.

Multilateral Agreement on Investment
An agreement to liberalize rules on international direct investment, negotiated in the *OECD* but never completed or adopted because of adverse public reaction. Preliminary text of the agreement was leaked to the Internet in April 1997, where many groups opposed it. Negotiations discontinued in November 1998.

Multilateral aid
Aid provided by a group of countries, or an institution representing a group of countries such as the *World Bank* (page 470), to one or more recipient countries. Contrasts with *unilateral aid* (page 456).

Multilateral Investment Guarantee Agency
One of the five institutions that comprise the *World Bank* (page 470) Group, MIGA helps encourage foreign investment in developing countries.

Multilateral resistance

A term introduced into the *gravity equation* (page 190) by *Anderson and van Wincoop (2003)* (page 577) to account for overall distance and other trade impediments to a country's total trade. It must be considered, relative to bilateral resistance to trade with any single country, in estimating the determinants of trade with that country.

Multilateral trade liberalization

Reduction of *tariffs* (page 421) and/or *nontariff barriers* (page 312) by one or (usually) more countries on imports from all countries (or all members of the *WTO* (page 472)). This is most likely to happen as a result of *multilateral trade negotiations* (see below), such as the various *GATT* (page 182) and WTO *Rounds* (page 380).

Multilateral trade negotiation

A *trade negotiation* (page 441) involving a large number of countries, usually all of the *signatories* (page 392) of the *GATT* (page 182) or members of the *WTO* (page 472) in the form of a GATT or WTO *trade round* (page 443).

Multilateral Trade Organization

The proposed name, during the *Uruguay Round* (page 461) negotiations, for what ultimately became the *World Trade Organization* (page 472).

Multilateralism

The approach to *trade policy* (page 442) and *trade negotiations* (page 441) favoring agreements among all (or most) countries of the world at once, rather than only one or a small number at a time in separate *bilateral* (page 33), *regional* (page 369), or *plurilateral* (page 336) agreements.

Multinational corporation

A corporation that operates in two or more countries. Since it is headquartered in only one country but has production or marketing facilities in others, it is the result of previous *FDI* (page 162).

Multinational enterprise

A firm, usually a corporation, that operates in two or more countries. In practice the term is used interchangeably with *multinational corporation* (see above).

Multiple equilibria

Refers to a system in which there is more than one equilibrium, most commonly a *market* (page 272) in which a *backward bending* (page 24) supply curve crosses a demand curve more than once, at prices each of which is a *market-clearing* (page 273) price.

Multiple exchange rates

The existence of more than one *exchange rate* (page 144) for a given pair of currencies. Rare today, this used to be common in countries with extensive *capital controls* (page 46), which also set different exchange rates for different purposes.

Multiplier

In Keynesian macroeconomic models, the ratio of the change in an *endogenous variable* (page 132) to the change in an *exogenous variable* (page 147). Usually means the multiplier for government spending on income. In the simplest Keynesian model of a closed economy, this is $1/s$, where s is the *marginal propensity to save* (page 270). See *open economy multiplier* (page 320).

Multistage production

Another term for *fragmentation* (page 175). Used by *Dixit and Grossman (1982)* (page 582).

Mundell-Fleming Model

An open-economy version of the *IS-LM model* (page 241) that allows for international trade and international capital flows. Due to *Mundell (1962, 63)* (page 592) and *Fleming (1962)* (page 584).

Mussa diagram

1. The *specific-factors model* (page 402) *diagram* (page 513), as attributed to *Mussa (1974)* (page 592).

2. A diagram for explicating properties of the two-factor *Heckscher-Ohlin Model* (page 199) introduced by *Mussa (1979)* (page 592). With factor prices on its axes, zero-profit curves for each sector show the determination of factor prices more directly than the *Lerner diagram* (page 256), which serves much the same purposes.

Mutatis mutandis

Latin phrase meaning, approximately, "allowing other things to change accordingly." Used as a shorthand for indicating the effect

of one economic variable on another, within a system in which other variables that matter will also change as a result. Contrasts with *ceteris paribus* (page 54).

Mutual recognition

The acceptance by one country of another country's certification that a satisfactory standard has been met for ability, performance, safety, etc.

Mystery of the missing trade

The empirical observation, by *Trefler (1995)* (page 597), that the amount of trade is far less than predicted by the *HOV* version of the *Heckscher-Ohlin Model* (page 199). More precisely, the *factor content* (page 156) of trade is far less than the differences between countries in their *factor endowments* (page 157).

Nabucco Pipeline

A pipeline planned to carry natural gas from the Georgian/Turkish and/or Iranian/Turkish border across Turkey, Bulgaria, Romania, and Hungary to Austria. Construction was scheduled to begin 2011 and be completed 2015, but as of December 2013 construction had not begun.

NACE

Nomenclature statistique des activités économiques dans la Communauté européennui, this is the *Statistical Classification of Economic Activities in the European Community* (page 409).

NAFTA

North American Free Trade Agreement (page 313).

NAFTA TAA

A program of *NAFTA* (see above), NAFTA Transitional Adjustment Assistance is a version of *trade adjustment assistance*

(page 435) that applies to workers impacted by trade with or shift of production to Mexico or Canada.

NAICS

North American Industry Classification System (page 314).

NAIRU

Stands for "non-accelerating inflation rate of unemployment." The level of the *unemployment rate* (page 456) at which prices rise at the same rate that they are expected to rise, and thus at which (since expectations needn't change) the rate of inflation does not then rise or fall.

NAMA

Non-agricultural market access (page 309).

Narrow money

M1 (page 265).

Nash

Used as an adjective applied to a strategy in a *game* (page 182), this means that it is part of a *Nash equilibrium* (see below).

Nash equilibrium

An equilibrium in *game theory* (page 182) in which each player's action or strategy is optimal given the actions or strategies of the other players. For example, in a *tariff-and-retaliation game* (page 424), with each country able to improve its *terms of trade* (page 429) with a tariff, zero tariffs are not Nash, since each can do better by raising its tariff. A Nash equilibrium, with positive tariffs, is likely to be inferior to free trade for both.

Nation

As used in international economics, a nation is almost invariably a country, or occasionally a similar entity (e.g., Hong Kong) with a single, usually independent government.

National

1. (adj.) Of, relating to, or belonging to a *nation* (see above).

2. (n.) A person who is a citizen or long-term resident of a nation.

National Bureau of Economic Research

A nonprofit, nonpartisan organization based in Cambridge, MA, that assembles economic data and sponsors economic

research. Its *Business Cycle Dating Committee* (page 42) is also traditionally responsible for identifying the beginnings and ends of *recessions* (page 366).

National champion

A firm that achieves a dominant position in an industry due to government policies favoring it and encouraging it also to play a major role in world markets. *Promotion* (page 353) (and *protection* (page 354)) of national champions is one form of *industrial policy* (page 220).

National debt

Although this term looks like it should mean the amount that a country owes to foreigners, in practice it is used instead to refer to the amount that a nation's government owes to anybody, including its own citizens. Thus it is the total of a national government's outstanding government *bonds* (page 36).

National defense argument for protection

The argument that imports should be restricted in order to sustain a domestic industry so that it will be available in case of trade disruption due to war. This is a *second-best argument* (page 385), since there is a variety of ways of providing for defense at lower economic cost, including production *subsidies* (page 414), *mothballing* (page 290), and *stockpiling* (page 411).

National exhaustion

See *exhaustion* (page 146).

National Foreign Trade Council

An organization of U.S. companies, the NFTC describes itself as "the pre-eminent business association dedicated solely to international trade and investment issues."

National income

The income generated by a country's production, and therefore the total income of its *factors of production* (page 158). Except for some adjustments that don't usually enter theoretical models, NI is the same as *GDP* (page 183).

National Income and Product Accounts

The statistics collected by the *Bureau of Economic Analysis* (page 42) on aggregate economic activity in the United States.

National sovereignty
See *sovereignty* (page 400).

National Trade Estimate
The *National Trade Estimate Report on Foreign Trade Barriers* is issued each year by *USTR* (page 462), reporting on the *trade barriers* (page 436) faced by U.S. exports in other countries.

National treatment
The principle of providing foreign producers and sellers the same treatment provided to domestic firms.

Nationalize
To transfer ownership of a private company or a privately owned asset to the national government. Nationalization is sometimes done on entire industries, and often includes firms that were owned by foreigners. Owners may or may not be compensated; if not, this is *expropriation* (page 154).

Natural enemy
In the *Heckscher-Ohlin Model* (page 199), an industry is a natural enemy to a particular factor if a rise in the price of that industry alone causes a fall in the price of that factor, so that the *real* (page 363) return to that factor is decreased. Used by *Jones and Scheinkman (1977)* (page 587) to characterize the *Ethier's (1974)* (page 583) generalization of the *Stolper-Samuelson Theorem* (page 411).

Natural friend
In the *Heckscher-Ohlin Model* (page 199), an industry is a natural friend to a particular factor if a rise in the price of that industry alone causes an even larger proportional increase in the price of that factor, so that the *real* (page 363) return to that factor is increased. Used by *Jones and Scheinkman (1977)* (page 587) to characterize the *Ethier's (1974)* (page 583) generalization of the *Stolper-Samuelson Theorem* (page 411).

Natural monopoly
An industry with such *increasing returns to scale* (page 218) that an economy can only support, at close to minimum cost, a single firm. To avoid the economic inefficiency of *monopoly pricing* (page 289), such industries are often regulated by government.

Internationally, this regulation may prompt interference with trade.

Natural person

This term appears in the *GATS* (page 182) where it deals with the international movement of employees of firms that are providing services in another country. Persons are called "natural" to distinguish them from "juridical persons," such as partnerships or corporations, which are given certain rights of persons under the law.

Natural resource

Anything that is provided by nature, such as deposits of minerals, quality of land, old-growth forests, fish populations, etc. The availability of particular natural resources is an important determinant of *comparative advantage* (page 64) and trade in products that depend on them. Natural resources are *primary factors* (page 346) of production.

Natural trade

Trade that is either *free* (page 177) or *restricted* (page 374), but that is not artificially encouraged by *subsidies* (page 414) or other stimulants.

Natural trading bloc

A *trading bloc* (page 445) consisting of *natural trading partners* (page 299).

Natural trading partner

A country with whom another country's trade is likely to be large, because of low *transport* (page 449) or other *trade costs* (page 437) between them. Term introduced by *Wonnacott and Lutz (1989)* (page 599) and used extensively by *Frankel (1997)* (page 584).

Natural wastage

Attrition (page 20).

NAV

Net asset value (page 303).

Navigation Acts

Laws passed by England in 1651 and 1660 that required goods shipped to, and later also from, England to and from the colonies

to be carried in English ships. They also imposed other restrictions on trade. However, they were not very effectively enforced.

NBER

National Bureau of Economic Research (page 296).

NBTT

Net barter terms of trade (page 303).

NDF

Nordic Development Fund (page 313).

NDP

Net domestic product (page 303).

Near money

A financial asset with many of the properties of money, but not all. Savings deposits and foreign currency deposits, for example, are very *liquid* (page 260) but cannot be used directly for transactions.

Necessity test

A procedure to determine whether a trade restriction intended to serve some purpose is necessary for that purpose.

Negative externality

A harmful *externality* (page 155); that is, a harmful effect of one economic agent's actions on another. Considered a *distortion* (page 108) because the first agent has inadequate incentive to curtail the action. Examples are pollution from factories (a *production externality* (page 351)) and smoke from cigarettes (a *consumption externality* (page 73)).

Negative growth

A decline in size over time, said of an economy's *GDP* (page 183) in *recession* (page 366) or of the size of a declining firm or industry. Seems like a euphemism, except that no obvious alternative term suggests itself.

Negative list

1. In an international agreement, a list of those items, entities, products, etc., to which the agreement will *not* apply, the commitment being to apply the agreement to everything else. Contrasts with *positive list* (page 339).

2. A list of products that cannot be imported into a country.

Negative returns

An extreme form of *diminishing returns* (page 104), in which increasing one input holding other inputs constant causes output to fall. This may plausibly happen due to *congestion* (page 70).

Negative returns to scale

An extreme form of *decreasing returns to scale* (page 95), in which increasing all inputs in proportion actually causes output to fall. Sometimes said to arise due to *congestion* (page 70), although it is doubtful in that case that all inputs are being increased.

Negotiation

See *trade negotiation* (page 441).

Neighborhood

In mathematical Euclidean space, a small set of points surrounding and including a particular point. Thus, for an economic variable, such as an *allocation* (page 12), the neighborhood of a particular allocation includes all those allocations that are sufficiently similar to it.

Neighborhood production structure

A structure of technology for a general equilibrium model due to *Jones and Kierzkowski (1986)* (page 587). With an arbitrary but equal number of goods and factors, each factor produces two (different) goods and each good uses two (different) factors, in a way that yields more unambiguous results than one normally finds in *high-dimension* (page 201) trade models without *specific factors* (page 402).

Neoclassical

A collection of assumptions customarily made by mainstream economists starting in the late 19th century, including profit maximization by firms, utility maximization by consumers, and market equilibrium, with corresponding implications for determination of factor prices and the distribution of income. Contrasts with *classical* (page 58), *Keynesian* (page 246), and *Marxist* (page 277).

Neoclassical ambiguity

In the *specific-factors model* (page 402), the fact that the effect of a change in relative prices on the real wage of the mobile factor

cannot be known *a priori*, since the wage rises relative to one price and falls relative to the other.

Neoclassical economics

Most of modern, mainstream economics based on *neoclassical* (page 301) assumptions. Tends to ascribe inevitability, if not necessarily desirability, to market outcomes.

Neoclassical growth model

A model of *economic growth* (page 122) in which income arises from *neoclassical production functions* (see below) in one or more sectors, displaying *diminishing returns* (page 104) to saving and capital accumulation. Due to *Solow (1956)* (page 596) and *Swan (1956)* (page 597).

Neoclassical paradigm

The framework used by most modern economists for analysis of economic activity and policy, based on *neoclassical* (page 301) assumptions.

Neoclassical production function

A *production function* (page 351) with the properties of *constant returns to scale* (page 71) and smoothly *diminishing returns* (page 104) to individual *factors* (page 156).

Neoliberalism

A view of the world that favors social justice while also emphasizing economic growth, efficiency, and the benefits of free markets.

Neotechnology model

Any model that focuses on evolving differences in technologies across countries over time to explain trade. Two such models have been most widely cited: the *technology gap model* (page 428) and the *product cycle* (page 350) model. The term "neotechnology" is said by *Borkakoti (1975)* (page 580) to have been first applied to these models by *Hufbauer (1970)* (page 586).

NES

Not Elsewhere Specified. This abbreviation, "nes," appears frequently in classifications, of goods and of industries for example, to encompass all other items in a category that have not been included explicitly.

Net

After deduction. Contrasts with *gross* (page 192). Exactly what is deducted to get from gross to net depends on the context.

Net asset value

Value of assets minus liabilities.

Net barter terms of trade

The price of a country's exports, P_x, relative to the price of its imports, P_m: $NBTT = P_x/P_m$. *Given* this name by *Taussig (1927)* (page 597).

Net capital inflow

Net acquisition of domestic assets by foreigners, minus net acquisition of foreign assets by domestic residents. If negative, it is a net *capital outflow* (page 49).

Net domestic assets

This usually refers to a country's commercial banks' and/or its *central bank's* (page 52) lending to entities (private or public) within the country minus borrowing from those entities.

Net domestic product

Gross domestic product (page 193) minus *capital consumption allowance* (page 46). This is the most complete measure of productive activity within the borders of a country, though its accuracy suffers from the difficulty of measuring depreciation.

Net economic welfare

Same as *MEW* (page 280).

Net exports

1. The aggregate value of *exports* (page 148) minus *imports* (page 211); same as the *balance of trade* (page 25).

2. The vector of exports minus imports of each good.

Net financial inflow

Same as *net capital inflow* (see above).

Net foreign asset position

The value of the assets that a country owns abroad, minus the value of the domestic assets owned by foreigners. Equals *balance of indebtedness* (page 24).

Net foreign factor income
The income of a country's *factors* (page 156) earned abroad minus the income paid to foreign-owned factors domestically.

Net imports
Imports (page 211) minus *exports* (page 148). The negative of *net exports* (page 303), and like it, may be either a scalar or a vector.

Net income
1. Of a firm, total revenue minus total cost.
2. Of a country, *national income* (page 297) minus *capital consumption allowance* (page 46).

Net international reserves
International reserves (page 236) minus reserves that have been borrowed from the *IMF* (page 209) and other governments.

Net national product
Gross national product (page 194) minus *depreciation* (page 99). This is the most complete measure of productive activity by a country's *nationals* (page 296), though its accuracy suffers from the difficulty of measuring depreciation.

Net output
The output of a product that is available for final users, after deducting amounts of it used up as an *intermediate input* (page 228) in producing itself and other products. Contrasts with *gross output* (page 194).

Net present value
Same as *present value* (page 343), being sure to include (negative) payments as well as (positive) receipts.

Net resource transfer
The amount of purchasing power that foreigners are providing a country in a period of time. It is measured by the country's *current account deficit* (page 88) minus its net payments to foreigners of *interest* (page 226).

Net substitutes
Two goods are net substitutes if a rise in the price of one causes an increase in the *compensated demand* (page 64) for the other, thus net of the negative income effect of the price increase. Contrasts with *gross substitutes* (page 194).

Net taxes

Taxes minus transfers. That is, in an economy the net taxes are the total taxes paid by persons and business to government, minus the total transfer payments paid by government to persons and business.

Network

A set of connections among a multiplicity of separate entities sharing a common characteristic. Networks of firms or individuals in different countries are thought to facilitate trade.

Neutral

1. Said of a *technological change* (page 427) or *technological difference* (page 427) if it is not *biased* (page 32) in favor of using more or less of one *factor* (page 156) than of another. This can be defined in several different ways that are not normally equivalent: *Harrod neutral* (page 198), *Hicks neutral* (page 201), and *Solow neutral* (page 398).

2. Said of economic growth if it expands actual or potential output of all goods at the same rate, not being biased in favor of one over another. In the *Heckscher-Ohlin Model* (page 199) neutral growth will occur if all *factor endowments* (page 157) grow at the same rate or if there is *Hicks neutral* (page 201) technological progress at the same rate in all industries.

3. Said of a trade regime if the structure of *protection* (page 354) favors neither exportables nor importables. See *bias* (page 32).

NEW

Net economic welfare (page 303).

New bancor

A proposed non-national world currency to be used for payment and reserve purposes, to be issued by the *IMF* (page 209) and intended to maintain a fixed purchasing power in the dollar and euro countries.

New economic geography

The study of the location of economic activity across space, particularly a strand of literature begun by *Krugman (1991b)* (page 589) using *agglomeration economies* (page 9) to help explain why industries cluster within particular countries and regions.

New economy
This term was used in the late 1990s to suggest that *globalization* (page 187) and/or innovations in information technology had changed the way that the world economy works. Conjectures included changes in productivity, the inflation-unemployment tradeoff, the business cycle, and the valuation of enterprises.

New good
A good that has been newly invented. Plays a special role in the theory of the *product cycle* (page 350).

New International Economic Order
A set of proposals put forward during the 1970s by developing countries through *UNCTAD* (page 455) to promote their interests by improving their *terms of trade* (page 429), increasing development assistance, developed-country tariff reductions, and other means.

New new trade theory
This unfortunate name has been given to theoretical models of trade that incorporate *heterogeneous firms* (page 200) and typically build on the *monopolistic competition* (page 289) models of the *new trade theory* (see below).

New product
See *product cycle* (page 350).

New protectionism
The most recent wave of *protectionism* (page 354).

New trade theory
Models of trade that, especially in the 1980s, incorporated aspects of *imperfect competition* (page 210), *increasing returns* (page 218), and *product differentiation* (page 350) into both *general equilibrium* (page 184) and *partial equilibrium* (page 328) models of trade and trade policy. Many contributed to this literature, but the most prominent was Krugman, starting with *Krugman (1979b)* (page 588).

Newly industrializing country
Refers to a group of countries previously regarded as *developing* (page 101) that then achieved high rates and levels of economic growth.

Newly industrializing economy
Newly industrializing country (page 306) but also including Taiwan and Hong Kong, which are not unambiguously countries.

News
Unexpected information. In an *efficient market* (page 128), as the *exchange market* (page 143) is supposed to be, price reflects all available information. It can change, therefore, only in response to news.

NFTC
National Foreign Trade Council (page 297).

NGO
Non-governmental organization (page 309).

NIB
Nordic Investment Bank (page 313).

NIC
Newly industrializing country (page 306).

NIE
Newly industrializing economy (see above).

NIEO
New International Economic Order (page 306).

NIPA
National Income and Product Accounts (page 297).

NME
Non-market Economy (page 310).

NNP
Net national product (page 304).

Nomenclature
See *Brussels Tariff Nomenclature* (page 40).

Nominal
1. In the form most directly observed or named, in contrast to a form that has been adjusted or modified in some fashion.
2. As measured in terms of money, usually in contrast to *real* (page 363).

Nominal anchor
The technique of fixing a *nominal* (see above) variable in an economy as a means of reducing *inflation* (page 221). For example, by

firmly *pegging* (page 330) the *nominal exchange rate* (see below), a central bank or government reduces its own ability to expand the *money supply* (page 288).

Nominal exchange rate

The actual *exchange rate* (page 144) at which currencies are exchanged on an *exchange market* (page 143). Contrasts with *real exchange rate* (page 364).

Nominal GDP

GDP(page 183) as actually measured, thus in *current dollars* (page 88). Contrasts with *real GDP* (page 365).

Nominal interest rate

The *interest rate* (page 227) actually observed in the market, in contrast to the *real interest rate* (page 365).

Nominal price

The price as it would actually be observed, in *current dollars* (page 88). Contrasts with the *real* (page 363) price, which is adjusted for inflation.

Nominal rate of protection

The protection afforded an industry directly by the *tariff* (page 421) and/or *NTB* (page 314) on its output, ignoring effects of other trade barriers on the industry's inputs. Contrasts with the *ERP* (page 136).

Nominal return

The earnings on an asset or other investment, comparable to a *nominal interest rate* (see above), thus not adjusted for *inflation* (page 221).

Nominal rigidity

The inability of a *nominal* (page 307) variable, such as a price or a wage expressed in money (as opposed to *real* (page 363)) terms, to change quickly so as to achieve *equilibrium* (page 135). Nominal rigidities tend to be needed in *Keynesian* (page 246) *macroeconomic* (page 266) models.

Nominal tariff

The *nominal protection* provided by a tariff; that is, the tariff itself. Contrasts with *effective tariff* (page 127).

Nominal wage
The *wage* (page 466) of labor in units of currency, not adjusted for *inflation* (page 221), and thus not in terms of the goods that it will buy. Contrasts with *real wage* (page 365).

Non-actionable subsidy
A *subsidy* (page 414) that is not subject to *countervailing duties* (page 79) under the rules of the *WTO* (page 472). These include *non-specific subsidies* (page 310), subsidies for industrial research, *regional aids* (page 368), and some *environmental subsidies* (page 134).

Non-agricultural market access
Reduction of tariffs and *NTBs* (page 314) in industries other than agriculture. Because of the particular difficulties of negotiations in agriculture, they were separated from others, and the *NAMA Negotiations* (page 296) in the *Doha Round* (page 111) encompassed all other trade liberalization in goods: manufactures, fuels, mining, fish, and forestry products.

Non-automatic licensing
Import *licensing* (page 258) that is discretionary, based on an import quota, or performance related.

Non-dumping certificate
A document stating that there is no difference between the price of an exported good and the price of the same good on the exporter's home market. Required by some countries for goods they import.

Non-economic objectives argument for protection
The view that a restriction on imports may serve a purpose outside of conventional economic models. Unless that purpose is itself the restriction of trade, then this is a *second-best argument* (page 385), since changes in output, consumption, etc., can be achieved at lower economic cost in other ways.

Non-governmental organization
A not-for-profit organization that pursues an issue or issues of interest to its members by lobbying, persuasion, and/or direct action. In the arena of international economics, NGOs play an increasing role defending human rights and the environment, and fighting poverty.

Non-market clearing

A situation or economic model in which a market or markets do not *clear* (page 58), perhaps because something prevents prices from adjusting to discrepancies between supply and demand.

Non-market economy

1. A country in which most major economic decisions are imposed by government and by *central planning* (page 53) rather than by free use of *markets* (page 272). Contrasts with a *market economy* (page 273).

2. An economy that has been designated as a non-market economy for the purposes of *anti-dumping* (page 14) implementation, thus allowing the use of third-country prices in calculating the *dumping margin* (page 115).

Non-performing loan

A loan on which the borrower has ceased to make payments.

Non-price competition

Competition (page 65) among sellers based on something other than price, such as quality or other product characteristics.

Non-reciprocal

Not *reciprocal* (page 366). Thus a *trade agreement* (page 435) is non-reciprocal if one party makes *concessions* (page 69) while the other does not.

Non-specific subsidy

A *subsidy* (page 414) that is available to more than a single specific industry and is therefore *non-actionable* (page 309) under *WTO* (page 472) rules.

Nonbinding

Refers to a restriction that currently has no effect because the behavior that it would prevent would not happen even without the restriction. For example, if a *quota* (page 360) limits imports to no more than 1,000, but actual imports are only 900, then the quota is nonbinding.

Nonconvexity

The property of an economic model or system that the sets representing technology, preferences, or constraints are not mathematically *convex* (page 75). Because convexity is needed for proof that competitive equilibrium is efficient and well-behaved, nonconvexities may imply *market failures* (page 273).

Nondiscrimination

The treatment of all others equally, or at least subject to the same rules and procedures. In trade this often refers to levying the same *tariffs* (page 421) against the imports from all other countries and the absence of *nontariff barriers* (page 312) that put some imports at a disadvantage compared to others.

Nondistorted

Without *distortions* (page 108). Many propositions in trade theory are strictly valid, often only implicitly, only in nondistorted economies.

Nondistorting lump sum

Redundant appellation for a *lump sum* (page 265) tax or subsidy.

Nondistorting transfer

A *transfer payment* (page 447) that does not introduce inefficiencies. This means mainly that it does not provide an incentive to change production or consumption choices.

Nonhomothetic

Any function that is not *homothetic* (page 204), but usually applied to consumer *preferences* (page 342) that include goods whose shares of expenditure rise (and others that fall) with income.

Nonproduction worker

A worker not directly engaged in production. In empirical studies of skilled and unskilled labor, data on nonproduction workers are often taken to represent skilled labor.

Nonprohibitive tariff

A *tariff* (page 421) that is not *prohibitive* (page 353).

Nonsterilization
Refers to *exchange market intervention* (page 144) that is done without *sterilizing* (page 409) its effects on the domestic *money supply* (page 288).

Nontariff barrier
Any policy that interferes with exports or imports other than a simple *tariff* (page 421), prominently including *quotas* (page 360) and *VERs* (page 464).

Nontariff measure
Any policy or official practice that alters the conditions of international trade, including those that act to increase trade as well as those that restrict it. The term is therefore broader than *nontariff barrier* (see above), although the two are usually used interchangeably.

Nontradable
1. Not capable of being traded among countries.
2. A good or service that is nontradable, with nontradables referring to an aggregate of such goods and services.

Nontradable good
A good that, by its nature, is *nontradable* (see above).

Nontraded good
A good that is not traded, either because it cannot be or because trade barriers are too high. Except when *services* (page 388) are being distinguished from goods, they are often mentioned as examples of nontraded goods, or at least they were until it became common to speak of *trade in services* (page 440).

Nonviolation
In *WTO* (page 472) terminology, this is shorthand for a complaint that a country's action, though not a violation of WTO rules, has *nullified* (page 314) or *impaired* (page 210) a member's expected benefits from the agreement.

Nordic countries
Denmark, Finland, Iceland, Norway, and Sweden.

Nordic Development Fund
A grant financing fund for "climate-change interventions in low-income developing countries," with funds contributed by the *Nordic countries* (page 312).

Nordic Investment Bank
An *international financial institution* (page 233), owned by a group of the five *Nordic countries* (page 312) plus the three *Baltic countries* (page 27), that funds clients in the private and public sectors of the member countries as well as in *emerging markets* (page 130) around the world.

Normal good
A good the demand for which rises with income if relative prices do not change. Contrasts with *inferior good* (page 221).

Normal profit
The level of *profit* (page 352) that neither attracts entry into nor causes exit from an industry. It typically means that firms are earning just enough to provide a competitive return on their *capital* (page 45).

Normal trade relations
The term in the United States for designating a country as qualifying for the *MFN* (page 280) tariffs that have been negotiated in the *GATT* (page 182).

Normal value
Price charged for a product on the domestic market of the producer. Used to compare with export price in determining *dumping* (page 115).

Normative
Refers to value judgments as to "what ought to be," in contrast to *positive* (page 339) which is about "what is."

North American Free Trade Agreement
The agreement to form a *free trade area* (page 177) among the United States, Canada, and Mexico that went into effect 1 January 1994.

North American Industry Classification System
The system for classifying business establishments developed jointly by government agencies of the United States, Canada, and Mexico. In 1997, it replaced the *Standard Industrial Classification* (page 406) in the United States.

North-South model
An economic model in which two countries, North and South, represent *developed* (page 101) and *less developed* (page 257) countries respectively.

North-South trade
Trade between the *developed countries* (page 101) (North) and *developing countries* (page 101) (South). This term is used less and less, as the division between these two groups of countries has become blurred by the economic growth of many formerly developing countries.

Notify
Members of the *WTO* (page 472) are expected to notify the WTO of changes in their trade policies. Thus, for example, the WTO is able to keep track of *regional trade agreements* (page 369) that have been *notified* (see above) to the WTO.

NRP
Nominal rate of protection (page 308).

NTB
Nontariff barrier (page 312).

NTE
National Trade Estimate (page 298).

NTM
Nontariff measure (page 312).

NTR
Normal trade relations (page 313).

Nullification
See *nonviolation* (page 312).

Numeraire
The unit in which prices are measured. This may be a currency, but in *real models* (page 365), such as most trade models, the numeraire is usually one of the goods, whose price is then set

at one. The numeraire can also be defined implicitly by, for example, the requirement that prices sum to some constant.

OAS

Organization of American States (page 324).

Obligation

What a member country of the *WTO* (page 472) is required to do and not do. There are many obligations, including especially keeping *tariffs* (page 421) at or below *bound levels* (page 34), using only approved *trade barriers* (page 436) and doing so in a *nondiscriminatory* (page 311) (*MFN* (page 280)) way, and according *national treatment* (page 298) to imported products.

OBM

Obsolescing bargain model (see below).

Observer

1. In the *WTO* (page 472), a country that is not a member but that has been granted observer status. "With the exception of the Holy See, observers must start accession negotiations within five years of becoming observers."

2. Also in the WTO, a large number of *intergovernmental organizations* (page 227) have observer status, enabling them to follow discussions on matters of direct interest to them.

Obsolescing bargain model

A model of interaction between a *multinational enterprise* (page 293) and a *host country* (page 206) government, which initially reach a bargain that favors the MNE but where, over time as the MNE's fixed assets in the country increase, the bargaining power shifts to the government. Due to *Vernon (1971)* (page 598).

OEA

Organización de Estados Americanos (Spanish for *Organization of American States* (page 324)).

OECD

Organisation for Economic Co-operation and Development (page 323).

OEEC

Organisation for European Economic Co-operation (page 323).

Offer curve

A curve showing, for a two-good model, the quantity of one good that a country will export (or "offer") for each quantity of the other that it imports. Also called the *reciprocal demand curve* (page 366), it is convenient for representing both exports and imports in the same curve and can be used for analyzing *tariffs* (page 421) and other changes.

Offer curve diagram

A diagram that combines the offer curves of two countries (or one country and the rest of world) to determine equilibrium *relative prices* (page 370). Refer to *Picture Gallery* (page 504).

Office of Textiles and Apparel

The part of the United States Commerce Department's *International Trade Administration* (page 237) that deals with trade in textiles and apparel.

Official rate

The *par value* (page 327) of a *pegged exchange rate* (page 330).

Official reserve transactions

Transactions by a central bank that cause changes in its *official reserves* (page 316). These are usually purchases or sales of its own currency in the *exchange market* (page 143) in exchange for foreign currencies or other foreign-currency-denominated assets. In the *balance of payments* (page 24) a purchase of its own currency is a *credit* (page 82) (+) and a sale is a *debit* (page 92) (−).

Official reserves

The reserves of foreign-currency-denominated assets (and also gold and *SDRs* (page 384)) that a central bank holds, sometimes

as backing for its own currency, but usually only for the purpose of possible future *exchange market intervention* (page 144).

Official settlements balance

One of several measures of the *balance of payments surplus* (page 25), this equals the change in *official reserves* (page 316) minus the net increase in foreign official holdings of the country's assets.

Offset requirement

As a condition for importing into a country, a requirement that foreign exporters purchase domestic products and/or invest in the importing country. A form of *countertrade* (page 79).

Offshoring

Movement to a location in another country of some part of a firm's activity, usually a part of its production process or, frequently, various *back office* (page 23) functions.

OFID

OPEC Fund for International Development (page 320).

Ohlin definition

The *price definition* (page 344) of *factor abundance* (page 156). In contrast to the *quantity definition* (page 358), the price definition incorporates differences in demands as well as supplies. Due to *Ohlin (1933)* (page 593).

OIE

World Organization for Animal Health (page 471).

Oil shock

A large increase in the relative international price of oil (petroleum). Oil is a sufficiently important input, both for energy and as a raw material, that its price is a major determinant of real incomes and levels of economic activity. Its price is subject to manipulation by governments, especially *OPEC* (page 320).

OIM

French acronym of *International Organization for Migration* (page 235).

OIT

Organización Internacional del Trabajo (Spanish for *International Labor Organization* (page 234)).

Okun's law
An approximate linear relationship between unemployment and real GDP, proposed by Arthur Okun: For every percentage point drop in the *unemployment rate* (page 456), *real GDP* (page 365) rises 3%.

OLI paradigm
A framework for analyzing the decision to engage in *FDI* (page 162), based on three kinds of advantage that FDI may provide in comparison to exports: ownership, location, and *internalization* (page 229). Due to *Dunning (1979)* (page 583).

Oligopoly
A *market structure* (page 275) in which there are a small number of sellers, at least some of whose individual decisions about price or quantity matter to the others.

Oligopsony
A *market structure* (page 275) in which there are a small number of buyers.

OLS
Ordinary least squares (page 323).

OMA
Orderly marketing arrangement (page 323).

OMC
Organización Mundial de Comercio (Spanish for *World Trade Organization* (page 472)).

OMI
Open Markets Index (page 320).

Omnibus Trade and Competitiveness Act of 1988
U.S. trade legislation strengthening *unilateral* (page 456) instruments such as *Section 301* (page 386) and authorizing participation in the *Uruguay Round* (page 461). "Omnibus" indicates that this was comprehensive trade legislation — the first since World War II.

OMO
Open market operation (page 320).

On-migration
The further *migration* (page 281) of a person to yet another country.

One-cone equilibrium
A free-trade equilibrium in the *Heckscher-Ohlin Model* (page 199) in which prices are such that all goods can be produced within a single country, and there is only one *diversification cone* (page 109). This will arise if countries' *factor endowments* (page 157) are sufficiently similar compared to *factor intensities* (page 157) of industries. Contrasts with *multi-cone equilibrium* (page 291).

One-dollar-one-vote yardstick
A characterization of the *Kaldor-Hicks welfare criterion* normally used in evaluating *trade policies* (page 442) and more generally in *cost-benefit analysis* (page 78), based on a sum of monetary values including *consumer* (page 73) and *producer surplus* (page 350).

One-way arbitrage
The use, by a potential supplier or demander in a market, of a different market or markets to accomplish the same purpose, taking advantage of a discrepancy among their prices. With transaction costs, this enforces smaller price discrepancies than would be permitted by conventional *arbitrage* (page 16). Due to *Deardorff (1979)* (page 582).

One-way option
Refers to the situation of a *speculator* (page 403) on an *exchange market* (page 143) with a *pegged exchange rate* (page 330). If there is doubt about the viability of the peg, the speculator can sell the currency *short* (page 391) knowing that there is only one direction (one way) that the currency is likely to move. Therefore there is little *risk* (page 379) associated with such speculation.

ONU
Organización de Naciones Unidas (Spanish for *United Nations* (page 458)).

OPEC
Organization of the Petroleum Exporting Countries (page 324).

OPEC Fund for International Development
A "multilateral financial facility to channel *OPEC* (see above) aid to developing countries."

Open currency position
An *open position* (see below).

Open economy
An economy that permits transactions with the outside world, at least including trade of some goods. Contrasts with *closed economy* (page 59).

Open-economy multiplier
The simple Keynesian *multiplier* (page 294) for a *small open economy* (page 395). Equals $1/(s + m)$, where s is the *marginal propensity to save* (page 270) and m is the *marginal propensity to import* (page 270).

Open market operation
The sale or purchase of government bonds by a central bank, in exchange for domestic currency or central-bank deposits. This changes the *monetary base* (page 285) and therefore the domestic *money supply* (page 288), contracting it with a bond sale and expanding it with a bond purchase.

Open markets
Markets that are free of restrictions on who can buy and sell.

Open Markets Index
A ranking of countries (75, in Spring 2013) produced by the *International Chamber of Commerce* (page 231) based on openness to international trade and investment.

Open position
An obligation to take or make delivery of an asset or currency in the future without *cover* (page 80), that is, without a matching obligation in the other direction that protects from effects of change in the price of the asset or currency. Aside from simple ownership and debt, an open position can be acquired or avoided using the *forward market* (page 174).

Open regionalism

Regional economic *integration* (page 225) that is not discriminatory against outside countries; typically, a group of countries that agrees to reduce trade barriers on an *MFN* (page 280) basis. Adopted as a fundamental principle, but not defined, by *APEC* (page 15) in 1989. *Bergsten (1997)* (page 579) offers five definitions, ranging from open membership to global liberalization and trade facilitation.

Openness

The extent to which an economy is *open* (page 320) to trade, and sometimes also to inflows and outflows of *international investment* (page 234).

Openness coefficient

The *coefficient* (page 60) on any variable measuring *openness* (see above) in a regression, often a *regression* (page 369) explaining *economic growth* (page 122). Thus an estimate of the importance of openness for growth.

Openness index

1. Any measure of *openness* (see above).

2. The ratio of a country's trade (exports plus imports) to its *GDP* (page 183).

OPIC

Overseas Private Investment Corporation (page 326).

Opportunity cost

The cost of something in terms of opportunity foregone. The opportunity cost to a country of producing a unit more of a good, such as for export or to replace an import, is the quantity of some other good that could have been produced instead.

Optimal

Best, by whatever criterion decisions are being made; thus yielding the highest level of utility, *profit* (page 352), economic *welfare* (page 468), or whatever objective is being pursued.

Optimal currency area

The optimal grouping of regions or countries within which exchange rates should be held fixed. First defined (as *optimum* (page 322) currency areas) by *Mundell (1961)* (page 592).

Optimal output

1. For a firm this usually means the output of the good that it produces that, when sold, maximizes *profit* (page 352).

2. For a country, this usually means the combination of different goods (and services) that it can produce that is worth the most at world prices, perhaps adjusted for any *externalities* (page 155).

Optimal tariff

The level of a *tariff* (page 421) that maximizes a country's *welfare* (page 468). In a *nondistorted* (page 311) *small open economy* (page 395), the optimal tariff is zero. In a *large country* (page 251) it is positive, due to its effect on the *terms of trade* (page 429).

Optimal tariff argument

An argument in favor of levying a tariff in order to *improve the terms of trade* (page 215). The argument is valid only in a *large country* (page 251), and then only if other countries do not *retaliate* (page 375) by raising tariffs themselves. Even then, this is a *beggar thy neighbor* (page 30) policy, since it lowers *welfare* (page 468) abroad. See *Johnson (1953/1954)* (page 586).

Optimal tax

1. Given a constraint of a minimum amount of revenue that a taxation must raise, a system of optimal taxes will minimize the *distortion* (page 108) that they cause.

2. In the presence of an *externality* (page 155), the optimal tax (or subsidy) is that which will *internalize* (page 229) its effects so that optimal decisions will be made.

Optimum

1. The best. Usually refers to a most preferred choice by consumers subject to a budget constraint, a profit maximizing choice by firms or industry subject to a technological constraint, or in *general equilibrium* (page 184), a complete *allocation* (page 12) of factors and goods that in some sense maximizes *welfare* (page 468).

2. As an adjective, same as *optimal* (page 321).

Optimum optimorum

The best of the best, or the *global optimum* (page 186). This term is used, when there are several allocations each of which is *locally optimal*, to refer to the best among these.

Optimum tariff

Optimal tariff (page 322).

Option

A contract that permits one party to buy from (or sell to) the other party something at a pre-specified price during a pre-specified period of time, leaving the choice of whether to do this or not (whether to *exercise* (page 146) the option) up to the first party, which buys the option. Options exist for many *assets* (page 18), including *foreign exchange* (page 171).

Orange box

See *amber box* (page 12).

Orderly marketing arrangement

An agreement among a group of exporting and importing countries to restrict the quantities traded of a good or group of goods. Since the impetus normally comes from the importers protecting their domestic industry, an OMA is effectively a multi-country *VER* (page 464).

Ordinary least squares

The simplest and most common method of fitting a straight line to a sample of data: by minimizing the sum of the squares of the deviations of the data from the line.

Organisation for Economic Co-operation and Development

An international organization of developed countries that "provides governments a setting in which to discuss, develop and perfect economic and social policy." As of December 2013, it had 34 member countries.

Organisation for European Economic Co-operation

An international organization established in 1948 as the recipient institution of aid through the *Marshall Plan* (page 276). In 1961 it was replaced by the *OECD* (page 316).

Organization of American States
An international organization of the countries of the Western Hemisphere, fostering cooperation among them and advancing their common interests. It has 35 member states, although the government of one of them, Cuba, is excluded from participating.

Organization of the Petroleum Exporting Countries
A group of countries that includes many, but not all, of the largest exporters of oil. Its major purpose is to regulate the supply of petroleum and thereby to stabilize (often raise) its price. The international oil *cartel* (page 51). As of December 2013, it had 12 member countries.

Origin principle
The principle in international taxation that *value added taxes* (page 462) be kept only by the country where production takes place. Under the origin principle, value added taxes are not collected on imports and not rebated on exports. Contrasts with the *destination principle* (page 101).

Origin rule
See *rules of origin* (page 380).

Original sin
In the context of financial problems of *developing* (page 101) and *emerging economies* (page 130), this refers to their difficulty in borrowing abroad in their own currencies. Since it is experienced even by well-behaved countries, *Eichengreen and Hausmann (1999)* (page 583) dubbed it "original sin" as being beyond their control.

OTEXA
Office of Textiles and Apparel (page 316).

Outflow
See *capital outflow* (page 49).

Output
The quantity of goods or services produced, in a given time period, by a firm, industry, or country.

Output augmenting
Said of a *technological change* (page 427) or *technological difference* (page 427) if one production function produces a scalar multiple of the other. Also called *Hicks neutral* (page 201).

Output gap

The amount by which a country's output, or *GDP* (page 183), falls short of what it could be given its available resources. A positive output gap is considered to exist when a country's *unemployment rate* (page 456) is greater than the *NAIRU* (page 296).

Outsourcing

1. Performance outside a firm or plant of a production activity that was previously done inside.

2. Manufacture of inputs to a production process, or a part of a process, in another location, especially in another country.

3. Another term for *fragmentation* (page 175).

Outward FDI

Foreign direct investment (page 171) by a domestic firm establishing a facility abroad. Contrasts with *inward FDI* (page 240).

Outward oriented strategy

Export promotion (page 152).

Over-invoicing

The provision of an *invoice* (page 240) that reports the price as higher than is actually being paid. This might be done by a *multinational company* (page 293) on imported inputs from a subsidiary in order to shift profit to a lower-taxed jurisdiction.

Over-valued currency

The situation of a currency whose value on the *exchange market* (page 144) is higher than is believed to be sustainable. This may be due to a *pegged* (page 330) or *managed* (page 267) rate that is above the *market-clearing* (page 273) rate, or, under a *floating rate* (page 169), it may be due to *speculative* (page 403) capital inflows. Contrasts with *under-valued currency* (page 455).

Overdraft facility

In the *IMF* (page 209), an arrangement permitting countries to draw more foreign currency from it than they have deposited. The right to do so is a *special drawing right* (page 401) and, when used, is transferred to the country whose currency is withdrawn.

Overhang

See *debt overhang* (page 93) and *money overhang* (page 288).

Overhead
The costs of a firm that are not directly related to its output, usually interpreted in economic models as *fixed costs* (page 168).

Overseas Private Investment Corporation
An agency of the U.S. government that works with the private sector to facilitate the financing of investments in developing countries, with the aim of promoting economic development.

Overshooting
See *exchange rate overshooting* (page 144).

P4
Trans-Pacific Strategic Economic Partnership Agreement (page 447).

Pacific Rim
A collective term for the countries that border on the Pacific Ocean.

Panel
A three-person committee assembled by the *WTO* (page 472) to hear evidence in disputes between members, as part of the WTO *dispute settlement mechanism* (page 108). Panels are also used to settle disputes under *NAFTA* (page 295).

Panel data
Data on an economic variable that include both multiple economic units and multiple time periods, thus displaying both *cross sectional variation* (page 84) and *time series variation* (page 432).

Panel report
The finding of a *WTO* (page 472) *dispute settlement mechanism* (page 108) *panel* (see above).

Par

1. Equality. See *at par* (page 19).

2. Official value. See *par value* (see below).

Par value

The central value of a *pegged exchange rate* (page 330), around which the actual rate is permitted to fluctuate within set bounds.

Para-tariff

A charge on an imported good instead of, or in addition to, a *tariff* (page 421).

Paradox

As used in economics, it seems to mean something unexpected, rather than the more extreme normal meaning of something seemingly impossible. Some paradoxes are just theoretical results that go against what one thinks of as normal. Others, like the *Leontief paradox* (page 256), are empirical findings that seem to contradict theoretical predictions.

Paradox of plenty

Resource curse (page 374).

Parallel economy

Black market (page 35).

Parallel import

Trade that is made possible when the owner of *intellectual property* (page 225) causes the same product to be sold in different countries for different prices. If someone else imports the low-price good into the high-price country, that is a parallel import. Thus, one example of *gray market* (page 190) trade.

Parameter

A constant that helps to determine the shape and position of a functional relationship, such as an exponent in a *Cobb-Douglas function* (page 59) or the *marginal propensity to import* (page 270) in a linear import function.

Parent

In a firm that has one or more *subsidiaries* (page 414), especially a *multinational corporation* (page 293), the portion of the firm that owns and ultimately controls the others.

Pareto criterion
The criterion that for change in an economy to be viewed as socially beneficial it should be *Pareto improving* (see below).

Pareto efficient
Same as *Pareto optimal* (see below).

Pareto improving
Making no one worse off and making at least one person better off.

Pareto optimal
Having the property that no *Pareto-improving* (see above) change is possible.

Paris Club
A group of 19 *creditor countries* (page 82) that meets regularly but informally in Paris to seek ways of helping debtor countries to manage their debts through coordinated *rescheduling* (page 372) and other means.

Paris Convention
The *Paris Convention for the Protection of Industrial Property* is a treaty administered by *WIPO* (page 470) concerning industrial property such as *patents* (page 329), *trademarks* (page 445), and *appellations of origin* (page 15).

Parity
1. Equality. Same as *par* (page 327). See also *interest parity* (page 227) and *purchasing power parity* (page 356).
2. Official value, or *par value* (page 327).

Parsimonious
Stingy. Although in normal language, this has a negative connotation, when applied to a model or an explanation in economics it tends to be positive, meaning that it relies on as simple a structure as possible.

Partial
Favoring one person or side over another; not impartial.

Partial equilibrium
Equality of supply and demand in only a subset of an economy's markets — usually just one — taking variables from other markets as given. Partial equilibrium models are appropriate

for products that constitute only a negligibly small part of the economy. They are used routinely (not always appropriately) for analysis of trade policies in single industries. Contrasts with *general equilibrium* (page 184).

Participation rate

The fraction of a country's working-age population that is employed or seeking employment.

Pass-through

The extent to which an exchange rate change is reflected in the prices of imported goods. With full pass-through, a currency *depreciation* (page 99), which increases the price of foreign currency, would increase the prices of imported goods by the same amount, and vice versa. With no pass-through, prices of imports remain constant. See *pricing to market* (page 346).

Patent

The legal right to the proceeds from, and control over the use of, an invented product or process, granted for a fixed period of time, usually 20 years. Patent is one form of *intellectual property* (page 225) that is a subject of the *TRIPS* (page 451) agreement.

Patent Cooperation Treaty

A treaty administered by *WIPO* (page 470) providing a unified procedure for filing *patent* (see above) applications in participating countries.

Path dependent

The property where destination depends on the route traveled. That is, if the equilibrium that will ultimately be reached by a system depends on the values of variables that occur away from equilibrium, then the equilibrium is path dependent.

Patriotism argument for protection

The view that one is helping one's country by buying domestically produced goods instead of imports. In a *nondistorted* (page 311) economy, this is not correct, since the country can do better producing where it has a *comparative advantage* (page 64) rather than using scarce resources where it does not.

Pattern of specialization

The particular goods that a country produces and those it does not produce.

Pattern of trade

See *trade pattern* (page 442).

Pauper labor argument

The view that a country loses by importing from another country that has low wages, presumably by lowering wages at home. This view ignores the fact that low wages are due to low productivity, and that the high-wage home country, with high productivity, will have *comparative advantage* (page 64) in some products and will *gain from trade* (page 181).

Payment at sight

Written as one of the terms of payment in a *letter of credit* (page 257), this means that the payment will be made immediately when the completion of the trade is documented, as opposed to after some specified delay.

Payments deficit

Balance of payments deficit (page 25).

Payments imbalance

Imbalance (page 209) in the *balance of payments* (page 24), normally including both *current* (page 88) and *capital accounts* (page 45).

Peak

The point in the *business cycle* (page 42) when an economic expansion reaches its highest point before turning down. Contrasts with *trough* (page 452).

Peg

1. To maintain a *pegged exchange rate* (see below); thus to set a currency's value within a narrow range.

2. The *par value* (page 327) of a *pegged exchange rate* (see below).

3. The regime of a *pegged exchange rate* (see below).

Pegged exchange rate

A regime in which the government or central bank announces an official (*par value* (page 327)) of its currency and then maintains the actual market rate within a narrow band above and below that by means of *exchange market intervention* (page 144).

Penn Effect

The finding, through the *Penn World Table* (see below), that average prices are lower, and real incomes therefore higher, in developing countries than would be found by converting developed-country prices at nominal exchange rates. This was subsequently explained as the *Balassa-Samuelson Effect* (page 26).

Penn World Table

The database of the Center for International Comparisons at the University of Pennsylvania, which "provides *purchasing power parity* (page 356) and *national income* (page 297) accounts converted to international prices." Useful for many purposes, especially for comparing *real* (page 363) values across countries.

Per capita

Per person.

Per capita income

Income per person, usually measured as *GDP* (page 183) divided by population.

Per capita output

The value of an economy's output per person, *GDP* (page 183) divided by population and thus the same as *per capita income* (see above).

Percentage point

A one-percent increment. For example, a two-percentage-point increase in a growth rate that was previously 5% would be an increase to 7% (which might alternatively be correctly, though less commonly, called a 40% increase in the growth rate, since 7 is 40% higher than 5).

Perfect capital mobility

1. The absence of any barriers to international *capital movements* (page 48).

2. The requirement that, in equilibrium, rates of return on capital (*interest rates* (page 227)) must be the same in different countries.

Perfect competition
An idealized *market structure* (page 275) in which there are large numbers of both buyers and sellers, all of them small, so that they act as *price takers* (page 346). Perfect competition also assumes *homogeneous products* (page 204), *free entry* (page 176) and *exit*, and *complete information* (page 67). Most international trade theory prior to the *new trade theory* (page 306) assumed perfect competition.

Perfect foresight
Exact knowledge of the future. Under perfect foresight, for example, the *forward rate* (page 175) would exactly equal the *spot rate* (page 404) that later prevails when the forward contract matures.

Perfect substitute
A good that is regarded by its demanders as identical to another good, so that the *elasticity of substitution* (page 129) between them is infinite.

Perfectly competitive
Refers to an economic agent (firm or consumer), group of agents (industry), model, or analysis that is characterized by *perfect competition* (see above). Contrasts with *imperfectly competitive* (page 210).

Perfectly elastic
Refers to a supply or demand curve with a *price elasticity* (page 344) of infinity, implying that the supply or demand curve as usually drawn is horizontal. A *small open economy* (page 395) faces perfectly elastic demand for its exports and supply of its imports, and a foreign *offer curve* (page 316) that is a straight line from the origin.

Perfectly inelastic
Having zero *elasticity* (page 129) with respect to some variable, often income, price, or both. Thus completely insensitive to changes in this variable.

Perfectly mobile capital
Perfect capital mobility (page 331).

Performance requirement

1. A requirement that an importer or exporter must achieve some level of performance, in terms of exporting, *domestic content* (page 112), etc., in order to obtain an import or export *license* (page 258).

2. A requirement by the *host country* (page 206) of *FDI* (page 162) that the investor must do certain things, such as exporting, employing, or purchasing certain amounts.

Performance target

In the international economic context, this is likely to refer to one of several targets specified by the *IMF* (page 209) as a *condition* (page 69) for a loan to a *developing country* (page 101).

Peril point

The point beyond which *tariff* (page 421) reduction in an industry would cause it serious injury. The U.S. *Tariff Commission* (page 421) was required to determine peril points for U.S. industries as a constraint on negotiations in early *GATT* (page 182) *Rounds* (page 380).

Periphery

This is something that is on the edge. It therefore is used to refer to countries that are located far from the center of the world's economic activity.

Permanent normal trading relations

The granting of permanent *MFN status* (page 280) to a country that is not a member of the *WTO* (page 472). It is "normal" in the sense that most countries are WTO members and therefore have MFN status (or better) automatically.

Permit

A license issued by government granting permission to engage in some activity, such as to export, import, or invest.

Personal income

Income received by persons (as opposed to firms and government). It differs from *national income* (page 297) by excluding income earned but not received (e.g., corporate retained earnings) and including income received but not earned (e.g., government transfer payments).

Peso Crisis

The massive *devaluation* (page 101) of the Mexican currency, the peso, at the end of 1994, and the associated strains and hardships in the Mexican economy. *Tequila Crisis* (page 428).

Peso problem

1. The need for a country with a past history of high *inflation* (page 221) to have a higher *interest rate* (page 227) than other countries, to compensate bond holders for the expectation of *depreciation* (page 99). The term seems first to have appeared in print in *Krasker (1980)* (page 588), motivated by experience before the 1976 Mexican peso devaluation.

2. More generally, a peso problem refers to the need for an asset to pay a high return to compensate for a perceived small probability of a large decline in value.

Peterson Institute for International Economics

"A private, nonprofit, nonpartisan research institution devoted to the study of international economic policy." Founded in 1981 as *Institute for International Economics* (page 224) by C. Fred Bergsten, it was renamed the Peter G. Peterson Institute for International Economics in 2006.

Petition

A request for *administered protection* (page 7).

Petrodollar

Refers to the profits made by oil exporting countries when the price rose during the 1970s, and their preference for holding these profits in U.S. dollar-denominated assets, either in the U.S. or in Europe as *Eurodollars* (page 138). A portion of these were in turn lent by banks to oil-importing developing countries that used them to buy oil.

Phantom GDP

The portion of *real GDP* (page 365), or of an increase in real GDP, that occurs when domestic producers switch to lower cost imported inputs. Although it represents a valid *gain from trade* (page 181), it does not represent real output produced within the domestic economy, but may be treated as such in statistics.

Phare programme

A program of the *European Union* (page 141) providing financial assistance to countries of Central and Eastern Europe prior to their *accession* (page 4) to the EU.

Phillips curve

An inverse relationship between *inflation* (page 221) and *unemployment* (page 456) observed by *Phillips (1958)* (page 593) and thought to describe an achievable tradeoff between the two macroeconomic ills. It was later found that the true relationship also depends on *expectations* (page 147) of inflation in a way that prevents the unemployment rate from differing permanently from the *NAIRU* (page 296).

Physical capital

The same as *capital* (page 45), without any adjective, in the sense of plant and equipment. The word "physical" is used only for clarity, to distinguish it from *financial capital* (page 164) and *human capital* (page 206).

Physiocrat

One of a school of French thinkers who developed a system of economics prior to Adam Smith and the foundation of modern economics. Founded by François Quesnay, they believed that all wealth was derived from the land and that commerce and industry were sterile. They advocated both *free trade* (page 177) and taxing only the land.

Phytosanitary

Pertaining to the health of plants, especially freedom from pests and pathogens. See *sanitary and phytosanitary regulations* (page 382).

Piecemeal tariff reform

The reduction of only one tariff (or a subset of tariffs) by a country that has additional tariffs on other products.

Pigouvian

1. Based on the ideas and writings of Arthur Cecil Pigou (1877–1959).

2. When used with *tax-cum-subsidy* (page 426), it means that the policy is set equal to the size of a negative (if tax) or positive (if

subsidy) *externality* (page 155), as prescribed by *Pigou (1920)* (page 593). Such a policy is the *first best* (page 166) way to dealing with an externality, in contrast to a *tariff* (page 421), which is only *second best* (page 385).

PIGS

1. Acronym for the four poorest — and, as it happens, Mediterranean — countries of the *EU15* (page 137): Portugal, Italy, Greece, and Spain.

2. Also used for the four countries subject to debt crisis starting in 2010: Portugal, Ireland, Greece, and Spain. Also sometimes including both Ireland and Italy, as *PIIGS*.

PIIE

Peterson Institute for International Economics (page 334).

Platform

See *export platform* (page 152).

Plaza Accord

An agreement reached in 1985 among the central banks of France, Germany, Japan, U.S., and U.K. to bring down the value of the U.S. dollar, which had *appreciated* (page 15) substantially since 1980. By the time of the *Louvre Accord* (page 264), two years later, the dollar had fallen 30%.

Plurilateral

Among several countries — more than two, which would be *bilateral* (page 33), but not a great many or all, which would be *multilateral* (page 292).

Plurilateral agreement

The plurilateral agreements of the *WTO* (page 472) contrast with the larger multilateral agreements in that the former are signed by only those member countries that choose to do so, while all members are party to the multilateral agreements.

PNTR

Permanent normal trading relations (page 333).

PNUD

Programa de Naciones Unidas para el Desarrollo (Spanish for *United Nations Development Programme* (page 458)).

Point elasticity

See *elasticity* (page 129).

Policy

A deliberate act of government that in some way alters or influences the society or economy outside the government. Includes, but is not limited to, taxation, regulation, expenditures, and legal requirements and prohibitions, including in each case those which affect international transactions.

Policy instrument

A particular type of *policy* (see above) that can be used in varying degrees or intensities. The context is usually one of trying to achieve several objectives with two or more policy instruments.

Policy space

The freedom of a *developing country* (page 101) to use policies as needed to promote development. Concern about policy space arose as developing countries began to be constrained by international agreements such as those in the *WTO* (page 472).

Policy tool

Policy instrument (see above).

Polish plumbers

Shorthand for migrant workers from Central and Eastern Europe into Western Europe, after the enlargement of the *European Union* (page 141) from 15 to 25 members. Said to have caused unemployment of workers in France and the U.K.

Political economy

1. Early name for the discipline of economics.

2. A field within economics encompassing several alternatives to *neoclassical economics* (page 302), including *Marxist* (page 277) economics. Also called *radical political economy* (page 361).

3. A field within economics that concerns the interactions between political processes and economic variables, especially economic policies.

Political economy of protection

The study of reasons, especially political ones, that countries choose to use *protection* (page 354). Includes models of voting, lobbying, and campaign contributions as these lead policy makers to erect tariffs.

Political risk
The *risk* (page 379) in an international transaction — *export* (page 148), *import* (page 211), or *FDI* (page 162) — that a government or military will intervene, preventing or altering the terms of the transaction. Contrasts with *commercial risk* (page 61).

Political trilemma of the world economy
See *trilemma of the world economy* (page 451).

Pollution haven
A country that, because of its weak or poorly enforced environmental regulations, attracts industries that pollute the environment.

Pooled equilibrium
An *equilibrium* (page 135) in which two or more different types of agents behave in the same way and therefore cannot be distinguished.

Port
The facility at which ships dock and transfer cargo and passengers to and from land.

Porter's Diamond
The four determinants of *competitive advantage* (page 66) of nations, as identified by *Porter (1990)* (page 593): factor conditions; demand conditions; related and supporting industries; and firm strategy, structure, and rivalry.

Portfolio
The entirety of the financial assets (and usually also liabilities) that an economic agent or group of agents owns.

Portfolio approach
An approach to explaining exchange rates that stresses their role in changing the proportions of different currency-denominated assets in portfolios. The exchange rate adjusts to equate these proportions to desired levels.

Portfolio balance effect
The effect that *sterilized* (page 409) *exchange market intervention* (page 144) may have on the *exchange rate* (page 144) by altering the composition of *portfolios* (page 338) and inducing

exchange-rate adjustment so as to match desired to actual holdings.

Portfolio capital

Financial assets, including stocks, bonds, deposits, and currencies.

Portfolio decision

An economic *agent's* (page 9) choice as to how much of various assets (or sometimes liabilities) to hold. The choice to hold a higher proportion of assets denominated in foreign currency, for example, is a portfolio decision.

Portfolio diversification

See *diversified portfolio* (page 109).

Portfolio flow

The sale or purchase of financial assets across countries.

Portfolio investment

The acquisition of *portfolio capital* (see above). Usually refers to such transactions across national borders and/or across currencies.

Positive

Refers to "what is," in contrast to *normative* (page 313) which involves value judgments as to "what ought to be." The word is not, in this use, the opposite of either "negative" or "harmful."

Positive externality

A beneficial *externality* (page 155); that is, a beneficial effect of one economic agent's actions on another. Considered a *distortion* (page 108) because the first agent has inadequate incentive to act. Examples are the attractiveness of well-kept farms for the tourism industry (a *production externality* (page 351)) and reduced contagion of disease due to vaccines (a *consumption externality* (page 73)).

Positive list

In an international agreement, a list of those items, entities, products, etc., to which the agreement will apply, with no commitment to apply the agreement to anything else. Contrasts with *negative list* (page 300).

Positive sum game
A *game* (page 182) in which the payoffs to the players may add up to more than zero, so that it may be possible for all players to gain. Contrasts with *zero sum game* (page 475). Due to the *gains from trade* (page 181), trade and trade policy may be thought of as positive sum games.

Post
See *ex post* (page 142).

Potential Pareto improvement
A change that could become *Pareto improving* (page 328) if it were accompanied by suitable *redistribution* (page 368). A move to free trade, although it is likely to hurt some people if done alone, is beneficial under the *Kaldor-Hicks criterion* (page 245) because it is a potential Pareto improvement. Also called a *Kaldor improvement* (page 245), a *Kaldor-Hicks improvement* (page 245), or a *Hicks-Kaldor improvement* (page 201).

Poverty datum line
Same as *poverty line* (see below).

Poverty line
The level of annual income below which a household is defined to be living in poverty. This is defined differently by different governments and institutions and, in spite of the great importance of its intent, is not in fact as meaningful as one might wish.

Poverty Reduction and Growth Facility
The *IMF's* (page 209) low-interest lending facility for poor countries, established in 1999 and intended to be more favorable to reducing poverty and promoting growth than previous policies. Replaced in 2009 with the *Extended Credit Facility* (page 154).

PPF
Production possibility frontier (page 351).

PPP
Purchasing power parity (page 356).

PPP exchange rate
Purchasing power parity exchange rate (page 356).

PPP method
Use of a *purchasing power parity exchange rate* (page 356) to convert one country's *nominal* (page 307) values (usually of *GDP* (page 183)) to another country's currency, so as to compare them. Contrasts with the *Atlas method* (page 20).

Pre-shipment inspection
Certification of the value, quality, and/or identity of traded goods done in the exporting country by specialized agencies or firms on behalf of the importing country. Traditionally used as a means to prevent over- or *under-invoicing* (page 455), it is now being used also as a security measure.

Prebisch-Singer hypothesis
The idea that the prices of *primary products* (page 347) relative to manufactures would decline over the long term, and therefore that *developing countries* (page 101) that were led by *comparative advantage* (page 64) to specialize in them would find their prospects for *development* (page 101) diminished. Due to *Prebisch (1950)* (page 593) and *Singer (1950)* (page 596).

Precautionary principle
The view that when science has not yet determined whether a new product or process is safe or unsafe, policy should prohibit or restrict its use until it is known to be safe. Applied to trade, this has been used as the basis for prohibiting imports of *GMOs* (page 188), for example.

Predation
The use of aggressive (i.e., low) pricing to put a competitor out of business, with the intent, once they are gone, of raising prices to gain monopoly profits.

Predatory dumping
Dumping (page 115) for the purpose of driving competitors out of business and then raising price. This is the one motivation for dumping that most economists agree would be undesirable, like predatory pricing (*predation* (see above)) in other contexts.

Predatory pricing
Predation (see above).

Preference for variety

The increased utility that people experience when they have access to a larger number of *differentiated product* (page 103) varieties. In reality this may reflect their ability to find products more closely suited to their own particular needs, but as modeled in the *Dixit-Stiglitz utility function* (page 110), they are better off consuming small quantities of each of a larger number of products.

Preference margin

Margin of preference (page 268).

Preference set

The set of vectors of goods or other economic magnitudes that are preferred by an economic decision maker (e.g., consumer) to a given one.

Preferences

1. In trade policy, this refers to special advantages, such as lower-than-*MFN* (page 280) tariffs, accorded to another country's exports, usually in order to promote that country's development. See *GSP* (page 195).

2. In trade theory, this refers to the attitudes of consumers toward different goods, as represented by a utility function. Some propositions in trade theory use the assumption of *identical* (page 208) and/or *homothetic* (page 204) preferences.

Preferential duty

Preferential tariff (see below).

Preferential tariff

A *tariff* (page 421) lower than the *MFN* tariff, levied against imports from a country that is being given favored treatment, as in a *preferential trading arrangement* (see below) or under the *GSP* (page 195).

Preferential trading arrangement

1. A group of countries that levy lower (or zero) tariffs against imports from members than from outsiders. Includes *FTAs* (page 178), *customs unions* (page 90), and *common markets* (page 63). Encouragement to use this term instead of the more

misleading FTA has come from Jagdish Bhagwati, as in *Bhagwati and Panagariya (1996)* (page 580).

2. *Frankel (1997)* (page 584) uses PTA for an arrangement where internal tariffs are reduced but not zero, reserving FTA for a *trading bloc* (page 445) with zero internal tariffs.

Preliminary

With reference to a *tariff* (page 421) or other *trade barrier* (page 436) applied as a result of *administered protection* (page 7), this refers to a barrier imposed part way through the administrative process, as opposed to the *definitive* (page 96) barrier that is imposed when the administrative process is complete.

Premium

1. The excess of one price over another.

2. *Forward premium* (page 174).

Present value

The value today of a stream of payments and/or receipts over time in the future and/or the past, converted to the present using an interest rate. If X_t is the amount in period t and r the interest rate, then present value at time $t = 0$ is $V = \Sigma_t(X_t)/(1 + r)^t$.

Presidential trade authority

Informal name for *trade promotion authority* (page 442) or *fast track* (page 162).

Preston Curve

The relationship between a country's *life expectancy* (page 259) and its real per capita income. Named after *Preston (1975)* (page 594).

PRGF

Poverty Reduction and Growth Facility (page 340).

Price ceiling

A government-imposed upper limit on the price that may be charged for a product. If that limit is binding, it implies a situation of *excess demand* (page 143) and shortage.

Price competition
Competition among firms by reducing price, as opposed to by changing characteristics of the product.

Price control
Intervention by a government to set the price in a market or limit its movement, thus attempting to override the *market mechanism* (page 274).

Price definition
A method of defining relative *factor abundance* (page 156) based on ratios of factor prices in autarky: Compared to country B, country A is abundant in factor X relative to factor Y iff $w_X^A/w_Y^A < w_X^B/w_Y^B$, where w_I^J is the autarky price of factor I in country J, $I = X, Y, J = A, B$. This is also known as the *Ohlin definition* (page 317), since it is the one used by *Ohlin (1933)* (page 593).

Price differentiation
Price discrimination (see below).

Price discrimination
The sale by a firm to buyers at two different prices. When this occurs internationally and the lower price is charged for export, it is regarded as *dumping* (page 115).

Price elastic
Having a *price elasticity* (see below) greater than one (in absolute value).

Price elasticity
The *elasticity* (page 129) of supply or demand with respect to price.

Price fixing
An agreement among competing firms on the prices that they will charge, presumably to keep prices higher than they otherwise would be. See *cartel* (page 51).

Price floor
A government-imposed lower limit on the price that may be charged for a product. If that limit is binding, it implies a situation of *excess supply* (page 143), which the government may need to purchase itself to keep price from falling.

Price index

A measure of the average prices of a group of goods relative to a base year. A typical price index for a vector of quantities q and prices p^b, p^g in the base and given years respectively would be $I = 100\Sigma p^g q / \Sigma p^b q$.

Price inelastic

Having a *price elasticity* (page 344) of less than one (in absolute value).

Price level

The overall level of prices in a country, as usually measured empirically by a *price index* (see above), but often captured in theoretical models by a single variable.

Price line

A straight line representing the combinations of variables, usually two goods, that cost the same at some given prices. The slope of a price line measures *relative prices* (page 370), and changes in prices can therefore be represented by changing the slope of, or rotating, a price line. A steeper line means a higher relative price of the good measured on the horizontal axis.

Price mechanism

Same as *market mechanism* (page 274).

Price rigidity

Failure of a price to move to *clear* (page 58) the market. Reasons include costs of changing prices, contracts, and regulations.

Price specie flow mechanism

Same as *specie flow mechanism* (page 402).

Price stabilization

1. Intervention in a market in order to reduce fluctuations in price. This has sometimes been attempted by means of a *buffer stock* (page 41) in markets for *primary products* (page 347).

2. The use of *macroeconomic policies* (page 266) to reduce *inflation* (page 221).

Price support

Government action to increase the price of a product, usually by buying it. May be associated with a *price floor* (page 344).

Price system

Same as *market mechanism* (page 274).

Price taker
An economic entity that is too small relative to a market to affect its price, and that therefore must take that price as given in making its own decisions. Applies to all buyers and sellers in markets that are *perfectly competitive* (page 332). Applies also to a country if it is a *small open economy* (page 395).

Price undertaking
A commitment by an exporting firm to raise its price in an importing-country market, as a means of settling an *anti-dumping suit* (page 14) and preventing an *anti-dumping duty* (page 14).

Price-cost margin
The amount by which the price of a product exceeds its cost.

Pricing to market
The practice of an exporting firm holding fixed (or not fully adjusting) the price it charges in the export market when its cost or exchange rate changes. See *pass-through* (page 329). Seminal treatment was *Krugman (1987)* (page 589).

Primary boycott
See *boycott* (page 38).

Primary budget surplus
The primary *budget surplus* (page 41) (or deficit) of a government is the surplus excluding interest payments on its outstanding debt.

Primary commodity
Primary product (page 347).

Primary environment
See *functional currency* (page 179).

Primary factor
An input that exists as a stock providing services that contribute to production. The stock is not used up in production, although it may deteriorate with use, providing a smaller flow of services later. The major primary factors are labor, *capital* (page 45), *human capital* (page 206) (or *skilled labor* (page 394)), land, and sometimes *natural resources* (page 299).

Primary input
Same as *primary factor* (see above).

Primary product

A good that has not been processed and is therefore in its natural state, specifically products of agriculture, forestry, fishing, and mining.

Primary sector

The portion of an economy producing *primary products* (see above), in contrast to the *secondary sector* (page 385) and the *tertiary sector* (page 430).

Primary surplus

The government *budget surplus* (page 41), not including net *interest* (page 226) payments on the *government debt* (page 189).

Prime rate

The interest rate that a country's largest banks announce for loans to their best customers. In practice, their most creditworthy customers get a rate lower than this.

Priming the pump

An *expansionary* (page 147) *monetary* (page 286) or *fiscal policy* (page 167) that is intended to get people spending again so that the economy will then expand on its own.

Principal

1. The initial amount of a loan, thus not including *interest* (page 226).

2. The person or other entity on whose behalf an *agent* (page 9) acts, in the *principal-agent theory* (see below).

Principal-agent theory

The theory of interaction between an *agent* (page 9) and the *principal* (page 347) for whom they act, the point being to structure incentives so that the agent will act to benefit the principal. Can be used, for example, to analyze government as agent for society, or *international institutions* (page 234) as agents for governments.

Principal supplier

The country that has the largest share of imports of a good into a particular importing country, among those exporters subject to *MFN* (page 280) tariffs. It is customary in tariff negotiations,

and to some extent mandated by *WTO* (page 472) rules, that countries negotiate with their principal suppliers.

Prior deposit

An *import deposit* (page 212) that must be made before importing, often at the time an *import license* (page 212) is granted.

Prisoners' dilemma

A strategic interaction in which two players both gain individually by not cooperating, but leading to a *Nash equilibrium* (page 296) in which both are worse off than if they cooperated. Important especially for explaining why countries may choose *protection* (page 354) even though all lose as a result. See *tariff-and-retaliation game* (page 424).

Private benefit

The benefit to an individual economic agent, such as a consumer or firm, from an event, action, or policy change. Contrasts with *social benefit* (page 396).

Private cost

The cost to an individual economic agent, such as a consumer or firm, from an event, action, or policy change. Contrasts with *social cost* (page 396).

Privatization

The conversion of a government-owned enterprise to private ownership.

Pro-competitive effect

One source of *gains from trade* (page 181): the fact that it forces domestic producers, which may be limited in number and therefore *imperfectly competitive* (page 210), into competition with foreign firms. The resulting increase in *competition* (page 65) improves *efficiency* (page 127) and therefore *welfare* (page 468).

Probability density

For a continuous *random variable* (page 361), a function whose integral over any set is the probability of the variable being in that set.

Probability distribution

A specification of the probabilities for each possible value of a *random variable* (page 361).

Procedural protectionism

The use of cumbersome legal procedures to restrain trade, as when imports that will ultimately be permitted must first go through costly or time-consuming certification processes.

Process protection

Use of a *trade barrier* (page 436) on imports of a good based on how it is produced, rather than its physical, observable characteristics. Examples would include banning imports of tuna based on how they were caught (endangering dolphins) or apparel based on labor conditions where it was produced. Not permitted under *GATT* (page 182) or *WTO* (page 472) rules.

Processed good

A good that has been transformed in some way by a production activity, in contrast to a *raw material* (page 363).

Procurement

See *government procurement* (page 189).

Procurement officer

A government official responsible for purchasing goods and services and for deciding among alternative suppliers.

Procyclical

Varying with the *business cycle* (page 42), being high when *national income* (page 297) is high or rising and vice versa. Contrasts with *counter-cyclical* (page 79).

Producer presence

Mode 3 of 4 *modes of supply* (page 285) of a *traded service* (page 444) in which the producer establishes a presence in the buyer's country by *FDI* (page 162) and/or permanent relocation of workers.

Producer subsidy equivalent

1. *Producer support estimate* (page 350).

2. This ought logically to measure the extent to which existing policies serve to *subsidize* (page 414) producers, defined as the *ad valorem* (page 5) subsidy that, if paid directly to producers per unit of production, would lead to the same level of output as existing policies.

Producer support estimate
Introduced by the *OECD* (page 316) to quantify support in agriculture, it measures "transfers from consumers and taxpayers to agricultural producers as a result of measures [of] support," expressed as a percentage of gross farm receipts. Also called *producer subsidy equivalent* (page 349). See also *CSE* (page 84).

Producer surplus
The difference between the revenue of producers and production cost, measured as the area above the supply (or marginal cost) curve and below price, extending from the vertical axis out to the quantity supplied, and net of fixed cost and losses at low output. If input prices are constant, this is profit; if not, it includes gains to input suppliers, such as labor. Normally useful only as the *change in producer surplus* (page 55).

Product
A good or service that is produced.

Product cycle
The life cycle of a new product, which first can be produced only in the country where it was developed, then as it becomes standardized and more familiar, can be produced in other countries and exported back to where it started. Due to *Vernon (1966)* (page 598), in his product cycle model.

Product differentiation
See *differentiated product* (page 103).

Product exhaustion
The payment of all of the value of what a firm produces to the factors of production that produced it. If factors are paid the value of their *marginal products* (page 269) and if *production functions* (page 351) are *linearly homogeneous* (page 260), then *Euler's Theorem* (page 137) implies product exhaustion.

Product life cycle
See *product cycle* (above).

Product market
The *market* (page 272) for a good or a produced service. As distinct from *factor market* (page 158).

Product mix diagram
A diagram introduced by *Hausmann et al. (2007)* (page 585) relating the per capita incomes associated with countries' exports to their actual per capita incomes. The former is derived by first identifying a per capita income with each traded product, the *RCA*-weighted (page 363) per capita incomes of countries that export it. These are then weighted by a country's exports.

Product price equalization
The equalization of the price of a homogeneous good (or perhaps service, though that is less likely) across countries as a result of *free trade* (page 177). Full product price equalization can be expected, other than by accident, only if all *trade costs* (page 437) are zero.

Production deflection
In the context of a *free trade area* (page 177), the shifting of production to the member country with a lower tariff on an imported input.

Production externality
An *externality* (page 155) arising from production.

Production factor
Factor of production (page 158).

Production frontier
Production possibility frontier (see below).

Production function
A function that specifies the output in an industry for all combinations of inputs.

Production possibilities schedule
A table reporting various combinations of outputs that are possible for an economy, given its *technology* (page 427) and *factor endowments* (page 157). Thus the data on which the *production possibility frontier* (see below) is based.

Production possibility curve
See *production possibility frontier* (below).

Production possibility frontier
A diagram showing the maximum output possible of one good for various outputs of another (or several others), given technology

and factor endowments. Also called a *transformation curve* (page 448) or *production possibility curve* (page 351).

Production possibility set

The set of all technically feasible combinations of inputs and outputs, representing the technology of a firm, industry, or country.

Production sharing

A term for *fragmentation* (page 175) used by *Johnson and Noguera (2012)* (page 586).

Production worker

A worker directly engaged in production. In empirical studies of skilled and unskilled labor, data on production workers are often taken to represent unskilled labor.

Productive efficiency

The production of maximum output from a given set of inputs, thus reaching the *production possibility frontier* (page 351). Just one aspect of achieving *economic efficiency* (page 122).

Productivity

Output per unit input, usually measured either by *labor productivity* (page 249) or by *total factor productivity* (page 434).

Productivity of labor

See *labor productivity* (page 249).

Profit

1. The net gain from an activity.

2. For a firm: revenue minus cost.

Profit maximizing

The level of a variable or behavior that maximizes the profit of a firm.

Profit remittance

In a *multinational corporation* (page 293), the return of part of the *profit* (see above) earned by a *subsidiary* (page 414) in one country to the *parent* (page 327) in another.

Profit shifting

1. The manipulation of costs and revenues within an *MNC* (page 284) across taxing jurisdictions (countries) so as to record profits where they will be taxed at the lowest rate. See *transfer pricing* (page 447).

2. The use of government policies to alter the outcome of international oligopolistic competition so as to increase the profits of domestic firms at the expense of foreign firms. This is a key element of *strategic trade policy* (page 412).

Progressive income tax

An *income tax* (page 217) in which the *marginal* (page 271) and/or *average tax rate* (page 23) rises with income, so that high-income taxpayers pay a larger fraction of income than low-income tax payers.

Prohibited subsidy

A *subsidy* (page 414) that is forbidden under the rules of the *WTO* (page 472). These include subsidies that are specifically designed to distort international trade, such as *export subsidies* (page 153) or subsidies that require use of domestic rather than imported inputs.

Prohibition

Denial of the right to import or export, applying to particular products and/or particular countries. Includes *embargo* (page 130).

Prohibitive tariff

A *tariff* (page 421) that reduces imports to zero.

Project LINK

A research consortium established in 1968 to link together several national *econometric models* (page 120) to produce a *macroeconometric model* (page 266) of the world economy. Today the project includes models of 78 countries.

Promotion

The use of policy, especially a *subsidy* (page 414) to encourage an activity, such as production in an industry. See *export promotion* (page 152).

Propensity

The extent to which an economic agent is inclined to use income for a particular purpose, such as the (marginal or average) propensity to import, or propensity to consume, measured as the fraction of income (or of a change in income, if marginal) devoted to the activity.

Property rights
The legally defined and enforced rules of ownership, specifying who has the right to buy, sell, and use anything, especially a piece of land and whatever may be situated on, above, and below it. Well established property rights are essential to a successful economic system.

Property tax
A tax on owned land and housing.

Prospective analysis
Ex ante analysis (page 142).

Protection
1. Without any adjective, or as "import protection," this refers to restriction of imports by means of *tariffs* (page 421) and/or *NTBs* (page 314), and thereby intended to insulate domestic producers from competition with imported goods.
2. As "IP protection," or "intellectual property protection," this refers to enforcement of *intellectual property* (page 225) rights by granting patents, copyrights, and trademarks and by prosecuting those who violate them.

Protectionism
Advocacy of *protection* (see above). The word has a negative connotation, and few advocates of protection in particular situations will acknowledge being protectionist.

Protective tariff
An import *tariff* (page 421) with the avowed purpose of providing *protection* (see above). Since all tariffs, if they have any effect at all, do provide protection, this common expression is really a redundant tautology.

Protocol of accession
Legal document specifying the procedures for a country to join an international agreement or organization, including the rights and responsibilities that accompany such *accession* (page 4).

Protocol of Provisional Application
The device that allowed the initial *signatories* (page 392) of the *GATT* (page 182) to accept it in spite of existing policies that it prohibited: the *grandfather clause* (page 190). Intended to be

temporary, it continued to apply until replaced in 1995 by the *WTO* (page 472).

Provision

In the context of international economics, a provision is likely to mean a portion of an agreement, such as the investment provisions of NAFTA or the balance of payments provisions of the GATT. In that context, it is less precise than *article* (page 16).

PSE

Producer support estimate or *producer subsidy equivalent* (page 349).

PTA

Preferential trading arrangement (page 342).

Public debt

The amount that has been borrowed by a government.

Public finance

A general term encompassing both the spending by government and the methods used to pay for that spending, especially taxation and borrowing.

Public good

A good that is provided for users collectively, the use by one not precluding use of the same units of the good by others.

Public procurement

Government procurement (page 189).

Pump priming

Priming the pump (page 347).

Punitive tariff

A high *tariff* (page 421) the purpose of which is to inflict harm on a foreign exporter as punishment for some previous behavior.

Punta del Este Declaration

The *ministerial declaration* (page 283) adopted at the *GATT ministerial* (page 182) in 1986 launching the *Uruguay Round* (page 461).

Purchasing power

The amount of goods that money will buy, usually measured (inversely) by the *CPI* (page 81).

Purchasing power parity

1. The equality of the prices of a bundle of goods (usually the *CPI* (page 81)) in two countries when valued at the prevailing exchange rate. Term was introduced by *Cassel (1918)* (page 581) and today is sometimes called *absolute PPP* (page 3).

2. The equality of the rates of change over time in the prices of a bundle of goods in two countries when valued at the prevailing exchange rate. Called relative PPP. Implies that the rate of *depreciation* (page 99) of a currency must equal the difference between its *inflation rate* (page 222) and the inflation rate in the currency to which it is being compared.

Purchasing power parity exchange rate

An exchange rate, R, calculated to yield absolute *purchasing power parity* (see above). Useful for making comparisons of *real* (page 363) values (wages, GDP) across countries with different currencies. Since absolute *purchasing power parity theory* (see below) is rarely correct, this contrasts with the *nominal exchange rate* (page 308), E. Calculated as $R = EP^*/P$, where E is domestic currency per unit of foreign, P is the domestic price level, and P^* is the foreign price level.

Purchasing power parity puzzle

The fact that divergence of *exchange rates* (page 144) from *purchasing power parity* (see above) lasts for a long time, often years. See *Rogoff (1996)* (page 594).

Purchasing power parity theory

A theory of the *exchange rate* (page 144) that the rate will adjust to achieve *purchasing power parity* (see above), in either its absolute or its relative form.

Pure competition

Same as *perfect competition* (page 332).

Pure exchange economy

A theoretical economy in which goods are not produced, but exist as endowments, and are then traded among consumers.

Pure monopoly

A market structure in which the single seller has essentially no competition from producers of close substitutes or from potential

entrants. The difference from a simple *monopoly* (page 289) is not clear cut.

Put

A *put option* (see below).

Put option

A financial contract that permits (but does not require) the buyer of the option to sell a commodity or financial instrument (perhaps a currency) to the seller of the option at a specified time and price.

QE

Quantitative easing (page 358).

QR

Quantitative restriction (page 358).

Quad

Refers both to the *quadrilateral meetings* (see below) and to the participants in those meetings, the U.S., Canada, *EU* (page 137), and Japan.

Quadrilateral meetings

Meetings that occur occasionally involving the *trade ministers* (page 441) of the U.S., Canada, *EU* (page 137), and Japan to discuss trade policy issues.

Qualitative

1. Referring only to the characteristics of something being described, rather than exact numerical measurement.

2. Indicative only of relative sizes or magnitudes, rather than their numerical values. A qualitative comparison would say whether one thing is larger, smaller, or equal to another, without specifying the size of any difference. As opposed to *quantitative* (page 358).

Quality

One dimension along which products can be *differentiated* (page 103). One basis for *intra-industry trade* (page 238) is product differentiation in quality, together with differences in comparative advantage for producing quality as well as differences in preference for quality within a *heterogeneous* (page 200) population.

Quantitative

Expressed in numerical values. See *qualitative* (page 357).

Quantitative easing

1. As introduced by the Bank of Japan during the 1990s, this meant expanding the money supply by *open market operations* (page 320) after the *nominal interest rate* (page 308) was zero. Since the interest rate could fall no further, the intent was that the quantity of money would directly stimulate *aggregate demand* (page 9).

2. As introduced in response to the *economic* (page 121) and *financial crisis* (page 164) of 2008, it referred not just to expanding the money supply, but to doing it by central bank purchases of assets other than short-term government securities, such as *mortgage-backed securities* (page 290). The purpose was to provide credit more directly to parts of the economy that needed it.

Quantitative restriction

A restriction on trade, usually imports, limiting the quantity of the good or service that is traded; a *quota* (page 360) is the most common example, but *VERs* (page 464) usually take the form of QRs. QRs on traded services are more likely to restrict the number or activities of foreign service providers than the services themselves, since the latter are hard to monitor and measure.

Quantity definition

A method of defining relative *factor abundance* (page 156) based on ratios of factor quantities: Compared to country B, country A is abundant in factor X relative to factor Y iff $X^A/Y^A > X^B/Y^B$, where I^J is the quantity of factor I with which country J is *endowed*, $I = X, Y, J = A, B$.

Quantity index
A measure of the average quantities of a group of goods relative to a base year. This is usually obtained by using a *price index* (page 345) to convert nominal value (price times quantity) to real values, which are then compared to provide the quantity index.

Quantity quota
A *quota* (page 360) specifying quantity, in units, weight, volume, etc., of a good.

Quantity theory of money
The classic theory of the price level and therefore of *inflation* (page 221), building on the *equation of exchange* (page 134) and the additional assumption that *velocity of money* (page 464) is constant. Together, these imply that the rate of inflation equals the rate of growth of money minus the rate of growth of real output.

Quarter
One of the four three-month periods into which the calendar year is divided for the reporting of economic data.

Quartile
One of four segments of a distribution that has been divided into quarters. For example, the second-from-the-bottom quartile of an income distribution refers to those with incomes above the bottom 25% of the population and below the top 50%.

Quasi money
Near money (page 300).

Quasi-fiscal
Having to do with financial transactions of units that are not included in a government's budget but that have some of the same effects as *fiscal policy* (page 167). Most often mentioned as having quasi-fiscal effects are *central banks* (page 52).

Quasi-linear utility
A *utility function* (page 462) of the form $U(x_0, x_1, \ldots, x_n) = x_0 + \Sigma_i u^i(x_i)$, where $u^i(\oplus)$ are strictly *concave* (page 68) functions. This is useful for generating demand functions for goods x_i that depend only on their own prices in terms of the numeraire x_0.

Quasi-rent

Like *economic rent* (page 124), but usually larger, because it is the excess of return over *short run* (page 391) *opportunity cost* (page 321), which does not include the *fixed cost* (page 168) of replacing or duplicating fixed assets such as a piece of *capital* (page 45) or an invention. Thus, *inframarginal rent* (page 222).

Quid pro quo FDI

FDI in response to the threat of protection. Done by a firm that exports into the domestic market, the motive is to create jobs there and lessen the threat that its exports will be restricted. Due to *Bhagwati (1985)* (page 579).

Quintile

One of five segments of a distribution that has been divided into fifths. Analogous to *quartile* (page 359).

Quota

1. A government-imposed restriction on quantity, or sometimes on total value.

2. An *import quota* (page 213) specifies the maximum amount of an import per year, typically administered with *import licenses* (page 212) that may be sold or directly allocated, to individuals or firms, domestic or foreign. May be *bilateral* (page 33), *global* (page 186), or *by country* (see below).

3. An *IMF quota* (page 209).

Quota auction

The sale of rights to import under an *auction quota* (page 20).

Quota by country

A *quota* (see above) that specifies the total amount to be imported (or exported) and also assigns specific amounts to each exporting (or importing) country.

Quota fill rate

The percentage of an import *quota* (see above) that is used.

Quota rent

The economic *rent* (page 371) received by the holder of the right (or *license* (page 258)) to import under a *quota* (see above). Equals the domestic price of the imported good, net of any tariff, minus the world price, times the quantity of imports.

R&D

Research and development (page 373).

Race to the bottom

The idea that, if one country provides a *competitive advantage* (page 66) to its firms by lax regulation (of the environment, for example), then competing firms in other countries will demand even weaker regulation by their governments, and regulation will be reduced to minimal levels everywhere.

Radical political economy

See *political economy* (page 337).

Ramsey growth model

A *growth model* (page 195) in which savings is determined endogenously to be optimal, in contrast to the *Solow Model* (page 398) in which the savings propensity was a parameter.

Random variable

An economic or statistical variable that takes on multiple (or a continuum of) values, each with some probability that is specified by a *probability distribution* (page 348) (or *probability density function*).

Random walk

Characterizing the behavior of a *random variable* (see above) that is, essentially, equally likely to rise as to fall at each step. Since in an *efficient market* (page 128), the price of an asset such as a currency already embodies all available information, that price should follow a random walk.

Rapprochement

In international relations, an improvement in relations between two countries that have previously been less than cordial.

Ratchet effect

The implication for a variable that (like a ratchet) can move one direction but not the other. Thus if wages or prices are inflexible

downward but not upward, then fluctuations in the economy will only cause them, intermittently, to rise.

Rate of inflation

Inflation rate (page 222).

Rate of interest

Interest rate (page 227).

Rate of return

The percentage of an asset's value that the owner of the asset earns, usually per year.

Rate of time preference

The rate at which a consumer *discounts* (page 106) consumption in the future compared to the present. See *time preference* (page 432).

Ratification

The approval of an international agreement that has been negotiated, such as a *trade agreement* (page 435), by a country's governing body.

Ration

1. In the presence of excess demand (for a good, etc.), to allocate among demanders by some means other than the price they are willing to pay.

2. The quantity of a rationed good allocated to one demander.

Ration foreign exchange

To *ration* (see above) access to scarce foreign currency under a *pegged exchange rate* (page 330) with an *over-valued currency* (page 325). Usually done by means of *import licensing* (page 212). See *exchange control* (page 143).

Rational agent

Most economic models assume that *agents* (page 9) are rational, meaning that they do the best they can, given the constraints they face, to maximize their own well-being.

Rational expectations

In forming opinion about future events, the use of all available information to assess the probabilities of the possible states of the world. More simply, expectations that are as correct as is possible with available information.

Raw material
A good that has not been transformed by production; a *primary product* (page 347).

Ray
A straight line drawn from the origin of a diagram. In the *Heckscher-Ohlin Model* (page 199), two rays are used to define a *diversification cone* (page 109).

RCA
Revealed comparative advantage (page 376).

Re-allocation
A change in *allocation* (page 12), as of *factors* (page 156) of production across industries. For example, a rise in the relative price of the capital-intensive good causes re-allocation of factors into the capital-intensive sector.

Re-export
The *export* (page 148) without further processing or transformation of a good that has been *imported* (page 211). See *entrepot trade* (page 133).

Reaction curve
The graph of a *reaction function* (see below).

Reaction function
The function specifying the choice of a *strategic variable* (page 412) by one economic agent as a function of the choice of another agent. Most familiar: specifying output choices of firms in a *Cournot* (page 80) duopoly (page 115).

Real
1. Expressed in terms of the amounts of goods and services that something is worth at market prices.
2. *Adjusted for inflation* (page 6).
3. Referring only to real economic variables as opposed to *nominal* (page 307), or monetary ones, as in *real models* (page 365).
4. Used with "appreciation" or "depreciation," refers to the *real exchange rate* (page 364). Thus a *real appreciation* (page 364) means that the *nominal* (page 307) value of a country's currency has increased by more than its relative price level may have decreased, so that the prices of its goods relative to foreign goods have increased.

5. The name of one unit of the Brazilian currency. One real (pronounced "ray-all") equals 100 centavos.

Real appreciation

An increase in a country's *price level* (page 345) relative to that of its trading partners, when measured in a common currency. Thus an *appreciation* (page 15) of its *real exchange rate* (page 364) or, equivalently, an appreciation of its *nominal exchange rate* (page 308) that exceeds the difference between the foreign and domestic *rates of inflation* (page 362).

Real balances

The amount of money held by the public, adjusted for inflation. An early debate in *Keynesian* (page 246) economics concerned whether a rise in real balances would stimulate consumption.

Real business cycle theory

A theory of the *business cycle* (page 42) based on random fluctuations in aggregate *productivity* (page 352) in a fully employed economy.

Real depreciation

A decrease in a country's *price level* (page 345) relative to that of its trading partners, when measured in a common currency. Thus a *depreciation* (page 99) of its *real exchange rate* (see below) or, equivalently, a depreciation of its *nominal exchange rate* (page 308) that exceeds the difference between the domestic and foreign *rates of inflation* (page 362).

Real effective exchange rate

The *effective exchange rate* (page 126) adjusted for the rates of *inflation* (page 221) in each country.

Real exchange rate

1. The *nominal exchange rate* (page 308) adjusted for inflation. Unlike most other *real* (page 363) variables, this adjustment requires accounting for price levels in two currencies. The real exchange rate is: $R = EP^*/P$ where E is the nominal domestic-currency price of foreign currency, P is the domestic price level, and P^* is the foreign price level.

2. The real price of foreign goods; i.e., the quantity of domestic goods needed to purchase a unit of foreign goods. Equals the

reciprocal of the *terms of trade* (page 429). Equivalent to definition 1.

3. The relative price of *traded goods* (page 445) in terms of *nontraded goods* (page 312).

Real GDP

The real counterpart to *nominal GDP* (page 308), obtained by valuing output in a given year at prices from another year, called the *base year* (page 28).

Real interest rate

The *nominal interest rate* adjusted for *inflation* (page 221), to get the percentage yield an asset holder receives in terms of real resources. Equals the nominal interest rate minus the rate of inflation.

Real model

An economic model without money. Most *general equilibrium* (page 184) models of trade are real models. This includes the *Ricardian model* (page 378), the *Heckscher-Ohlin Model* (page 199), and the models of the *new trade theory* (page 306).

Real money balances

The *real* (page 363) value of the amount of *money* (page 287) held by a person, household, or firm, or the amount in circulation in the economy.

Real national income

National income (page 297) *adjusted for inflation* (page 6).

Real terms

Same as *real* (page 363). A "wage expressed in real terms" is just the real wage.

Real trade

A shorthand term for most of the theory of international trade, which consists largely of *real models* (see above). Contrasts with *international finance* (page 232).

Real wage

The wage of labor — or more generally the price of any *factor* (page 156) — relative to an appropriate *price index* (page 345) for the goods and services that the worker (or factor owner) consumes.

Rebalancing

1. The process of moving both *surplus* (page 418) and *deficit* (page 95) countries closer to *current account balance* (page 88),

solving the perceived problem of *global imbalance* (page 186). Likely to require *exchange rate* (page 144) adjustment, but more essential are changes in spending relative to income in both surplus and deficit countries.

2. In *trade negotiations* (page 441) in *agriculture* (page 11), the shifting of *import protection* (page 213) from one product to another in combination with a cut in overall *subsidies* (page 414).

Recession

A significant decline in economic activity. In the U.S., recession is approximately defined as two successive *quarters* (page 359) of falling *GDP* (page 183), as judged by *NBER* (page 300). A recession in one country may be caused by, or may itself cause, recession in another country with which it trades.

Reciprocal

Applied to an agreement, especially a *trade agreement* (page 435), this means that both (or all) parties to the agreement make *concessions* (page 69) to the other(s). Thus each might lower tariffs against the other's exports.

Reciprocal demand

The concept that, in international trade, it is not just supply and demand that interact, but demand and demand. That is, a trading equilibrium is a reciprocal equilibrium in which one country's demand for another country's products (and willingness to pay for them with its own) matches with the other country's demands for the products of the first.

Reciprocal demand curve

An *offer curve* (page 316). So called to emphasize that a country exports in order, reciprocally, to get imports in return.

Reciprocal dumping

The sale by firms from two countries into each others' markets for prices below what each charges at home. So called because the exports of both firms meet the price-discrimination definition of *dumping* (page 115). *Brander and Krugman (1983)* (page 580) introduced the term and showed that this is likely to happen in an international *duopoly* (page 115) with transport costs.

Reciprocal trade agreement

Agreement between two countries to open their markets to each other's exports, usually by each reducing *tariffs* (page 421). Early *trade rounds* (page 443) under the *GATT* (page 182) consisted mostly of reciprocal trade agreements, extended to other *contracting parties* (page 74) by the *MFN* (page 280) requirement.

Reciprocal Trade Agreements Act of 1934

U.S. legislation in 1934 in which Congress delegated the setting of *tariffs* (page 421) to the President, who was then authorized to negotiate *reciprocal trade agreements* (see above).

Reciprocity

A principle that underlies *GATT* (page 182) negotiations, that countries exchange comparable *concessions* (page 69).

Reciprocity conditions

In the production structure of the *Heckscher-Ohlin Model* (page 199), the fact that the effect of a small change in any factor endowment on output of any good is equal to the effect of a small change in the price of that good on the price of that factor. That is, the matrices of *Rybczynski derivatives* (page 381) and *Stolper-Samuelson derivatives* (page 411) are the same. Also called *Samuelson's reciprocity conditions*, from *Samuelson (1953)* (page 595).

Red box

A category of *subsidies* (page 414) that is forbidden under *WTO* (page 472) rules. This terminology is used in the *Agriculture Agreement* (page 11), where however there is no red box. Presumably equivalent to *prohibited subsidies* (page 353). See *box* (page 38).

Red tape

The bureaucratic inconvenience one must suffer (forms to be filled out and approved, etc.) in order to get action by an organization. Most often, the action is just permission to do something, and the organization is an agency of government. When the action is importing, red tape becomes a *nontariff barrier* (page 312).

Redbacks
Slang for the Chinese currency, yuan or renminbi, especially when accessed outside of China by issuing *dim sum bonds* (page 104).

Redistributed tariff revenue
Refers to a common assumption that tariff *revenue* (page 376) is given to consumers as transfer payments (*not* in proportion to what they paid by importing) to be spent like any other income. Since in *general equilibrium* (page 184) the effects of a tariff depend on how the revenue is spent, this is a useful neutral assumption.

Redistribution
A policy that taxes some individuals and uses the proceeds to pay transfers to others.

Reduced form
The system of equations that results when an economic model is solved, with each *endogenous variable* (page 132) expressed as a function of only *exogenous variables* (page 147).

Redundant tariff
A tariff that, if changed, will not change the quantity of imports, either because the tariff is *prohibitive* (page 353), or because some other policy such as a *quota* (page 360) or an *embargo* (page 130) is limiting quantity.

Reference price
See *minimum price system* (page 282).

Reflation
Expansionary *monetary* (page 286) or *fiscal policy* (page 167).

Regional aid
A *subsidy* (page 414) directed at a geographic region within a country to assist its development. Such subsidies are *non-actionable* (page 309) under *WTO* (page 472) rules.

Regional integration
The formation of closer economic linkages among countries that are geographically near each other, especially by forming *preferential trade agreements* (page 342).

Regional policy
In a trade context, this usually refers to a *regional aid* (page 368).

Regional trade
Trade among countries that are geographically close together, especially on the same continent.

Regional trade agreement
1. A *preferential trade agreement* (page 342) among countries that are geographically close together.
2. (As the term is used by the *WTO* (page 472)) any preferential trade agreement among countries regardless of their location.

Regionalism
The formation or proliferation of *preferential trading arrangements* (page 342).

Registered exports and imports
If a country regulates what can be traded, then "registered" means legal. In contrast, *unregistered exports and imports* (page 460) are *smuggled* (page 395) in some fashion.

Regression analysis
The statistical technique of finding a straight line that approximates the information in a group of data points. Used throughout empirical economics, including in both international trade and finance.

Regression model
See *linear regression model* (page 260).

Regressor
In a *linear regression model* (page 260), an independent — or right-hand-side — variable. That is, one of the variables that is being used to explain another.

Regulation
Any government effort to influence the performance of the economy or the behavior of economic agents, especially firms,

within it. Conflicts sometimes arise between domestic regulations and international commerce or commitments.

Reinsurance

The *insurance* (page 225) that is sold to companies that sell insurance to the public, thus protecting them, in turn, from major losses due especially to major disasters such as hurricanes and break floods.

Related specificity

Under customs law, the rule that if a good falls into two or more *tariff classifications* (page 421), that which describes the good most specifically should be applied.

Relative demand

The ratio of the demand for one good to the demand for another, most useful in representing general equilibrium in a two-good economy, where relative price adjusts to equate relative supply and relative demand.

Relative factor abundance

Factor abundance (page 156), in ratio form, compared across countries. Thus country A is abundant in capital relative to labor, compared to country B, if $K^A/L^A > K^B/L^B$, where K^I, L^I, $I = A, B$ are capital and labor endowments.

Relative factor intensity

Factor intensity (page 157), in ratio form, compared across industires. Thus industry X is intensive in capital relative to labor, compared to industry Y, if $K_X/L_X > K_Y/L_Y$, where K_I, L_I, $I = X, Y$ are capital and labor employed in industries X and Y when they face the same factor prices.

Relative factor prices

The ratio of the price of one *factor* (page 156) to the price of another. In a two-factor model with *constant returns to scale* (page 71), this alone determines the ratio of factors employed in a sector.

Relative price

The price of one thing (usually a good) in terms of another; i.e., the ratio of two prices. The relative price of good X in terms of good Y is $p_X/p_{Y</SUB<i>>}$.

Relative supply
The ratio of the supply of one good to the supply of another, most useful in representing general equilibrium in a two-good economy, where relative price adjusts to equate relative supply and relative demand.

Remedy
In a *trade dispute* (page 438) in the *WTO* (page 472) or other forum, the measure recommended by the *dispute settlement* (page 108) *panel* (page 326) to resolve the dispute, usually a measure that will bring the offending country into compliance with WTO (or other) rules.

Remission
See *duty remission* (page 117).

Remittance
Payment from one country to another that is not payment *for* any thing (goods, services, assets, the use of capital, etc.), such as a charitable contribution, a gift to family members, and government aid.

Remuneration
Payment in return for services rendered.

Renminbi
The name of the currency of the People's Republic of China, the principal unit of which is the *yuan* (page 474). The word renminbi means "people's currency."

Rent
1. Economic rent: the premium that the owner of a resource receives over and above its *opportunity cost* (page 321).
2. The payment to the owner of land or other property in return for its use.

Rent seeking
The using up of real resources in an effort to secure the rights to economic *rents* (see above) that arise from government policies. In international economics the term usually refers to efforts to obtain *quota rents* (page 360). Term introduced (refer to page 572) by *Krueger 1974* (page 588).

Rental price
The payment per unit time for the services of a unit of a *factor of production* (page 158), such as land or capital.

Rentier
A person who gets income mainly from rent on land or, more broadly, from assets rather than labor. (Pronounced "ron tee yay.")

Reparations
Payment or other compensation provided by a government to a group of people or to another country to compensate for loss or damage that it has caused. Internationally, reparations have been paid after a war by the losers to the winners, most notably by Germany after World War I.

Repatriation
To return something, especially money or profit, to the country of its owner or its origin.

Repo
Repurchase agreement (see below).

Reporting currency
The currency in which a firm reports its accounts, which may be different from its *functional currency* (page 179).

Repurchase agreement
An agreement to sell a security for a specified price and to buy it back later at another specified price. A repo is essentially a secured loan.

Request/offer approach
A method of *trade negotiation* (page 441) in which one country requests a *concession* (page 69) of another, which responds with an offer. Contrasts with the *formula approach* (page 173).

Reschedule
To renegotiate the terms of a loan, reducing payments by extending them over time and/or forgiving a portion of the principal. Debt rescheduling has been a primary means of dealing with international *debt crises* (page 93).

Research and development

The use of resources for the deliberate discovery of new information and ways of doing things, together with the application of that information in inventing new products or processes.

Reserve asset

Any *asset* (page 18) that is used as *international reserves* (page 236), including a national *currency* (page 85), precious metal such as gold, or *SDRs* (page 384).

Reserve currency

A currency that is used as *international reserves* (page 236), often because it is an *intervention currency* (page 238). See also *seigniorage* (page 386).

Reserve ratio

The ratio of a *commercial bank's* (page 61) *reserves* (see below) to its *deposits* (page 99).

Reserve requirement

The level of the *reserve ratio* (see above) that a commercial bank is required by government or the central bank to maintain or exceed.

Reserves

1. *International reserves* (page 236) of a government or *central bank* (page 52).

2. Amounts held by *commerical banks* (page 61) in their vaults or on deposit with the central bank as backing for *deposits* (page 99).

Reshoring

The reversal of *offshoring* (page 317). The term began to be used in about 2011, as U.S. firms brought back to the U.S. some activities that they had moved abroad. They were responding to such incentives as rising wages abroad, *depreciation* (page 99) of the U.S. dollar, and concerns about the reliability of international *supply chains* (page 417).

Resource

1. An input to be used in an activity, especially production.

2. A *natural resource* (page 299).

Resource allocation
Sometimes said to be the fundamental problem of economics: how to allocate an economy's resources (including its land, labor, natural resources, etc.) to the various purposes to which they could be put.

Resource curse
The idea that countries with abundant natural resources are actually likely to be worse off than countries where such resources are scarce. Reasons for the resource curse include that resources attract *exploitation* (page 148) by foreigners, *corruption* (page 78) among domestic residents, violence to control the resources, *Dutch disease* (page 116), and lost incentives to pursue other alternatives.

Rest of world
In a model or in a display of data that include one or more countries specifically, row = rest of world is used to represent collectively all of the other countries of the world (or all other countries for which data are available).

Restraint of trade
Actions by a firm to limit competition, such as *price fixing* (page 344) and establishing *entry barriers* (page 133).

Restricted trade
Trade that is restrained in some fashion by *tariffs* (page 421), *transport costs* (page 449), or *NTBs* (page 314).

Restriction on trade
See *trade restriction* (page 443).

Restrictive business practice
Action by a firm or group of firms to restrict entry by other firms, that is, to prevent other firms from selling their product or in their market. This is a restraint of competition and would normally be illegal under *competition policy* (page 66).

Restructure
To alter the terms of repayment of a *debt* (page 93), usually by extending repayment over a longer period of time, perhaps at a lower interest rate.

Results-based trade policy

The use of trade policies targeted to specific indicators of economic performance. For example, in the early 1990s, the U.S. insisted on achieving specified market shares in trade with Japan. A form of *managed trade* (page 267).

Reswitching

In balanced growth, the use of one set of techniques at both a high and low interest rate, but a different set of techniques at an interest rate in between. Such reswitching is argued to undermine the legitimacy of the concept of an aggregate *capital stock* (page 49).

Retained earnings

The portion of a corporation's *profit* (page 352) that it does not pay in taxes and does not distribute to its shareholders. An important source of financing for *investment* (page 239).

Retaliation

1. The use of an increased trade barrier in response to another country increasing its trade barrier, either as a way of undoing the adverse effects of the latter's action or of punishing it.

2. The formal procedure permitted under the *GATT* (page 182) whereby a country may raise discriminatory tariffs above *bound levels* (page 34) against a GATT member that has violated GATT rules and not provided *compensation* (page 65).

Retrospective analysis

Ex post analysis (page 142).

Return

The amount that is earned by someone who holds an *asset* (page 18), usually expressed as a percentage of what it cost to acquire the asset. The return includes *interest* (page 226), *dividends* (page 110), and *capital gains and losses* (page 47), the latter due to both changes in the price of the asset and, for international holdings, changes in *exchange rates* (page 144).

Return to capital

Same as the *rental price* (page 372) of capital. Since capital can only be measured in monetary units, the rental price is, say,

dollars per dollar's worth of capital per unit time, and it therefore has the form of a rate of return like an interest rate.

Returns to scale

Same as *increasing returns to scale* (page 218).

Revaluation

1. A re-assessment of what something is worth, especially an upward re-assessment.

2. Of an *exchange rate* (page 144), opposite of a *devaluation* (page 101). Thus, an *appreciation* (page 15).

Revealed comparative advantage

Balassa's (1965) (page 578) measure of relative export performance by country and industry, defined as a country's share of world exports of a good divided by its share of total world exports. The index for country i good j is $RCA_{ij} = 100(X_{ij}/X_{wj})/(X_{it}/X_{wt})$ where X_{ab} is exports by country a ($w =$ world) of good b ($t =$ total for all goods).

Revealed market access

A measure of the extent to which a country's exports are able to penetrate another country's market, relative to other countries' exports. It may be constructed directly from trade data or based on residuals from an estimated *gravity equation* (page 190).

Revealed preference

The use of the value of expenditure to "reveal" the preference of a consumer or group of consumers for the bundle of goods they purchase compared to other bundles of equal or smaller value. Used by *Samuelson (1939)* (page 595) and *Ohyama (1972)* (page 593), especially, to examine the *gains from trade* (page 181).

Revenue

Referring to a tariff, the money collected by the government. Equals the size of the tariff times the quantity of imports. An analysis of the effects of a tariff needs to account for the revenue, and in a *general equilibrium* (page 184) model it must specify whether and how the revenue is spent.

Revenue argument for a tariff

The use of a *tariff* (page 421) to raise revenue for the government. Many other kinds of tax cause smaller distortions and are

therefore preferable to tariffs for this purpose. However, a tariff is one of the easier taxes to collect, and it is therefore common in the early stages of a country's development.

Revenue deficit

1. In general use, this seems to be essentially the same as a *budget deficit* (page 41), but with attention given to the low level of revenue rather than to the high level of expenditure.

2. More precisely, this means a larger deficit (or smaller surplus) than had been budgeted for.

Revenue function

A function representing the maximum revenue attainable in an economy for given price vector P, factor endowment vector V, and technology set F representing the set of all feasible outputs X given V: $R(P,V) = \max_X\{PX|X \in F(V)$. Useful for conveniently representing both quantities supplied and prices of factors by its partial derivatives.

Revenue-maximizing output

The level of output (and sales) that brings in the largest *revenue* (page 376) to a firm, as opposed to the (usually smaller) output that brings in the largest *profit* (page 352).

Revenue-maximizing tariff

The level of *tariff* (page 421) that brings in the largest *revenue* (page 376) to a government, as opposed to the (usually smaller) *optimal tariff* (page 322).

Revenue seeking

The use of real resources in an effort to secure a share of the disposition of tariff revenues. Term due to *Bhagwati and Srinivasan 1980* (page 580).

Reversal

1. See *factor intensity reversal* (page 157).

2. See *demand reversal* (page 98).

Reverse consensus

The requirement, in the *WTO* (page 472) *DSM* (page 114), of a *consensus* (page 70) to reject a *panel report* (page 326), rather than to accept it as was required under the *GATT* (page 182), thus achieving *automaticity* (page 22).

Reverse countertrade
A form of *countertrade* (page 79) in which the contract requires the importer to export goods of value equal to some percentage of the imports.

Reverse engineering
The process of learning how a product is made by taking it apart and examining it.

RHS
Right-hand side, usually referring to what appears to the right of the equal sign in an equation, and therefore usually the portion of the equation that explains the the dependent variable on the left-hand side.

Ricardian model
The classic model of international trade introduced by David Ricardo to explain the pattern of, and the gains from, trade in terms of *comparative advantage* (page 64). It assumes perfect competition and a single factor of production, labor, with constant requirements of labor per unit of output that differ across countries.

Ricardo point
On the world *PPF* (page 340) of a two-country, two-good *Ricardian model* (see above), the point at which each country is specialized in production of a different good; the kink of the world PPF.

Ricardo-Viner Model
A *specific-factors model* (page 402) with a single specific factor in each industry and one mobile factor, named after two of the many who used this as the standard model of trade prior to the *Heckscher-Ohlin Model* (page 199). It extends the simple *Ricardian model* (see above) by allowing the *marginal product* (page 269) of labor to fall with output. It was revived by *Jones (1971)* (page 586), *Samuelson (1971)* (page 595), then merged with HO by *Mayer (1974)* (page 591), *Mussa (1974)* (page 592), and *Neary (1978)* (page 592).

Ring of fire
The countries on the periphery of Europe that are encumbered with high debt and that became subject to debt crisis starting in 2010. Term due to Bill Gross of investment firm PIMCO.

Rio Summit

The United Nations Conference on Environment and Development, held 3–14 June 1992 in Rio de Janeiro, Brazil. 172 governments participated, including 108 heads of state. Also called the *Earth Summit* (page 119).

Risk

1. *Uncertainty* (page 454) associated with a transaction or an asset.

2. The probability of loss. Differs from definition 1 because "uncertainty" includes probability of gain as well. In international transactions, especially export, forms of risk include *commercial risk* (page 61) and *political risk* (page 338).

Risk aversion

Desire to avoid uncertainty. Risk aversion is usually quantified by the mathematical *expected value* (page 147) that one is willing to forego in order to get greater certainty.

Risk premium

1. The higher expected return (in the sense of mathematical *expected value* (page 147)) that an uncertain asset must pay in order for *risk averse* (see above) investors to be willing to hold it.

2. The difference between the *interest rate* (page 227) on a risky asset and that on a safe one.

3. In *exchange markets* (page 143) the difference between the *forward rate* (page 175) and the expected future *spot rate* (page 404).

Risk spreading

The holding of a *diversified portfolio* (page 109).

Risk-free rate

The *interest rate* (page 227) on a riskless, or safe, asset, usually taken to be a short-term U.S. government security.

Rodrik Trilemma

See *Trilemma of the World Economy* (page 451).

Roll-up

The principle, often applied in *rules of origin* (page 380), that intermediate inputs, if they qualify as domestic in spite of partial imported content, count as 100% domestic in products that use

them as inputs. Also called *absorption* (page 3). Contrasts with *tracing* (page 434).

Rollback

1. The phasing out of measures that are not consistent with an agreement.

2. In the *Uruguay Round* (page 461), the agreement to remove all *GATT*-inconsistent (page 182) trade-restricting and trade-distorting measures by the time negotiations were completed. See *standstill* (page 407).

ROO

Rule of origin (see below).

Round

See *trade round* (page 443).

ROW

Rest of world (page 374).

RTA

Regional trade agreement (page 369).

Rule of law

A legal system in which rules are clear, well-understood, and fairly enforced, including property rights and enforcement of contracts.

Rule of origin

A rule included in an *FTA* (page 178) specifying when a good will be regarded as produced within the FTA, so as to cross between members without tariff. Typical ROOs are based on percentage of *value added* (page 462) or on changes in *tariff heading* (page 422).

Rules-based trade policy

Institutional arrangements in which national trade policies are governed by internationally agreed-upon rules, as in the *GATT* (page 182) and *WTO* (page 472).

Run on a currency

The short-term *capital outflows* (page 49) that occur when a *pegged exchange rate* (page 330) regime is thought to be running out of *reserves* (page 373) and is thus expected (and therefore forced) to *devalue* (page 101).

Rybczynski derivative
The effect of a small change in a single factor endowment on the output of a good.

Rybczynski Theorem
The property of the *Heckscher-Ohlin Model* (page 199) that, at constant prices, an increase in the *endowment* (page 132) of one *factor* (page 156) increases the output of the industry that uses that factor *intensively* (page 226) and reduces the output of the other (or some other) industry. Due to *Rybczynski (1955)* (page 594). Illustrated with *Edgeworth production box* (page 481–486).

S&ED
Strategic and Economic Dialogue (page 411).

SA8000
A system of international labor standards and mechanisms for compliance and certification overseen by the nonprofit *Social Accountability International* (page 396) with participation by corporations, unions, and *NGOs* (page 307).

Safeguard protection
Import *protection* (page 354) provided under the *Safeguards Clause* (see below).

Safeguards Clause
Article XIX of the *GATT* (page 182) that permits countries to restrict imports if they cause injury. Restrictions must be for a limited time and nondiscriminatory. See *escape clause* (page 136).

SAI
Social Accountability International (page 396).

Samuelson-Stolper

See *Stolper-Samuelson Theorem* (page 411).

Sanction

1. To approve or give permission for an action, as when an international organization sanctions the use of particular economic policies.

2. A coercive measure used by a nation or group of nations against another as a penalty for violating international law or international norms. Usually plural: sanctions.

Sanitary and phytosanitary regulations

Government standards to protect health, of humans, plants, and animals. SPS measures are subject to rules in the *WTO* (page 472) to prevent them from acting as *NTBs* (page 314).

Santiago Principles

Formally called the Generally Accepted Principles and Practices, these are guidelines for the proper administration of *sovereign wealth funds* (page 400) agreed to by the *International Working Group of Sovereign Wealth Funds* (page 238).

São Paulo Consensus

An "action plan" adopted by the 2004 meeting of *UNCTAD* (page 455), UNCTAD XI, insisting "on the need to focus on the plight of the least developed countries and the ability of global trade to contribute to poverty alleviation."

SAP

Structural adjustment program (page 413).

Satisficing

Seeking or achieving a satisfactory outcome, rather than the best possible. Contrasts with the optimizing behavior usually assumed in economics and *trade theory* (page 444). Alternative models based on satisficing are spreading within economics, but not yet much in international economics.

Saving

The excess of income or revenue over expenditure for current use (as opposed to *investment* (page 239), which is expenditure for future use).

Say's law

The proposition that "supply creates its own demand." The idea is clearest in a *barter economy* (page 28), where the act of supplying one thing is, intrinsically, the act of demanding something else. Named after 19th century French economist Jean Baptiste Say, although he never stated it in this form.

SBTC

Skill-biased (page 394) technical change.

Scale economies

Increasing returns to scale (page 218).

Scandinavia

Strictly includes only Denmark, Norway, and Sweden. Term is sometimes used for the larger group of *Nordic countries* (page 312).

Scarce

Available in small supply; opposite of *abundant* (page 4). Usually meaningful only in relative terms, compared to demand and/or to supply at another place or time. See *factor abundance* (page 156) and *factor scarcity* (page 159).

Scarce factor

The factor in a country's *endowment* (page 132) with which it is least well endowed, relative to other factors, compared to other countries. May be defined by quantity or by price.

Scarcity rent

An economic *rent* (page 371) that is due to something being *scarce* (see above).

Schedule

1. A list. See *tariff schedule* (page 423).

2. A graph of a list of data; thus also a curve. See *demand schedule* (page 98).

Schengen Agreement

An agreement (later, convention) signed in 1985 to remove all frontier controls and permit free movement of persons between the participating countries of the *Schengen area* (page 551). In 1999 it was incorporated into the *European Union* (page 141). As

of December 2013, there were 25 full participants, plus 3 others participating partially.

Scientific tariff

A *made-to-measure tariff* (page 266).

Scitovszky indifference curve

An indifference curve for a group of individuals representing the minimum needed to keep all of them at given levels of utility. A well-behaved family of such indifference curves is defined holding utilities of all but one individual constant and varying only the one. These are useful in discussing the *gains from trade* (page 181). Due to *Scitovszky (1942)* (page 596).

Screwdriver plant

A factory that only assembles a product, from parts that were produced elsewhere. When *FDI* (page 162) consists only of screwdriver plants, the *host country* (page 206) often objects that it employes only low-skilled workers and/or that it provides no *technology transfer* (page 428).

SDR

Special drawing right (page 401).

SDRM

Sovereign debt restructuring mechanism (page 399).

Seasonal quota

A restriction on the quantity of imports of a good for a specified period of the year.

Seasonal tariff

A tariff that is levied at different rates at different times of the year, usually on agricultural products, being highest at the time of the domestic harvest.

Seattle Ministerial

The *ministerial* (page 283) meeting of the *WTO* (page 472) that was held in Seattle, 30 November–3 December 1999. It attracted a large group of protesters and ended without agreement among the participating countries.

SEC

United States *Securities and Exchange Commission* (page 386).

Second-best

Refers to what is the optimal policy when the true optimum (the *first best* (page 166)) is unavailable due to constraints on policy choice. The *theory of second best* (page 431) says that a policy that would be optimal without such constraints (such as a zero tariff in a small country) may not be second-best optimal if other policies are constrained. See *Lipsey and Lancaster (1956)* (page 590).

Second-best argument for protection

1. Any argument for protection that can be countered by pointing to a different and less distortionary policy that would achieve the same desired result at lower economic cost. Term coined by *Meade (1955b)* (page 591).

2. An argument for protection to partially correct an existing distortion in the economy when the first-best policy for that purpose is not available. For example, if domestic production generates a *positive externality* (page 339) and a production *subsidy* (page 414) to *internalize* (page 229) it is not available, then a tariff may be second-best optimal (page 321).

Second theorem of welfare economics

The proposition of *welfare economics* (page 469) that any *Pareto optimal* (page 328) *allocation* (page 12) can be attained by a *competitive* (page 66) *general equilibrium* (page 184).

Second unbundling

See *2nd unbundling* (page 476).

Secondary boycott

See *boycott* (page 38).

Secondary sector

The portion of an economy producing *manufactured products* (page 268), in contrast to the *primary sector* (page 347) and the *tertiary sector* (page 430).

Secondary tariffs

Any charges imposed on imports in addition to the statutory tariff, such as an *import surcharge* (page 214).

Section 201

The *escape clause* (page 136) of the U.S. Trade Act of 1974.

Section 301
The provision of U.S. trade law that permits private parties to seek redress through the U.S. government if their commercial interests have been harmed by illegal or unfair actions of foreign governments.

Section 421
The special safeguards provision of U.S. law that was agreed to by China as part of its *accession* (page 4) to the *WTO* (page 472). It is similar to *Section 201* (page 385), except that its injury requirement is weaker.

Sector
A portion of the economy producing a particular category of goods or services, such as the agricultural sector, the banking sector, etc.

Sectoral composition
The relative sizes of the various sectors of an economy. Trade tends to change the sectoral composition, as export sectors expand and import competing sectors contract.

Securities
Stocks (page 410), *bonds* (page 36), and other tradable *financial assets* (page 164).

Securities and Exchange Commission
The United States SEC is the unit of the U.S. government that regulates markets for investment, most importantly the various *stock* (page 410) markets located in the U.S.

Segmented markets
The situation in which two or more markets for the same product are separated such that buyers in one market cannot buy in the other, thus permitting each market to sustain a different price. Models of international *oligopoly* (page 318) often assume this.

Seigniorage
The difference between what money can buy and its cost of production. Therefore, seigniorage is the benefit that a government or other monetary authority derives from the ability to create money. In international exchange, if one country's money is willingly held by another, the first country derives

these seigniorage benefits. This is the case of a *reserve currency* (page 373).

Selective

Applied to a trade policy, this means one that affects only some countries, not all, in contrast to *MFN* (page 280) policy. Selectivity is an important concern in the use of *Safeguards* (page 381), which countries often would prefer to make selective but are required by *GATT* (page 182) *Article XIX* (page 16) to be nondiscriminatory.

Selective safeguard

A *safeguard* (page 381) action, such as a tariff or quota, that is levied unequally on imports from different countries.

Self-correcting

A problem that cures itself if allowed to do so. Thus, for example, a *payments imbalance* (page 330) can cause its own elimination through the *specie flow mechanism* (page 402). Likewise, a *recession* (page 366) will, eventually, be eliminated by the *deflation* (page 96) that it causes.

Self-fulfilling prophecy

A prediction that comes true entirely because people believe it and act on that basis. Thus for example, a prediction that a *pegged exchange rate* (page 330) will *devalue* (page 101) can cause that to happen, if enough people hear it, believe it, and act on that basis by selling the currency.

Self-sufficiency

Provision by one's self of all of one's own needs. In international trade this means either not trading at all (*autarky* (page 21)), or importing only non-necessities.

Self-sufficiency argument for protection

The view that a country is better off providing for its own needs than depending on imports. It may be based on fear that war or foreign governments will interrupt imports. This is a *second-best argument* (page 385), since many policies could provide for that contingency without sacrificing all the *gains from trade* (page 181).

Sell short

See *short* (page 391).

Semiconductor Agreement

The US-Japan Semiconductor Agreement of 1986 was a *VER* (page 464) requiring Japan to limit its exports of semiconductors, mainly "dynamic random access memory" (DRAM) chips to the United States.

Sensitive

1. In trade negotiations and agreements, countries often identify lists of particular sensitive products or sensitive sectors that they regard as especially vulnerable to import competition and that they wish to exempt from trade liberalization.

2. A sensitive technology is one that a country does not want others to get access to, either in order to retain dominance over a market or because of its use by the military or terrorists.

Sequential game

A *game* (page 182) with multiple stages, played one after the other.

Serious injury

The *injury* (page 223) requirement of the *escape clause* (page 136), understood to be more stringent than *material injury* (page 277) but otherwise apparently not rigorously defined.

Service

1. A product that is not embodied in a physical good and that typically effects some change in another product, person, or institution. Contrasts with *good* (page 188). *Trade in services* (page 440) is the subject of the *GATS* (page 182).

2. To make the scheduled payments on a *debt* (page 93), usually including both interest and amounts toward repayment of the principal. See *debt service* (page 94).

Service barrier

Barrier to trade in a service, such as a limit on the functions of a foreign-owned service provider.

Service mark

Like a *trademark* (page 445), but for a service. "Trademark" is often used for both goods and services.

SEZ

Special economic zone (page 401).

SFTT

Single factoral terms of trade (page 393).

Shadow currency

1. Something that is used as an alternative to a national money, either for transactions or as a store of value. Gold has been called a shadow currency because its value is negatively correlated with the real value of the U.S. dollar.

2. The currency of a country with strong trade ties to another whose currency is considered unsafe to hold. The shadow currency provides a hedge against weakness in the other's currency. Examples are the Canadian dollar for the U.S., the Swiss franc for the eurozone, and the Australian dollar for China.

3. The financial assets that central banks use to settle accounts among themselves.

Shadow exchange rate

1. The *shadow price* (see below) of *foreign exchange* (page 171).

2. What the market *exchange rate* (page 144) would be in the absence of various *market imperfections* (page 273).

Shadow price

The implicit value or cost associated with a constraint. That is, the increased value that will be achieved by relaxing the constraint by one unit. When *foreign exchange* (page 171) is rationed, the shadow price of foreign exchange becomes the relevant *exchange rate* (page 144) for making decisions.

Shallow integration

Reduction or elimination of *tariffs* (page 421), *quotas* (page 360), and other barriers to trade in goods at the border, such as trade-limiting *customs procedures* (page 90). Contrasts with *deep integration* (page 95).

Shanzhai culture

Originally used in China to describe copies of branded electronic products, the term has expanded to include copying of cultural

activities, such as songs and movies, and even celebrities. In its original meaning, shanzhai products were clearly violating *intellectual property rights* (page 226).

Shelf life

The length of time that a good can be stored while still remaining useful enough to sell. Important for both perishable goods and goods that may become obsolete for reasons of technology or fashion. Relevant for international trade when, for example, *customs procedures* (page 90) cause delays.

Shift and share analysis

A tool for decomposing changes over time in economic magnitudes into those that hold various shares constant versus shifts in those shares. Applied to international trade, it is *constant market share analysis* (page 71).

Shift parameter

A *parameter* (page 327) that determines only the position of a function, but not its slope or shape, usually by simply increasing the value of the function. For example, in the consumption function $C = C^0 + cY$, C^0 and c are both parameters, but C^0 is a shift parameter that can be useful for analyzing a change in the desire to consume.

Shipper

The firm or other entity that purchases *shipping services* (see below). In the context of international trade, it may be either the exporter or the importer.

Shipping the good apples out

See *Alchian-Allen Theorem* (page 12).

Shipping service

The act of transporting a good from one location to another on behalf of a client. Shipping service need not be by sea, but could be by air, by land, or by a combination of these.

Shock

1. An unexpected change.

2. Any change in an *exogenous variable* (page 147) (although strictly speaking, models often fail to deal adequately with the complications of an exogenous change being expected).

Shock therapy

One strategy for moving from a *centrally controlled* (page 53) economy to a *market economy* (page 273), consisting of a sudden removal of all government controls and rapid *privatization* (page 348).

Short

1. Used with "sell" or "sale," this means that the seller does not currently have the thing being sold, but intends to acquire it on the market prior to making delivery.

2. Used by itself as a verb, it means to sell short, as "to short a currency," meaning to sell it *forward* (page 174) in anticipation that its value on the *spot market* (page 404) will fall.

Short position

The situation of having sold *short* (see above) prior to the short contract's maturing.

Short-run

Referring to a short time horizon, usually one in which some aspects of behavior that would vary over a longer time do not have time to do so. In trade models, it usually means that the employment of some factors of production is fixed. Contrasts with *long run* (page 263).

Short-term

1. Happening within the *short run* (see above), or within a matter of months.

2. In the case of *bonds* (page 36) or *capital flows* (page 47), this refers to financial assets with a maturity of less than one year.

Short-term capital flow

A *capital flow* (page 47) that is *short-term* (see above); of interest because such capital flows are likely to be very *liquid* (page 260) and therefore easily reversed and sources of *instability* (page 224) in *exchange markets* (page 143).

Short-term interest rate

1. The *interest rate* (page 227) on any financial instrument of short maturity.

2. Denoted *STIR* (page 410), a particular financial instrument that is a futures contract on a short-term interest rate, often a 3-month interest rate in any of a variety of currencies.

Shrimp-turtle case
A case filed in the *WTO* (page 472) against the United States for restricting imports of shrimp from countries whose shrimp were caught by means that endangered sea turtles. The WTO ruled against the U.S., enraging many environmentalists.

Shuttle trade
The trade accomplished by individuals and groups traveling to other countries, buying goods, and bringing them home, often in their luggage, to resell. An important source of imports for Russia in the 1990s, with some people traveling abroad several times a month for this purpose.

SIC
Standard Industrial Classification (page 406).

Siegel's paradox
The observation by *Siegel (1972)* (page 596) that if the *forward rate* (page 175) is an unbiased predictor of the *spot rate* (page 404) from the perspective of one currency, then it must be a biased predictor from the perspective of the other currency. It follows that profitable speculation will always be possible for risk-neutral speculators somewhere.

SIFT
Systematic Integrated Framework for Trade Analysis (page 420).

Signatory
One who has signed an agreement.

Silver standard
A monetary system in which the value of a currency is defined in terms of silver. If two currencies are both on a silver standard, then the *exchange rate* (page 144) between them is approximately determined by their two prices in terms of silver.

Similars
See *law of similars* (page 253).

Simple average
The arithmetic mean of a set of numbers, weighting each of them equally. For example, the simple average of n tariffs, t_i, is $\Sigma_i t_i/n$ and does not weight the tariffs by the amount of imports.

Singapore Issues

The issues on which it was agreed to form working groups at the *Singapore Ministerial* (see below): *trade and investment* (page 436), *competition policy* (page 66), transparency in *government procurement* (page 189), and *trade facilitation* (page 439).

Singapore Ministerial

The first ministerial meeting of the *WTO* (page 472), held in Singapore, 9–13 December 1996. It did not attempt to launch a round of trade negotiations, but it agreed to form working groups on several *Singapore Issues* (see above).

Single column tariff

A *tariff schedule* (page 423) that specifies only a single tariff rate for each product. Contrasts with schedules that have separate *general tariffs* (page 184) and *MFN tariffs* (page 280).

Single European Act

Treaty, signed in Luxembourg and The Hague and entering into force 1 July 1987, completing the *single market* (see below). See *Europe 1992* (page 139).

Single factoral terms of trade

The purchasing power, in terms of the price of imports, P_m, of a country's *factors* (page 156), thus accounting for both the *net barter terms of trade* (page 303) and its own *factor productivity* (page 159), A_x, in production of exports: $SFTT = NBTT \times A_x = (P_x/P_m) \times A_x$. Term *introduced* by *Viner (1937)* (page 598).

Single global currency

A proposal that the world should share a single currency, managed by a single international *central bank* (page 52).

Single market

Removal of the remaining barriers among the countries of the *European Union* (page 141), permitting the free movement of goods, persons, services, and capital; also known as *Europe 1992* (page 139).

Single undertaking

A term, in *trade negotiations* (page 441), for requiring participants to accept or reject the outcome of multiple negotiations in a single package, rather than selecting among them.

SITC

Standard International Trade Classification (page 406).

Skill

The abilities acquired by workers through education, training, and experience that permit them to be more productive. Essentially the same as *human capital* (page 206).

Skill-biased

A *technological change* (page 426) or *technological difference* (page 427) that is *biased* (page 32) in favor of using more skilled labor, compared to some definition of *neutrality* (page 305).

Skill intensive

Describing an industry or sector of the economy that relies relatively heavily on inputs of skilled labor, usually relative to unskilled labor, compared to other industries or sectors. See *factor intensity* (page 157).

Skill premium

The difference between the *wage* (page 466) of *skilled labor* (see below) and that of *unskilled labor* (page 460), usually measured, in developed countries, by the wage difference between college-educated and high-school educated workers. In the U.S. and other countries, the skill premium rose beginning about 1980, due in part to *globalization* (page 187) and *technological change* (page 427).

Skilled labor

Labor with a high level of *skill* (see above) or *human capital* (page 206). Identified empirically as labor earning a high wage, with a high level of education, or in an occupational category associated with these; sometimes crudely proxied as *nonproduction workers* (page 311).

Slave trade

1. The exchange of human beings, regarded as property of other human beings, in exchange for money or other things of value.

2. The transport of slaves that took place between Africa and other parts of the world, especially the Americas, especially in the 17th and 18th centuries.

Slicing up the value chain
Term for *fragmentation* (page 175) used by *Krugman (1994)* (page 589).

Slump
A decline in performance, either of a firm as a slump in sales or profits, or of a country as a slump in output or employment.

SMAC function
An acronym for the *CES function* (page 54) based on the names of the four authors who introduced it in *Arrow et al. (1961)* (page 577).

Small and medium-sized enterprises
There is no uniform definition of how large, and by what measure, a firm has to be in order not to be an SME.

Small country assumption
The assumption in an economic model that a country is too small to affect world prices, incomes, or interest rates.

Small open economy
An economy that is small enough compared to the world markets in which it participates that (as a good approximation) its policies do not alter world prices or incomes. The country is thus a *price taker* (page 346) in world markets. The term is normally applied to a country as a whole, although it is sometimes used in the context of only a single product.

SME
Small and medium-sized enterprises (see above). Also used in the singular, in which case it presumably means small *or* medium-sized enterprise.

Smoot-Hawley Tariff
The *Tariff Act of 1930* (page 421), this raised average U.S. tariffs on *dutiable imports* (page 116) to 53% and provoked *retaliation* (page 375) by other countries.

Smuggle
To take a good across a national border illegally. If the good itself is legal, the purpose is usually to avoid paying a tariff or to circumvent some other trade barrier.

Snake

An arrangement in which European currencies, prior to the creation of the euro, *pegged* (page 330) to each other but left free to *float* as a group against the U.S. dollar. Named for the graph that the limits of variation of a currency would follow over time.

Snake in the tunnel

An arrangement used briefly in Europe after the collapse of the *Bretton Woods System* (page 39) in which European currencies were permitted to vary ±1% against each other (thus the *snake* (see above), but ±2.25% against the dollar (the *tunnel* (page 452)).

Snapback

A provision in a *trade agreement* (page 435) permitting a country temporarily to rescind a tariff *concession* (page 69) in the event of an *import surge* (page 214).

Social Accountability International

A U.S.-based nonprofit organization that develops and implements the *SA8000* (page 381) international workplace standards.

Social benefit

The benefit to society as a whole from an event, action, or policy change. Includes *externalities* (page 155) and deducts any benefits that are transfers from others, in contrast to *private benefit* (page 348).

Social capital

The *networks* (page 305) of relationships among persons, firms, and institutions in a society, together with associated norms of behavior, trust, cooperation, etc., that enable a society to function effectively.

Social clause

A provision in an international trade agreement that would link *trade liberalization* (page 441) and *labor standards* (page 249). A social clause has been discussed but not adopted in the *WTO* (page 472). The implementation of *GSP* (page 195) by both the *EU* (page 137) and the U.S. does include a social clause.

Social cost

The cost to society as a whole from an event, action, or policy change. Includes negative *externalities* (page 155) and does not

count costs that are transfers to others, in contrast to *private cost* (page 348).

Social dumping

Export of a good from a country with weak or poorly enforced *labor standards* (page 249), reflecting the idea that the exporter has costs that are artificially lower than its competitors in higher-standards countries, constituting an unfair advantage in international trade.

Social indifference curve

A curve showing the combinations of goods that, when available to a country, yield the same value of the *social welfare function* (see below).

Social welfare function

A function mapping allocations of goods to the individuals in an economy to a level of welfare for the economy as a whole. If it depends only on the levels of utility of the individuals rather than separately on the allocations, then it is a *Bergsonian social welfare function* (page 31).

Socialism

An economic system in which some of the individual needs of the population are provided by government. Since this is true of almost all societies, most would define as socialist only countries where the level of this government provision exceeds some threshold, and many disagree on what that threshold should be.

SOE

1. *State-owned enterprise* (page 408).

2. *Small open economy* (page 395).

Soft budget constraint

This characterizes an economic entity, usually a firm, that is likely to receive government support if it gets into financial difficulty. Common in current and former *state-owned enterprises* (page 408) in economies in *transition* (page 448), this undermines their incentive to perform productively and efficiently. Due to *Kornai (1979)* (page 588).

Soft currency

1. A *currency* (page 85) that is not widely accepted in exchange for other currencies, in contrast to a *hard currency* (page 197).

2. A currency that is not *convertible* (page 75).

3. A currency that is expected to fluctuate a lot and/or is expected to *depreciate* (page 99).

Soft landing

Avoidance of economic hardship, in the form of *inflation* (page 221) and/or especially *recession* (page 366), as a period of rapid *economic growth* (page 122) comes to an end.

Soft loan

A loan made at a below-market *interest rate* (page 227), typically to a *developing country* (page 101) as a form of *aid* (page 11).

Soft peg

A *pegged exchange rate* (page 330) without a strong commitment by the *central bank* (page 52) to allow the *money supply* (page 288) to vary as necessary to maintain it. A soft peg is particularly subject to *speculative attack* (page 403), and therefore is unlikely to be sustainable.

Softwood lumber dispute

A *trade dispute* (page 438) between the U.S. and Canada that has extended over many years. Canada's forest land is mostly owned by provincial governments, which charge a "stumpage fee" for lumber companies to harvest trees. The U.S. claims that this fee is too low and constitutes an illegal *subsidy* (page 414).

Sole importing agency

An entity, either private or government, that has been granted by government the exclusive right to import certain goods.

Solow Model

The *neoclassical growth model* (page 302). Also called the Solow-Swan Model.

Solow neutral

A particular specification of *technological change* (page 427) or *technological difference* (page 427) that is *capital augmenting* (page 46).

Solow residual

A measure of technological progress equal to the difference between the rate of growth of output and the weighted average of the rates of growth of capital and labor, with factor income shares as

weights. Due to *Solow (1957)* (page 596). Also called the growth of *total factor productivity* (page 434). Used to compare sources of growth across countries.

Solvency

Ability of a borrower to make required payments on debt. For a person or firm, lack of solvency, or *insolvency* (page 224), usually leads to *bankruptcy* (page 27). For a government, no facility for bankruptcy exists, so insolvency leads either to *default* (page 95) and consequent loss of the ability to borrow, or to *bailout* (page 24) by another government or *international financial institution* (page 233).

Sound money

A currency that is responsibly managed so as to avoid excessive *inflation* (page 221).

Source country

See *FDI* (page 162).

South Pacific Regional Trade and Economic Cooperation Agreement

A *non-reciprocal* (page 310) *free trade agreement* (page 177) in which Australia and New Zealand provide duty-free access to the exports from countries of the South Pacific region.

South-South trade

Trade between *developing countries* (page 101). Contrasts with *North-South trade* (page 314).

Sovereign compulsion

The principle of exemption from *anti-trust* (page 14) liability for actions taken at the direction of a government agency. Example: *price undertaking* (page 346).

Sovereign debt restructuring mechanism

A framework proposed by the *IMF* (page 209) for permitting countries facing *financial crises* (page 164) to *restructure* (page 374) their debts in an orderly and minimally disruptive manner, analogous to bankruptcy for a private debtor.

Sovereign immunity

The legal doctrine that the property of a foreign government is exempt from the jurisdiction of domestic courts. Unless this

immunity is waived (as is now common), this makes it difficult for a holder of foreign government debt to collect payment, and thus interferes with international lending.

Sovereign risk

The possibility that a government will *default* (page 95) on a contract (such as a debt to a foreigner) or interfere with a private-sector contract with a foreigner (such as ownership of property or a commitment to pay for or deliver goods).

Sovereign spread

The *spread* (page 404) on the debt of a sovereign government, and thus a measure of the riskiness of lending to it and the cost to it of borrowing.

Sovereign wealth fund

Assets held by a government denominated in foreign currencies and in excess of those needed as *international reserves* (page 236). Normally these have been accumulated as a result of a sustained *current account surplus* (page 88).

Sovereignty

A country or region's power and ability to rule itself and manage its own affairs. Some feel that memberships in international organizations such as the *WTO* (page 472) are a threat to their sovereignty.

Spaghetti bowl

Term frequently used by Bhagwati for the tangle of relationships created by multiple overlapping *preferential trading arrangements* (page 342). First use seems to have been *Bhagwati (1995)* (page 579).

SPARTECA

South Pacific Regional Trade and Economic Cooperation Agreement (page 399).

Spatial arbitrage

Arbitrage (page 16) on price differences in different locations.

Spatial impossibility theorem

Starrett's impossibility theorem (page 408).

Special 301

A provision of U.S. trade law that provides for annual review of other countries' *intellectual property protection* (page 226)

and *market access* (page 272) practices and uses *trade policies* (page 442) to pressure countries to conform to U.S. expectations.

Special and differential treatment

The *GATT* (page 182) principle that developing countries be accorded special privileges, exempting them from some requirements of developed countries. It also permits *tariff preferences* (page 423) among developing countries and by developed countries in favor of developing countries, such as those under the *GSP* (page 195).

Special drawing right

Originally intended within the *IMF* (page 209) as a sort of international money for use among central banks pegging their exchange rates, the SDR is a transferable right to acquire another country's currency. Defined in terms of a basket of currencies, today it mainly plays the role of a unit of international account.

Special economic zone

Typically a region designated for economic development oriented toward inward *FDI* (page 162) and exports, both fostered by special policy incentives that may include being an *EPZ* (page 134). These exist in several countries, including and especially China, and their characteristics vary.

Special entry procedure

An administrative procedure that is required as a condition of entry for an imported good, such as transport by the importing country's national fleet, or entry through a specific port or *customs station* (page 90).

Special product

Same as *sensitive* (page 388) product.

Special safeguard

As part of the *Agreement on Agriculture* (page 10) of the *WTO* (page 472), a special provision for providing *safeguard protection* (page 381) to specified agricultural products that had been subject to *tariffication* (page 424).

Specialization

1. Producing more than needed of some things, and less of others, hence "specializing" in the first. In international trade, this is just the opposite of *self-sufficiency* (page 387).

2. Doing less than everything, as when a country produces fewer different goods than it consumes. In a two-good trade model, this means a country produces just one good. With many goods and countries, it means a country has some goods that it does not (and cannot competitively) produce. Also may be called *complete specialization* (page 67).

Specialization index

See *Krugman specialization index* (page 247).

Specie

Coins, normally including only those made of precious metal.

Specie flow mechanism

Under the *gold standard* (page 188), the mechanism by which international payments would adjust. A country with high *inflation* (page 221) would export less, import more, and thus lose *specie* (see above), i.e., gold. With the *money supply* (page 288) fixed to the quantity of gold, the resulting monetary contraction would reduce prices. Due to 18th century Scottish philosopher and economist David Hume.

Specific commitment

Under the *GATS* (page 182), the identification of a category of *services* (page 388) in which a country will apply *national treatment* (page 298) and assure *market access* (page 272) for foreign service providers.

Specific duty

Specific tariff (page 403).

Specific factor

A *factor of production* (page 158) that is unable to move into or out of an industry. The term is used to describe factors that would not be of any use in other industries and also — more loosely — factors that could be used elsewhere but do not, in the short run, have the time or resources needed to move. See *specific-factors model* (below). The term seems to come from *Haberler (1937)* (page 585).

Specific-factors model

A model in which some or all factors are *specific factors* (see above). The most common version is the *Ricardo-Viner Model* (page 378), with one specific factor (often capital or land) in each

industry plus another factor (often labor) that is mobile between them. But an extreme form of the model, the *Cairnes-Haberler Model* (page 44), has all factors specific. Refer to *Picture Gallery* (page 513).

Specific tariff

A *tariff* (page 421) specified as an amount of currency per unit of the good.

Specificity

The property that a policy measure applies to one or a group of enterprises or industries, as opposed to all industries.

Specificity rule

The principle that the optimal policy for correcting a *distortion* (page 108) is one that deals most directly, or specifically, with that distortion.

Speculation

The purchase or sale of an asset (or acquisition otherwise of an *open position* (page 320)) in hopes that its price will rise or fall respectively, in order to make a profit. See *destabilizing speculation* (page 100) and *stabilizing speculation* (page 405).

Speculative attack

In any asset market, the surge in sales of the asset that occurs when investors expect its price to fall. A common phenomenon in the *exchange market* (page 143), especially under an *adjustable pegged* (page 6) exchange rate.

Speculator

Anyone who engages in *speculation* (see above). May include those who transfer their assets into different forms (or currencies) in order to avoid a prospective *capital loss* (page 48).

Spence-Dixit-Stiglitz

Probably the more accurate identifier for what is often called the *Dixit-Stiglitz function* (page 110), since *Spence (1976)* (page 596) preceded *Dixit and Stiglitz (1977)* (page 582).

Spending effect

A major mechanism of the *Dutch disease* (page 116), whereby the increased income from a surge in exports is spent in part on *nontradables* (page 312), causing a nontradable industry to expand at the expense of tradables, especially manufacturing.

Spillover
A *positive externality* (page 339). The term is often used to refer to the transmission of an advanced *technology* (page 427) from a foreign-owned firm (thus *FDI* (page 162)) to domestic firms.

Splintering
Another term for *fragmentation* (page 175). Used by *Bhagwati (1984)* (page 579).

Spoke
See *hub and spoke integration* (page 206).

Sporadic dumping
Intermittent dumping (page 228).

Spot
On the *spot market* (see below).

Spot market
A market for exchange (of currencies, in the case of the *exchange market* (page 143)) in the present (as opposed to a *forward* (page 174) or *futures market* (page 179) in which the exchange takes place in the future).

Spot rate
The *exchange rate* (page 144) on the *spot market* (see above). Also called the *spot exchange rate* (page 144).

Spread
1. The difference between the price one must pay to buy something, such as a currency, and the price one receives for selling it.
2. The difference between the interest rate on a bond and the *risk free rate* (page 379); thus the *risk premium* (page 379) on the bond.
3. The *interest rate spread* (page 227), i.e., the difference between the interest rate on a bond issued by one borrower and that on a bond issued by another, safer, borrower. Spreads between Greek bonds, for example, and those of Germany have been seen as an indicator to the likelihood of Greek *default* (page 95).

SPS
Sanitary and phytosanitary (page 382).

SST
Stolper-Samuelson Theorem (page 411).

Stability and Growth Pact

The 1997 agreement among the countries participating in the *EMU* (page 131) to coordinate their fiscal policies in a way that would limit budget deficits and debt.

Stabilization policy

The use of *monetary* (page 286) and *fiscal policies* (page 167) to *stabilize* (see below) *GDP* (page 183), aggregate employment, and prices.

Stabilize

To reduce the size of fluctuations in an economic variable over time. Examples include stabilizing *exchange rates* (page 144) by *exchange market intervention* (page 144); stabilizing the price of a *commodity* (page 62) by operation of a *buffer stock* (page 41); and stabilizing *GDP* (page 183) by macroeconomic *stabilization policy* (see above).

Stabilizing speculation

Speculation (page 403) that decreases the movements of the price in the market where the speculation occurs. See *destabilizing speculation* (page 100). *Friedman (1953)* (page 584) provided a classic argument that speculation on a *floating exchange rate* (page 169) would be stabilizing.

Stable

1. Of an equilibrium, that the dynamic adjustment away from equilibrium converges to the equilibrium.

2. Of an economic variable, not subject to large or erratic fluctuations.

Stackelberg equilibrium

A *game theoretic* (page 182) equilibrium in which one player acts as a leader and another as a follower, the leader setting strategy taking account of the follower's optimal response. Contrasts with *Nash equilibrium* (page 296) in which both players take the other's strategy as given.

Stagflation

The combination of high or increasing *inflation* (page 221) with high or increasing *unemployment* (page 456) (stagnation). Said to be due to Iain Macleod, who later would become

Britain's Chancellor of the Exchequer, in a speech to Parliament in 1965.

Stamp fee

See *para-tariff* (page 327).

Stand-by agreement

A lending facility in the IMF established in 1952 for financing short-term balance-of-payments difficulties.

Standard

Rule and/or procedure specifying characteristics that must be met for a product to be sold in a country's domestic market, typically to protect health and safety. When a standard puts foreign producers at a disadvantage, it may constitute an *NTB* (page 314).

Standard deviation

A common measure of the dispersion of a random variable or of a sample of data. Defined as the square root of the *variance* (page 463).

Standard error

A common measure of the uncertainty associated with a numerical estimate, equal to the *standard deviation* (see above) of the associated error. In a *regression analysis* (page 369), standard errors are often reported with (or below) the *coefficient* (page 60) estimates. As a rough rule of thumb, one can be 95% confident that the true coefficient is within ± 2 standard errors of the estimate.

Standard Industrial Classification

The *system for classifying* (page 58) industries used by the United States Commerce Department until 1997 for reporting data on industry output, employment, etc. Replaced in 1997 by the *North American Industrial Classification System* (page 314).

Standard International Trade Classification

A *classification system* (page 58) for traded goods that is used as the basis for recording and reporting data on exports and imports, and that is maintained by the *United Nations Statistics Division* (page 459).

Standard of living

Usually refers to a country's *per capita income* (page 331), but sometimes takes account also of additional conditions that matter for a person's or household's well-being, such as leisure or the quality of the environment.

Standard trade model

There is probably no agreement as to what should be considered the "standard" trade model. But *Krugman and Obstfeld (1991)* (page 589), which has been widely used through many editions, gives this name to a model with *perfect competition* (page 332), a curved *PPF* (page 340), and consumer preferences that can be represented by *community indifference curves* (page 64). It therefore includes the *HO model* (page 202) and *specific factors model* (page 402) as special cases.

Standardization

1. Conformity to a common set of specifications, so that all units of a product, from a given producer or from multiple producers, are compatible and can serve the same purpose.

2. Conformity to an exacting set of specifications with regard to quality, such as the *ISO 9000* (page 242) standards established maintained by the *International Organization for Standardization* (page 235).

Standards Code

The common name for the *Tokyo Round Code* (page 433) on *technical barriers to trade* (page 426).

Standstill

1. A commitment to refrain from introducing new measures that are not consistent with an agreement.

2. In the *Uruguay Round* (page 461), the agreement not to introduce new *GATT*-inconsistent (page 182) trade-restricting and trade-distorting measures during the negotiations. See *rollback* (page 380).

Staple theory of economic growth

A theory of growth based on production and export of "staples" — which seems, in this context, to mean raw materials.

The theory was designed for understanding the early history of Canada, and is said to be most relevant for economies with an abundance of open land. See *Watkins (1963)* (page 598).

Starrett's impossibility theorem

The *spatial impossibility theorem* (page 400) of *Starrett (1978)* (page 596) that an economy with a finite number of locations and positive, resource-using transport costs cannot possess a *competitive equilibrium* (page 66). Perhaps this accounts, implicitly, for the general neglect of transport costs in competitive trade theory.

State bank

A bank owned by a government, other than the *central bank* (page 52), and performing the same functions as a *commercial bank* (page 61). State banks are often directed by their governments to provide *credit* (page 82) to activities or persons favored by the government.

State capitalism

A system in which the government plays a large and active role in the economy, owning large enterprises and using their influence in markets for political rather than purely economic ends.

State-owned enterprise

A firm owned by a government. Relations between SOEs and private firms on international markets raise special problems for *GATT* (page 182), since SOEs may not respond normally to market forces and their actions may reflect government policies.

State trading enterprise

An entity of government that is responsible for exporting and/or importing specified products. See *marketing board* (page 275).

Static comparative advantage

The normal concept of *comparative advantage* (page 64), as opposed to *dynamic comparative advantage* (page 117).

Static gains from trade

The economic benefits from trade that arise in *static models* (page 409), including the efficiency gains from exploiting *comparative advantage* (page 64), the reduced costs from *scale economies* (page 383), reduction in *distortion* (page 108) from *imperfect*

competition (page 210), and increased product *variety* (page 463). Contrasts with *dynamic gains from trade* (page 117).

Static model

An economic model that has no explicit time dimension. A static model abstracts from the process by which an equilibrium or an optimum might be reached only over time, as well as from the dependence of the variables in the model itself on a changing past or future. Contrasts with *dynamic model* (page 118).

Statistical Classification of Economic Activities in the European Community

Called *NACE* (page 295), this is the uniform *classification system* (page 58) used in all member states of the *European Union* (page 141).

Statistical classification of products by activity

See *classification of products by activity* (page 58).

Statistical tax

See *para-tariff* (page 327).

Statistically significant

1. Said of an estimated parameter if it is sufficiently different from zero, relative to an estimate of its probability distribution, that the probability of the actual parameter being zero is below some small threshold, such as 5%.

2. An estimate that is more than twice, in absolute value, its *standard error* (page 406).

Status quo

The current situation. A preference for the status quo means a reluctance to change.

Steady state

A type of *equilibrium* (page 135), especially in a *neoclassical growth model* (page 302), in which those variables that are not constant grow over time at a constant and common rate.

Stepping stone

See *stumbling bloc* (page 414).

Sterilize

To use offsetting *open market operations* (page 320) to prevent an act of *exchange market intervention* (page 144) from changing

the *monetary base* (page 285). With *sterilization* (page 409), any purchase of *foreign exchange* (page 171) is accompanied by an equal-value sale of domestic bonds, and vice versa.

Sterilized intervention

Exchange market intervention (page 144) that is *sterilized* (page 409).

Sterling

British money, particularly the British pound, a formal name for which is the pound sterling.

Sterling area

The group of countries that either used the British pound as their currency or *pegged* (page 330) their currencies to the British pound. Most were current or former colonies of the United Kingdom. The sterling area ceased to be meaningful in the 1970s when countries largely switched to *floating exchange rates* (page 169).

Sticky price model

A model in which one or more prices are assumed not to change when the markets in which they apply move out of *equilibrium* (page 135). Internationally, this can result in a violation of the *law of one price* (page 253).

STIR

Short-term interest rate (page 391).

Stochastic

Random; arising from a process that generates different values each with some probability. Contrasts with *deterministic* (page 101).

Stock

1. A share in the ownership of a corporation.

2. A stock, or stock variable, is an economic magnitude that describes a quantity that exists at a point in time. Examples include a country's *international reserves* (page 236), a consumer's *wealth* (page 468), and a country's *labor force* (page 248). Contrasts with a *flow* (page 169).

Stock market value

The total value of outstanding shares of *stock* (see above) of a firm at the price currently prevailing in the stock market.

Stockpiling

The storage of something in order to have it available in the future if the need for it increases. In international economics, stockpiling occurs for *speculative* (page 403) purposes; by governments to provide for national security; and by central banks managing *international reserves* (page 236).

Stolper-Samuelson derivative

In *general equilibrium* (page 184), the effect of a small change in the price of a single good on the price of a *factor of production* (page 158).

Stolper-Samuelson Theorem

1. The proposition of the *Heckscher-Ohlin Model* (page 199) that a rise in the *relative price* (page 370) of a good raises the *real wage* (page 365) of the *factor* (page 156) used *intensively* (page 226) in that industry and lowers the real wage of the other factor.

2. The further proposition (requiring additional assumptions) that protection raises the *real wage* (page 365) of a country's *scarce factor* (page 383) and lowers the real wage of its *abundant factor* (page 4). Due to *Stolper and Samuelson (1941)* (page 596).

Store of value

One of three basic properties of *money* (page 287): the ability to retain value over time, and therefore be useful for those who wish to sell something now and not spend the proceeds until later.

Straight-line PPF

The *PPF* (page 340) that arises in the *Ricardian model* (page 378), or in the *HO model* (page 202) if the two sectors have the same *factor intensity* (page 157). It is a downward sloping straight line with, therefore, a constant *marginal rate of transformation* (page 270).

Strategic and Economic Dialogue

The *US-China Strategic and Economic Dialogue* (page 461), S&ED.

Strategic industry argument for a tariff

The view that an industry serves a special "strategic" purpose in an economy and needs to be *protected* (page 354) by a tariff to prevent it from disappearing. Views of what constitutes a strategic purpose are often vague and contradictory.

Strategic partnership
An alliance between organizations to achieve some objective. For example, two corporations, often from different countries, may work together on a product that combines their separate areas of expertise.

Strategic Petroleum Reserve
The *strategic stockpile* (see below) of oil held by the United States government.

Strategic stockpile
An accumulation of a commodity by a government to be used in case of a disruption of supply due to war or other emergency.

Strategic trade policy
The use of trade policies, including *tariffs* (page 421), *subsidies* (page 414), and even *export subsidies* (page 153), in a context of *imperfect competition* (page 210) and/or *increasing returns to scale* (page 218) to alter the outcome of international competition in a country's favor, usually by allowing its firms to capture a larger share of industry profits. The seminal contribution was *Brander and Spencer (1981)* (page 580).

Strategic trade policy argument for a tariff
In an example of *strategic trade policy* (see above), the use of a tariff to extract monopoly profits from a foreign monopolist, or to *shift profit* (page 352) from foreign to domestic competitors in an international oligopoly. The monopoly case seems to have originated with *Katrak (1977)* (page 587), but the classic treatment of the larger issue is *Brander and Spencer (1984)* (page 580).

Strategic variable
An economic variable that is chosen with regard to, and sometimes with a view to influencing, economic behavior by someone else. Most frequently refers to the choice of firms in an *oligopoly* (page 318).

Strategy
In *game theory* (page 182), a set of actions and contingent actions for the several stages of a *sequential game* (page 388), that is,

a plan of action for each stage contingent on the outcome of preceeding stages.

Structural adjustment

The re-allocation of resources (labor and capital) among sectors of the economy in response to changing economic circumstances, including trading conditions, or changes in policy.

Structural adjustment program

The list of budgetary and policy changes required by the *IMF* (page 209) and *World Bank* (page 470) in order for a *developing country* (page 101) to qualify for a loan. This *conditionality* (page 69) typically includes reducing barriers to trade and *capital flows* (page 47), tax increases, and cuts in government spending.

Structural change

1. A permanent change in the structure of an economy, such as a shift in preferences or technology, that causes a permanent change in relative sizes of various industries and a consequent re-allocation of labor among them.

2. In econometric time series, a change at some time in the parameters that generate the series.

Structural Impediments Initiative

A 1990 agreement between the United States and Japan to reduce their *bilateral* (page 33) *trade imbalance.* Among other commitments, the U.S. promised to reduce its *budget deficit* (page 41) and encourage saving, while Japan promised to increase spending and facilitate entry of new businesses.

Structural unemployment

Unemployment (page 456) that results from a mismatch between supply and demand for workers. That is, workers who cannot find jobs, not because there are no jobs, but because they are not qualified for the jobs that are available.

Structure of protection

The pattern of *protection* (page 354) across sectors of an economy: which sectors are highly protected and which are not, perhaps in terms of *effective protection* (page 127), or — even

better — in terms of their expansion and contraction that would occur if all protection were to be removed.

Stumbling bloc

The term that *Bhagwati (1991)* (page 579) used, together with *building bloc(k)* (page 41) or *stepping stone* (page 409), to address whether *PTAs* (page 355) help move the world toward or away from *multilateral* (page 292) *free trade* (page 177). Also written as "stumbling block."

Stylized fact

Something that has been observed to be true, or close to true, sufficiently often and in enough different contexts that an economic theory should be consistent with it. Those who present a set of stylized facts typically do not attempt to support them with data, but simply list them so as to motivate their theoretical analysis.

Subcontracting

Delegation by one firm of a portion of its production process, under contract, to another firm, including in another country. A form of *fragmentation* (page 175).

Subgame

A portion of a *game* (page 182) that is itself a game.

Subgame perfect

Said of a *Nash equilibrium* (page 296) if the portions of the strategies of that equilibrium that pertain to each subgame are also Nash for their subgame. This is a useful refinement of Nash equilibrium in that it rules out strategies that are not credible for subgames.

Subsidiary

A firm that is owned and ultimately controlled by another firm. Thus a *multinational corporation* (page 293) has a *parent* (page 327) in one country and one or more subsidiaries in others.

Subsidy

A payment by government, perhaps implicit, to the private sector in return for some activity that it wants to reward, encourage, or assist. Under *WTO* (page 472) rules, subsidies may be *prohibited* (page 353), *actionable* (page 5), or *non-actionable* (page 309).

Subsidy equivalent

The size of the direct cash *subsidy* (page 414) that would have the same effect on behavior — usually production but sometimes consumption — as some other policy. See *producer subsidy equivalent* (page 349).

Subsistence economy

An economy composed mostly of *subsistence farmers* (see below).

Subsistence farmer

1. Literally, a farmer who produces mostly only for the consumption of the farmer's own household.

2. The term also seems to be used for farmers who grow a crop to sell, but whose income from doing so barely allows them to survive. When trade or trade policy is said to hurt subsistence farmers, it must be under this definition.

Substitute

One good is a substitute for another if an increase in demand for one (or a fall in its price) causes a decrease in demand for the other. Opposite of *complement* (page 66).

Substitute in production

One good is a substitute for another in production if an increase in output of one (or a rise in its price) causes a decrease in output of the other.

Substitution effect

That portion of the effect of price on quantity demanded that reflects the changed tradeoff between the good and other alternatives. Contrasts with *income effect* (page 216).

Sudden stop

A large negative swing in *capital inflows* (page 47), such as *emerging markets* (page 130) especially may be subject to if they have financed *current account deficits* (page 88) with *short-term* (page 391) borrowing. Term is due to *Calvo (1998)* (page 581).

Sunk cost

A cost that has already been incurred and cannot be reversed, which therefore cannot be avoided by current or future action. Sunk costs should therefore be irrelevant to current decisions.

Sunrise industry
An industry that is new and expected to grow rapidly, often through *high technology* (page 202). Contrasts with *sunset industry* (see below). Differs also from *infant industry* (page 221), which is presumed to be weak and need assistance.

Sunset clause
A provision within a piece of legislation providing for its expiration on a specified date unless it is deliberately renewed.

Sunset industry argument
The argument, in contrast to the *infant industry argument* (page 221), that a mature industry should be provided protection, either to help it restore its competitiveness, or to cushion its exit from the economy.

Super 301
A U.S. law authorizing *USTR* (page 462) to identify the most significant *unfair trade* (page 456) practices confronting U.S. exports and to seek to eliminate them. In contrast to *Section 301* (page 386), this does not require a private party to initiate the action.

Superior good
A good the demand for which is *income elastic* (page 216).

Supernatural trading bloc
A *trading bloc* (page 445) among countries that are *natural trading partners* (page 299) but that, because its tariff preferences are too extreme or transport costs with the outside world are too low, reduces world welfare. Due to *Frankel (1997)* (page 584).

Supplier surplus
Same as *producer surplus* (page 350), but recognizing that suppliers in some markets are not producers, even though the concept remains valid as measuring benefit to suppliers.

Supply
1. The act of offering a product for sale.
2. The quantity offered for sale.
3. The quantities offered for sale at various prices; the *supply curve* (page 417).

Supply chain
The sequence of steps, often done in different firms and/or locations, needed to produce a *final good* (page 164) from *primary factors* (page 346), starting with processing of *raw materials* (page 363), continuing with production of perhaps a series of intermediate inputs, and ending with final assembly and *distribution* (page 109).

Supply curve
The graph of quantity supplied as a function of price, normally upward sloping, straight or curved, and drawn with quantity on the horizontal axis and price on the vertical axis. Supply curves for exports and for foreign exchange usually have the same qualitative properties as supply curves for labor, being potentially *backward bending* (page 24).

Supply elasticity
The *elasticity* (page 129) of a supply function, usually with respect to price.

Supply function
The mathematical function explaining the quantity *supplied* (page 416) in terms of its various determinants, including price; thus the algebraic representation of the *supply curve* (see above).

Supply price
The price at which a given quantity is supplied; the supply curve viewed from the perspective of price as a function of quantity.

Supply shock
A *shock* (page 390) on the supply side of a market. Thus an unexpected shift, up or down, in the *supply curve* (see above).

Supply side
Anything that contributes to supply, as opposed to demand, in a *market* (page 272) or, especially, in the aggregate economy; *aggregate supply* (page 10).

Supply side constraint
This typically refers to any of a list of reasons why a *developing country* (page 101) may find it hard to exploit its *comparative advantage* (page 64) if there is *trade liberalization* (page 441).

The list includes inadequate *infrastructure* (page 222), low *productivity* (page 352), and lack of information about markets. Some reflect legitimate needs for *trade facilitation* (page 439), but others are just excuses for *protectionism* (page 354).

Support price

The price guaranteed by a government *price support* (page 345) program. Typically it requires that the government buys the product at that price. If the *market clearing* (page 273) price is lower, this raises the price to that level and causes the government to acquire the resulting *excess supply* (page 143).

Supranational

Transcending nations, especially through organizations that encompass more than one nation, such as the *European Union* (page 141).

Surcharge

See *import surcharge* (page 214).

Surplus

In the *balance of payments* (page 24), or in any category of international transactions within it, the surplus is the sum of credits minus the sum of debits. Also called simply the "balance" for that category. Thus the *balance of trade* (page 25) is the same as the surplus on trade, or the trade surplus, and similarly for *merchandise trade* (page 279), *current account* (page 88), and *capital account* (page 45).

Suspension

See *duty suspension* (page 117).

Suspension agreement

An agreement between an importing government and a foreign exporting firm to limit its exports and thus forestall the levying of *anti-dumping duties* (page 14) or *countervailing duties* (page 79).

Sustainable development

Economic development (page 122) that is achieved without undermining the incomes, resources, or environment of future generations.

Swan diagram

A diagram illustrating the conflict between *internal balance* (page 228) and *external balance* (page 154) as they respond to its *fiscal deficit* (page 167) and its costs relative to the world (and thus its *exchange rate* (page 144).) Due to *Swan (1955)* (page 596).

Swap

1. In exchange markets, this is a simultaneous sale of a currency on the *spot market* (page 404) together with a purchase of the same amount on the *forward market* (page 174). By combining these two transactions into a single one, *transaction costs* (page 447) may be reduced.

2. An arrangement between two *central banks* (page 52) whereby they each agree to lend their currency to the other.

Swap rate

The difference between the *spot* (page 404) and *forward exchange rates* (page 174). Thus the price of a *swap* (see above).

Swap scheme

A form of *countertrade* (page 79) in which goods are exchanged for goods, but at different locations so as to reduce *transport costs* (page 449).

Sweatshop

A manufacturing workplace that treats its workers inhumanely, paying low wages, imposing harsh and unsafe working conditions, and demanding levels of performance that are harmful to the workers.

SWF

Sovereign wealth fund (page 400).

SWIFT

Originally the Society for Worldwide International Financial Communication, now just called SWIFT, this is a member-owned cooperative of financial institutions that provides a platform for exchanging financial information. Its SWIFT codes are used for transmitting funds among banks internationally.

Swiss formula

A formula devised during the *Tokyo Round* (page 433) for reducing tariffs in a manner that would *harmonize* (page 197) them. The formula is $t_{\text{new}} = (t_{\text{old}}M)/(t_{\text{old}} + M)$, where the t's are the new and old tariffs, in percent, and M is a number that turns out to be the maximum possible new tariff. Somebody, presumably Swiss, was very clever!

Switch trading

A form of *countertrade* (page 79) in which a buyer in one country of exports from a second pays for it with an obligation due from a third party.

Systematic Integrated Framework for Trade Analysis

Trade SIFT (page 444) is a tool for *trade policy* (page 442) analysis, incorporating data on *trade* (page 435) and *trade barriers* (page 436) together with facilities to calculate and display various standard indicators from those data, such as *revealed comparative advantage* (page 376) and *intra-industry trade* (page 238).

TAA

Trade adjustment assistance (page 435).

Takeover

The acquisition by one firm of another.

Target

1. Any objective of economic policy.

2. The value of an economic variable that policy makers regard as ideal and use as the basis for setting policy. Contrasts with *instrument* (page 224).

3. The level of an *exchange rate* (page 144) that guides *exchange market intervention* (page 144) by a *central bank* (page 52) or *exchange stabilization fund* (page 146).

Target zone
An *exchange regime* (page 145) in which *intervention* (page 238) is used to keep the *exchange rate* (page 144) between upper and lower limits, the target zone. Since *pegged exchange rates* (page 330) also set narrow limits of intervention, "target zone" implies a *wider band* (page 470). Classically analyzed by *Krugman (1991c)* (page 589).

Targeting
See *industrial targeting* (page 220).

Tariff
A tax on trade, usually an *import tariff* (page 214) but sometimes used to denote an *export tax* (page 153). Tariffs may be *ad valorem* (page 5) or *specific*.

Tariff Act of 1930
Smoot-Hawley Tariff (page 395).

Tariff anomaly
An unusual situation in which the tariff on a semi-processed good is higher than on the finished good, causing the *effective rate of protection* (page 127) on the finished good to be lower than its tariff and even, potentially, negative. Thus the opposite of *tariff escalation* (page 422).

Tariff binding
A commitment, under the *GATT* (page 182), by a country not to raise the tariff on an item above a specified level, called the *bound rate* (page 38) or *bound tariff* (page 38).

Tariff classification
See *tariff heading* (page 422).

Tariff Commission
The name of what is today the *International Trade Commission* (page 237) as of its founding in 1916, until it was renamed the ITC in 1975.

Tariff complementarity
The idea that reducing a tariff on a good from one trading partner, as in an *FTA* (page 178), creates the incentive to reduce that tariff against other trading partners. Theoretical models of

tariff setting disagree on whether this or its opposite, *tariff substitutability* (page 424), makes sense. Term is due to *Bagwell and Staiger (1999)* (page 578).

Tariff deficit

Despite appearances, this is not a term in international economics. It means the difference between the price (called a tariff) that a regulated utility such as an electricity producer is allowed to charge and its cost per unit.

Tariff dispersion

The inequality of the tariffs levied by a country. It is generally the case that, for a given average level of a country's tariffs, greater dispersion causes greater distortion.

Tariff equivalent

The level of tariff that would be the same, in terms of its effect, usually on the quantity of imports, as a given *NTB* (page 314).

Tariff escalation

In a country's *tariff schedule* (page 423), the tendency for tariffs to be higher on *processed goods* (page 349) than on the *raw materials* (page 363) from which they are produced. This causes the *effective rate of protection* (page 127) on these goods to be higher than the *nominal rate* and puts *LDC* (page 253) producers of *primary products* (page 347) at a disadvantage.

Tariff factory

A production facility established by a foreign firm through *FDI* (page 162) in a country in spite of its higher production costs, in order to serve its market without paying a tariff.

Tariff heading

The descriptive name attached to a *tariff line* (page 423), indicating the product to which it applies. Same as *tariff classification* (page 421).

Tariff items 806 & 807

Lines 806.30 and 807.00 of the U.S. tariff schedule, which permit goods that have been sent abroad for processing or assembly to be admitted subject to duty only on the *value added* (page 462) abroad.

Tariff jumping
The establishment of a production facility within a foreign country, through *FDI* (page 162) or *licensing* (page 258), in order to avoid a *tariff* (page 421).

Tariff line
A single item in a country's *tariff schedule* (page 423).

Tariff peak
In a *tariff schedule* (page 423), a single tariff or a small group of tariffs that are particularly high, often defined as greater than three times the average nominal tariff.

Tariff preference
A lower (or zero) tariff on a product from one country than is applied to imports from most countries. This violation of the *MFN* (page 280) principle is permitted in special cases, including some *preferential trade arrangements* (page 342) and the *GSP* (page 195).

Tariff protection
Protection (page 354) provided by a *tariff* (page 421).

Tariff quota
A *tariff rate quota* (see below).

Tariff rate quota
A combination of an import *tariff* (page 421) and an import *quota* (page 360) in which imports below a specified quantity enter at a low (or zero) tariff and imports above that quantity enter at a higher tariff. Also called a *tariff quota* (see above).

Tariff redundancy
See *redundant tariff* (page 368).

Tariff revenue
See *revenue* (page 376).

Tariff schedule
The list of all of a country's tariffs, organized by product.

Tariff Schedule of the United States, Annotated
The official product nomenclature for specifying tariffs in the United States used until 1988, when it was replaced with the *harmonized system* (page 197).

Tariff substitutability

See *tariff complementarity* (page 421).

Tariff surcharge

Import surcharge (page 214).

Tariff wall

A tariff, presumably a high one, perhaps in lots of industries. The term is used to highlight the difficulty foreign sellers have in getting their products past the tariff, often in the context of the incentive therefore provided for *FDI* (page 162). See *foreign investment argument for protection* (page 172).

Tariff-and-retaliation game

The *game* (page 182) of countries setting tariffs knowing that by doing so they alter the *terms of trade* (page 429) to their own advantage. This is one very specific form of *trade war* (page 444).

Tariffication

Conversion of *NTBs* (page 314) to *tariffs* (page 421) at the level of their *tariff equivalents* (page 422). In the *Uruguay Round* (page 461), agricultural NTBs were *tariffied* (page 421) and *bound* (page 34), the purpose being to replace unwieldy NTBs with tariffs that can then become the subject of negotiation.

Tariffs and retaliation

The process of one country raising its tariff to secure some advantage, to which another country responds by raising its tariff, the first raises its tariff still further, etc. See *retaliation* (page 375) and *trade war* (page 444). Classic treatment by *Johnson (1953/1954)* (page 586).

Tastes

In economics, this is usually a synonym for *preferences* (page 342), in the sense of attitudes toward different goods.

Tax base

The amount on which a taxpayer pays taxes, as for example their taxable income in the case of an income tax, or the taxable value of their property in the case of a property tax.

Tax break

Any provision of the tax code, such as a *tax credit* (see below) or *tax deduction* (see below), that reduces the amount of tax that a firm or individual will pay, perhaps in return for behavior that the government wishes to encourage.

Tax buoyancy

A measure of how rapidly the actual revenue from a tax rises (including that due to any change in the tax law) as the *tax base* (page 424) rises. It is defined, like an *elasticity* (page 129), as $\%\Delta R/\%\Delta B$ where R is the *real* (page 363) revenue from the tax, B is the real tax base, and $\%\Delta$ is percent change. It differs from *tax elasticity* (page 425) in not holding the tax law constant.

Tax compliance

The extent to which economic agents pay the taxes that their government has levied. In developing countries, a low rate of tax compliance is often a significant hindrance to economic development.

Tax concession

A special provision for a firm not to pay a tax that it would otherwise owe, provided by a local, state, or national government as an inducement to invest. Competition among governments, seeking to attract investment, to some extent undermines the benefits that countries might otherwise receive from *FDI* (page 162).

Tax credit

A provision of the tax code that specifies an amount by which a taxpayer's taxes will be reduced in return for some behavior.

Tax deduction

A provision of the tax code that specifies an amount by which a taxpayer's *tax base* (page 424) will be reduced in return for some behavior, resulting in a lowering of the amount of tax paid that depends on their tax rate.

Tax elasticity

The *elasticity* (page 129) of the *real* (page 363) revenue from a tax with respect to the real *tax base* (page 424), for a given tax law.

Tax haven
A location, usually a country, where either rates of taxation or levels of enforcement are low, so that high taxes in other countries can be avoided by moving or locating there.

Tax incidence
How the burden of a tax (or tariff) is distributed between buyers and sellers. A tax typically both raises the price to buyers and lowers it to sellers, by amounts that sum to the tax.

Tax rebate
The refund of a tax that has been overpaid. Some countries rebate certain taxes that have been paid on goods that are then exported.

Tax-cum-subsidy
This phrase is used to indicate a policy that may be either a tax or a subsidy, depending on which will achieve the stated objective, which is usually to alter or set a relative price. The word "cum" here is Latin for "with," which is slightly inappropriate, since in this context what is usually meant is "or."

TBT
Technical barrier to trade (see below).

TEC
Transatlantic Economic Council (page 447).

Technical barrier to trade
A *technical regulation* (see below) or other requirement (for testing, labeling, packaging, marketing, certification, etc.) applied to imports in a way that restricts trade.

Technical change
Usually a synonym for *technological progress* (page 427).

Technical inefficiency
See *X-efficiency* (page 473).

Technical progress
Same as *technological progress* (page 427).

Technical regulation
A requirement of characteristics (such as dimensions, quality, performance, or safety) that a product must meet in order to be sold on a country's market. See *standards* (page 406).

Technique

1. A specific method of production, using a particular combination of inputs.

2. A point on an *isoquant* (page 242).

Technique of analysis

A method used for displaying or manipulating economic models.

Technological change

A change in a *production function* (page 351) that alters the relationship between inputs and outputs. Normally it is understood to be an improvement in technology, or *technological progress* (see below), and it is of interest in international economics for its implications for trade and economic welfare.

Technological difference

A difference in production functions, usually for the same industry compared between two countries, such that one country has higher output for any given input than the other.

Technological progress

A *technological change* (see above) that increases output for any given input.

Technology

1. The complete set of knowledge about how to produce in an economy at a point in time, including *techniques* (see above) of production that are available but not economically viable.

2. The set of *production functions* (page 351) available to an economy.

3. Referring to industries that are experiencing, or recently have experienced, *technological progress* (see above).

Technology gap

1. A time lag between the appearance of a new technology and its acquisition by a country.

2. The presence in a country of a technology that other countries do not have, so that it can produce and export a good whose cost might otherwise (if other countries had the same technology but different factor prices) be higher than abroad.

Technology gap model
A model of trade that is driven by a *technology gap* (page 427) that is of different importance for different industries, so that technologically (page 427) advanced countries have *comparative advantage* (page 64) in sectors where technology is most important. Refer to the term's origin (page 573).

Technology intensive
Referring to an industry in which *technology* (page 427) is advancing rapidly, and thus where successful operation requires heavy expenditure on *R&D* (page 361).

Technology spillover
Same as *technology transfer* (see below), though usually not done intentionally by the transferor.

Technology transfer
The communication or transmission of a *technology* (page 427) from one firm or country to another. This may be accomplished in a variety of ways, ranging from deliberate *licensing* (page 258) to *reverse engineering* (page 378).

Temporary admission
Permission to import a good duty free for use as an input in producing for export. See *drawback* (page 114) and *export processing zone* (page 152).

Temporary producer movement
A *mode of supplying* (page 285) a *traded service* (page 444) through the temporary movement of persons employed by the supplier into the buyer's country.

Tender
To offer a product for sale at a specified price, usually in response to a specific request from a potential purchaser. *Government procurement* (page 189), for example, that is not open to *international tendering* is a form of *nontariff barrier* (page 312).

Tequila Crisis
Refers to the economic and financial crisis that began in late 1994 when the Mexican peso devalued, causing disruption in the Mexican economy that then spread through other countries of Latin America. *Peso Crisis* (page 334).

Term deposit

An amount held at a bank or other financial institution subject to a minimum time period, or term, before it can be withdrawn without penalty. Also called a *time deposit* (page 432).

Term structure of interest rates

Yield curve (page 473).

Terms of trade

1. Most commonly in economics, the *relative price* (page 370), on world markets, of a country's exports compared to its imports. Also called the *net barter terms of trade* (page 303). See *improve the terms of trade* (page 215). Introduced by *Marshall (1923)* (page 590).

2. Any of several other related concepts: *commodity terms of trade* (page 62), *gross barter terms of trade* (page 192), *income terms of trade* (page 217), *single factoral terms of trade* (page 393), and *double factoral terms of trade* (page 113).

3. Outside of the economics of international trade, this expression often refers more broadly to the policies, facilities, and other arrangements that characterize the trade between one country or group of countries and another.

4. Unusually, some do not apply definition 1, but its reciprocal: the relative price of imports compared to exports. Thus in *Backus et al. (1994)* (page 577): "The terms of trade, in this paper, is the relative price of imports to exports..."

Terms of trade argument

Same as the *optimal tariff argument* (page 322), which works by restricting the quantity of trade in order to *improve the terms of trade* (page 215).

Terms of trade controversy

Disagreement over the validity of the *Prebisch-Singer hypothesis* (page 341).

Terms of trade effect

The effect of a tariff on the *terms of trade* (see above). By reducing the demand for imports, a tariff levied by a *large country* (page 251) causes the prices of those imported goods to fall on

the world market relative to the country's exports, *improving* (page 215) its terms of trade.

Tertiary sector

The portion of an economy producing *services* (page 388), in contrast to the *primary sector* (page 347) and the *secondary sector* (page 385).

Textbook Heckscher-Ohlin Model

The $2 \times 2 \times 2$ *model* (page 476).

Textiles

Cloth. The textile sector is important for trade, along with *apparel* (page 15), because with some exceptions (synthetics) it is a very *labor intensive* (page 249) sector, and it is therefore a likely source of *comparative advantage* (page 64) for *developing countries* (page 101). See *textiles and apparel* (below).

Textiles and apparel

These largely *labor intensive* (page 249) sectors are often the first *manufactured* (page 268) exports of *developing countries* (page 101). Because of the threat to employment in *developed countries* (page 101), however, they have long been *protected* (page 354) there. This is only now changing under the *WTO's* (page 472) *ATC* (page 20).

Textiles and Clothing Agreement

Agreement on Textiles and Clothing (page 10).

TFP

Total factor productivity (page 434).

Thank-you note

1. Paul Krugman's suggested policy for responding to a foreign subsidy: Send their embassy a thank-you note, on the grounds that one benefits from cheaper imports via the *terms of trade* (page 429).

2. Paul Krugman, again in his 31 December 2009 column in the *New York Times*, suggesting this as the U.S. response if China were to sell dollars, on the grounds that it would improve U.S. competitiveness and employment. (This is opposite of definition 1, presumably reflecting concern in 2009 with short-run weakness of U.S. aggregate demand rather than longer-run effects of terms of trade.)

Theoretical proposition

A property of an economic model that is derived (deduced) from its assumptions. It usually takes the form of a prediction about something that would be true in the world if the world conformed to the model's assumptions, and perhaps also to additional assumptions specified in the proposition.

Theory of second best

See *second best* (page 385).

Third best

Even further from optimal than *second best* (page 385).

Third World

Refers to all *less developed countries* (page 257) as a group. Term was coined by demographer *Alfred Sauvy* during the Cold War, when the "first world" was the developed capitalist countries and the "second world" was the communist countries, although these terms were seldom used.

Thirlwall's law

1. The empirical regularity observed by *Thirlwall (1979)* (page 597) that for many countries the rate of growth of output, g_Y, is approximated by the rate of growth of exports, g_X, divided by the country's *elasticity of demand for imports* (page 129), η_M: $g_Y = g_X/\eta_M$.

2. Equivalently, letting export growth be driven by foreign income growth, g_{Y*}, and the elasticity of (foreign) demand for exports, η_X, this equates the ratio of foreign and domestic growth rates to the ratio of the trade elasticities: $g_Y/g_{Y*} = \eta_X/\eta_M$. The latter was dubbed by *Krugman (1989)* (page 589) the *45-degree rule* (page 476).

Tied aid

Aid (page 11) that is given under the condition that part or all of it must be used to purchase goods from the country providing the aid.

Tied loan

Loan (page 262) that is given under the condition that part or all of it must be used to purchase goods from the country providing the loan.

Tiger economy
Any one of several economies that have developed extremely rapidly over a period of years. Especially the *Four Tigers* (page 175), but also a number of others who began to grow more recently.

Tight money
A *monetary policy* (page 286) that is *contractionary* (page 74), thus with high *interest rates* (page 227) for borrowing. Contrasts with *easy money* (page 119).

Time deposit
Term deposit (page 429).

Time inconsistency
The problem that arises when a decision maker, especially a policy maker, prefers one policy in advance but a different one when the time to implement arrives. Knowing this, others will not find the commitment to the first policy credible.

Time preference
The attachment of a higher weight in utility (see *utility function* (page 462)) to consumption in the present compared to consumption in the future. A common formulation of utility from a time path of consumption $c(t)$ would be $U = \int c(t)e^{-\rho t}$, where $\rho > 0$ is the *rate of time preference* (page 362).

Time series variation
The changes in an economic variable that occur over time for a given economic unit such as a consumer, firm, industry, or country. Often used to seek evidence of effects of macroeconomic and financial policies. Contrasts with *cross sectional variation* (page 84).

TIR Convention
A 1949 agreement that now (2013) includes 68 countries, providing for transport of goods by road across countries, with duties levied only on reaching their destination. (TIR stands for the French "Transports Internationaux Routiers" — International Road Transport.)

Title VII

Title VII of the *Omnibus Trade and Competitiveness Act of 1988* (page 318) is a U.S. law to monitor and enforce international agreements on *government procurement* (page 189) as they affect U.S. exporters.

TLC

Tratado de Libre Comercio (Spanish for *Free Trade Agreement* (page 177)).

TNC

Transnational corporation (page 449).

To market

See *pricing to market* (page 346).

Tobin tax

A small tax on international currency transactions, proposed by *James Tobin* (page 597) in 1978 to discourage destabilizing (see *destabilizing speculation* (page 100)) short-term international *capital movements* (page 48). Advocates suggest a tax of 0.1–0.25% with revenue used for urgent global priorities. Others question enforceability.

Tobin's Q

The ratio of a firm's market value to the replacement cost of its assets. Used as a guide to investment. Due to *Tobin (1969)* (page 597).

Tokyo Round

The 7th *round* (page 380) of multilateral trade negotiations that took place under *GATT* (page 182) auspices, commencing 1973 and completed in 1979. This was the first *trade round* (page 443) to deal with *NTBs* (page 314), by negotiating the *Tokyo Round Codes* (see below).

Tokyo Round Codes

The codes of behavior negotiated in the Tokyo Round covering several *NTBs* (page 314), arising from *customs valuation* (page 91), *government procurement* (page 189), *standards* (page 406), etc. Participation was optional, each code covering only those countries that chose to sign. With the creation of the

WTO (page 472), most were replaced by agreements applying to all members, the only exceptions today being the *agreements on civil aircraft* (page 58) and *government procurement* (page 189).

Torquay Round

The third (1950–51) of the *trade rounds* (page 443) conducted under the auspices of the *GATT* (page 182), initiated at the town of Torquay, U.K.

TOT

Terms of trade (page 429).

Total aggregate measurement of support

Same as *aggregate measurement of support* (page 9).

Total factor productivity

A measure of the output of an industry or economy relative to the size of all of its primary factor inputs. The term, and its acronym TFP, often refers to the growth of this measure, as measured by the *Solow residual* (page 398). See also *Hicks neutral* (page 201) technical progress.

Total product

The output of a firm or industry, as distinct from *average product* (page 22) and *marginal product* (page 269).

TPA

Trade Promotion Authority (page 442).

TPP

Trans-Pacific Partnership (page 447).

TPRC

Trade Policy Research Centre (page 442).

TPRM

Trade Policy Review Mechanism (page 442).

Tracing

The principle, sometimes applied in *rules of origin* (page 380), that only the domestically-produced content of intermediate inputs can count as domestic in products that use them as inputs. Contrasts with *roll-up* (page 379), and requires greater effort to keep track of inputs.

Tradable

1. Capable of being traded among countries.

2. A good or service that is tradable; with tradables referring to an aggregate of such goods and services.

Trade

1. To *exchange* (page 143) one item for another; one person or firm providing an item (good, service, asset, etc.) to another person or firm, with the latter providing a different item to the first in return, as payment.

2. To *export* (page 148) and/or *import* (page 211).

3. The quantity or value of exports and/or imports.

Trade Act of 1934

Reciprocal Trade Agreements Act of 1934 (page 367).

Trade Act of 1962

Trade Expansion Act of 1962 (page 439).

Trade Act of 1974

Trade Reform Act of 1974 (page 442).

Trade Act of 1979

Trade Agreements Act of 1979 (see below).

Trade Act of 1988

Omnibus Trade and Competitiveness Act of 1988 (page 318).

Trade adjustment assistance

A program of *adjustment assistance* (page 6) for workers and firms in industries that have suffered from competition with imports. In the U.S., TAA began with the *Trade Expansion Act of 1962* (page 439), and it has been renewed and expanded since then, including as part of the *NAFTA* (page 295).

Trade agreement

A negotiated agreement among two or more countries to limit or alter their policies with respect to trade. A common type in recent years has been agreements to form *preferential trading arrangements* (page 342).

Trade Agreements Act of 1979

The legislation implementing the *Tokyo Round* (page 433) agreement in the United States.

Trade and investment
The interactions between, and the rules and policies governing, international trade and *foreign direct investment* (page 171). One of the *Singapore Issues* (page 393).

Trade and transformation curve diagram
One of the most frequently used diagrams of trade theory, using a *transformation curve* (page 448) together with one or more *price lines* (page 345) and sometimes *community indifference curves* (page 64) to illustrate production, consumption, and trade and the effects on them of *tariffs* (page 421) and other *exogenous* (page 146) changes. Refer to *Picture Gallery* (page 525).

Trade and wages debate
The debate between and among trade economists and labor economists as to the reason for the increase in the relative wages of skilled labor, compared to unskilled labor, in the U.S. starting in the 1980s. A central issue was the importance of "trade" as a contributing cause.

Trade as an engine of growth
See *engine of growth* (page 132).

Trade as the handmaiden of growth
See *handmaiden of growth* (page 196).

Trade balance
Balance of trade (page 25).

Trade balance ratio
The ratio of value of exports to value of imports. Equals one if *trade balance* (see above) is zero, greater than one if a *surplus* (page 418), and less than one if a *deficit* (page 95). Has the advantage of indicating how large a surplus or deficit is compared to imports, since $R = X/M$ and $B = X - M$ imply $R\text{-}1 = B/M$.

Trade balancing mechanism
A policy that seeks to limit *trade deficits* (page 438) (or increase surpluses) by using *import licensing* (page 212) to limit imports to the value of exports. Introduced by Argentina in 2011.

Trade barrier
An artificial disincentive to export and/or import, such as a *tariff* (page 421), *quota* (page 360), or other *NTB* (page 314).

Trade bias

See *bias* (page 32) of a trade regime.

Trade bloc

Trading bloc (page 445).

Trade co-movement puzzle

The positive correlation between *business cycles* (page 42) of countries that trade a lot with each other. This is a *puzzle* because it cannot be explained by modern conventional theories of the *real business cycle* (page 364), though it seems an obvious implication of early *Keynesian* (page 246) models of *foreign repercussions* (page 172).

Trade complementarity index

A measure of the extent to which one of two countries, j, exports what the other, k, imports. Defined as $TC_{jk} = 100 - \Sigma_i(|m_{ik} - x_{ij}|/2)$, where x_{ij} is the share of good i in all exports of country j and m_{ik} is the share of good i in all imports of country k.

Trade concentration index

Any of several measures of the extent to which exports of a particular product or to a particular country come from only a small number of countries. May be a *Herfindahl Index* (page 200) or another measure used for similar purposes in other areas of economic or statistical analysis.

Trade cost

Any cost incurred in order to engage in international trade, including *transport cost* (page 449), insurance, etc.

Trade cost puzzle

The empirical finding, usually from *gravity models* (page 190), that *bilateral trade* (page 34) declines with distance more rapidly than can be accounted for by the *trade costs* (see above) that are implicit in price differences across countries and locations. Also, the observation that the effect of distance, as measured by gravity models, has not declined over the last half century.

Trade creation

Trade that occurs between members of a *preferential trading arrangement* (page 342) that replaces what would have been production in the importing country were it not for the PTA.

Associated with welfare improvement for the importing country since it reduces the cost of the imported good. Concept, and *trade diversion* (page 439), due to *Viner (1950)* (page 597).

Trade credit

1. An amount that is loaned to an exporter to be repaid when the exports are paid for by the foreign importer.

2. Credit extended by an exporter to an importer, permitting them to pay at some time after they take delivery.

Trade defense measure

Any of several policies that permit *tariffs* (page 421) or other *trade restrictions* (page 443) to prevent or correct injury to domestic industry due to imports. Most common (and *WTO*-permitted (page 472)) forms are *Safeguards* (page 381), *anti-dumping duties* (page 14), and *countervailing duties* (page 79).

Trade deficit

Imports minus exports of goods and services. See *deficit* (page 95).

Trade deflection

Entry, into a low-tariff member of a *free trade area* (page 177), of imports intended for a purchaser in its higher-tariff partner. This is normally prevented by *rules of origin* (page 380). Term was introduced with this meaning by *Shibata (1967)* (page 596).

Trade dependency

See *dependency theory* (page 99).

Trade dispute

Any disagreement between nations involving their international trade or trade policies. Today, most such disputes appear as cases before the *WTO* (page 472) *dispute settlement mechanism* (page 108), but prior to the WTO, some were handled by the *GATT* (page 182) while others were dealt with *bilaterally* (page 33), sometimes precipitating *trade wars* (page 444).

Trade distortion

A policy that alters the amount of trade, up or down, from what it would otherwise be. Agricultural *subsidies* (page 414), even if not based on quantity of exports, are trade distorting unless

they are paid independently of whether and how much farmers produce.

Trade diversion

Trade that occurs between members of a *preferential trading arrangement* (page 342) that replaces what would have been imports from a country outside the PTA. Associated with welfare reduction for the importing country since it increases the cost of the imported good. Concept, and *trade creation* (page 437), due to *Viner (1950)* (page 597).

Trade Expansion Act of 1962

The legislation authorizing U.S. participation in the *Kennedy Round* (page 246), replacing the *Reciprocal Trade Agreements Act of 1934* (page 367). It also established *Trade Adjustment Assistance* (page 435).

Trade expenditure function

For an economy, this is the difference between its *expenditure function* (page 148) and its *revenue function* (page 377): $TE(P, V, U) = E(P, U) - R(P, V)$. Its partial derivatives, representing quantities demanded minus supplied, are therefore *net imports* (page 304).

Trade facilitation

One of the *Singapore Issues* (page 393), this refers in the *Doha Declaration* (page 110) to "expediting the movement, release and clearance of goods, including goods in transit." This includes *customs procedures* (page 90) and other practices that may add to the cost or time requirements of trade.

Trade finance

The mechanisms by which firms engaged in *trade* (page 435) cover its costs, including borrowing, *export factoring* (page 150), *forfaiting* (page 173), etc.

Trade flow

The quantity or value of a country's *bilateral trade* (page 34) with another country.

Trade imbalance

A *trade surplus* (page 444) or *trade deficit* (page 438).

Trade in services

The provision of a service to buyers within or from one country by a firm in or from another country. Because such transactions did not involve a physical product crossing borders, they were not regarded as "trade" and were not covered by *GATT* (page 182). In the mid-1980s they were recognized as a form of trade and were incorporated into the *WTO's* (page 472) *GATS* (page 182).

Trade in tasks

International *fragmentation* (page 175).

Trade indicator

A trade indicator can be any sort of data, or even an anecdote, that suggests how the volume or composition of trade compares across time or across countries. Trade indicators are published by the *OECD* (page 316) and the *World Bank* (page 470), among others.

Trade indifference curve

In a diagram measuring quantities of exports and imports, a curve representing amounts of trade among which a freely trading country is indifferent, based on its *community indifference curves* (page 64) and its *transformation curve* (page 448). Due to *Meade (1952)* (page 591).

Trade integration

The process of increasing a country's participation in world markets through trade, accomplished by *trade liberalization* (see below).

Trade integration mechanism

A policy introduced in 2004 by the *IMF* (page 209) to make resources more "predictably available" to member countries meeting *balance of payments* (page 24) problems due to *multilateral trade liberalization* (page 293).

Trade intensity index

For a group or *bloc* (page 35) of countries, usually in a *PTA* (page 355), the ratio of the bloc's share of intra-bloc trade to the bloc's share in world trade. If greater than one, this is said to suggest that the bloc displays *trade diversion* (page 439). Index seems to be due to *Frankel (1997)* (page 584).

Trade liberalization

Reduction of *tariffs* (page 421) and removal or relaxation of *NTBs* (page 314).

Trade minister

The government official, at the ministerial or cabinet level, primarily responsible for issues of international trade policy; the *minister of international trade* (page 283). In the U.S., that is the *USTR* (page 462).

Trade ministry

The unit of government primarily responsible for issues of international trade policy and trade negotiations, headed by the *trade minister* (page 441). In the U.S., although trade policy is split across several units of government, trade negotiations are handled by the office of *USTR* (page 462).

Trade mission

1. An office or other facility maintained in one country by the government of another to help residents of both to engage in international trade between them.

2. A group of persons from business and government of a country that travels to another country to promote its exports.

Trade model

An economic *model* (page 285) that explains certain causes, effects, and/or characteristics of international *trade* (page 435).

Trade negotiation

A negotiation between pairs of governments, or among groups of governments, exchanging commitments to alter their trade policies, usually involving reductions in *tariffs* (page 421) and sometimes *nontariff barriers* (page 312).

Trade openness

See *openness* (page 321).

Trade parity pricing

This refers to setting prices — or allowing prices to be set by the market — at levels determined by world prices. In countries such as India, where prices of certain products such as oil have been traditionally controlled by government, trade parity pricing may be a radical change for producers and consumers.

Trade pattern
What goods and services a country trades, with whom, and in what direction. Explaining the trade pattern is one of the major purposes of trade theory, especially with regards to which goods a country will export and which it will import. This may be done directly, as the *commodity pattern of trade* (page 62), or indirectly as the *factor content pattern of trade* (page 157).

Trade policy
Any *policy* (page 337) affecting international *trade* (page 435), including especially *tariffs* (page 421) and *nontariff barriers* (page 312).

Trade Policy Research Centre
A research organization that was active in the 1970s and 1980s, but no longer seems to exist, at least in that form. At its height it involved many important international economists and influenced trade policies and trade negotiations.

Trade Policy Review Mechanism
The periodic review of the trade policies and practices of the member countries of the *WTO* (page 472), conducted and published by the WTO. The review may, if appropriate, call for reform, but there is no immediate consequence of a determination that a member is out of compliance.

Trade preference
A policy of admitting imports from one or more countries at lower (perhaps zero) tariffs than apply to otherwise comparable imports from other countries. See *preferences* (page 342) and *Preferential Trading Arrangement* (page 342).

Trade Promotion Authority
New name being used (as of 2000) for *fast track* (page 162).

Trade Reform Act of 1974
Actually signed on 3 January 1975, this renewed and revised authority to negotiate trade agreements and also dealt with new issues including *adjustment assistance* (page 6), the *escape clause* (page 136), *tariff preferences* (page 423), and *unfair trade* (page 456), and it introduced *fast track* (page 162) authority.

Trade regime
The rules and practices prevailing in a country's *international trade* (page 237) relationships.

Trade remedy
Protection (page 354) provided by any of the following: *anti-dumping duties* (page 14), *countervailing duties* (page 79), or *safeguards protection* (page 381).

Trade restriction
Any policy that reduces the amount of exports or imports, such as a *quota* (page 360), *tariff* (page 421), or other *nontariff barrier* (page 312).

Trade restrictiveness index
A theoretically consistent index of the restrictiveness of trade policy — both *tariffs* (page 421) and *NTBs* (page 314) — developed by *Anderson and Neary (1996)* (page 577).

Trade round
A set of multilateral negotiations, held under the auspices of the *GATT* (page 182) and *WTO* (page 472), in which countries exchange commitments to reduce tariffs and agree to extensions of the GATT rules. Most recent were the *Kennedy* (page 246), *Tokyo* (page 433), *Uruguay* (page 461), and *Doha* (page 111) Rounds.

Trade sanction
Use of a trade policy as a *sanction* (page 382), most commonly an *embargo* (page 130) imposed against a country for violating human rights.

Trade secret
A piece of information, known to a firm but not to others, about its production or business practices. Unlike a *patent* (page 329), which discloses information but protects it for a limited time, a trade secret can be kept indefinitely. But the protection of secrets under both national laws and *TRIPs* (page 451), is much weaker.

Trade sector
1. The portion of the economy that produces *tradable* (page 435) goods, and thus exports and/or competes with imports.

2. The portion of the economy that actually engages in international trade, exporting and/or importing or providing *trade services* (see below).

Trade service

A service that is an input to an act of international trade. Examples include transportation to, from, or between ports; insurance; or the provision of *trade credit* (page 438).

Trade share

This can mean a variety of things, but most commonly it refers either to *imports* (page 215) or *exports* (page 153) as a percentage of *GDP* (page 183).

Trade SIFT

Systematic Integrated Framework for Trade Analysis (page 420).

Trade surplus

Exports minus imports of goods and services, or *balance of trade* (page 25). See *surplus* (page 418).

Trade theory

The body of economic thought that seeks to explain why and how countries engage in international trade and the welfare implication of that trade, encompassing especially the *Ricardian model* (page 378), the *Heckscher-Ohlin Model* (page 199), and the *new trade theory* (page 306).

Trade triangle

Refer to the *trade and transformation curve diagram* (page 525), the right triangle formed by the world price line and the production and consumption points, the sides of which represent the quantities exported and imported.

Trade war

Generally, a period in which each of two countries alternate in further restricting trade from the other. More specifically, the process of *tariffs and retaliation* (page 424).

Trade-related aspects of intellectual property rights

This was the term used for bringing *intellectual property protection* (page 226) into the *Uruguay Round* (page 461) of trade negotiations under the pretense that only trade-related aspects

of the issue would be included. In practice, that did not constrain the coverage of the resulting *agreement* (page 10).

Trade-related investment measure

Any policy applied to *foreign direct investment* (page 171) that has an impact on international trade, such as an *export requirement* (page 153). The *Uruguay Round* (page 461) included negotiations on *TRIMs* (page 451).

Trade-weighted average tariff

The *average* (page 23) of a country's tariffs, weighted by value of imports. This is easily calculated as the ratio of total tariff revenue to total value of imports.

Trade-weighted exchange rate

The weighted average of a country's *bilateral exchange rates* (page 33) using *bilateral trade* (page 34) — exports plus imports — as weights. Also called an *effective exchange rate* (page 126).

Traded good

A good that is exported or imported or — sometimes — a good that could be exported or imported if it weren't for those "pesky" *tariffs* (page 421).

Traded/nontraded good price ratio

One definition of *real exchange rate* (page 364).

Trademark

A symbol and/or name representing a commercial enterprise, whose right to the exclusive use of that symbol is, along with *copyrights* (page 76) and *patents* (page 329), one of the fundamental *intellectual property rights* (page 226) that are the subject of the *WTO* (page 472) *TRIPS* (page 451) agreement.

Trading arrangement

An agreement between two or more countries concerning the rules under which trade among them will be conducted, either in a particular industry or more broadly.

Trading bloc

A group of countries that are somehow closely associated in international trade, usually in some sort of *PTA* (page 355).

Trading company

1. A firm that facilitates transactions between buyers and sellers, often in different countries. Trading companies may specialize in *exports* (page 153) and/or *imports* (page 215), and they typically do not take ownership of goods, but rather take a commission from sellers.

2. "Trading Company" is also part of the names of many firms, which may not satisfy definition 1.

Trading partner

A trading partner of one country is any other country with which it trades. Sometimes restricted, not very rigorously, to countries with which it trades a lot, or countries in the same *preferential trading arrangement* (page 342).

Traditional economy

1. This term is used somewhat variously to describe a very poor country, a *subsistence economy* (page 415), a primitive agricultural economy, or a pre-industrial economy.

2. More formally, in a traditional economy, resources are allocated based on the historical roles of individuals and families, passed down across generations, and markets play little if any role.

Tragedy of the commons

The tendency of a publicly available resource to be overused, because individual users do not bear the full cost of their use, which is instead shared by everybody. This is particularly a problem when a resource, such as an ocean fishery, is not in the jurisdiction of a single government. Term first used by *Hardin (1968)* (page 585).

Tranche

1. French for "slice," in finance it usually refers to the pieces of a security that has been divided into parts for sale to different parties.

2. In the *IMF* (page 209), each member can draw upon or borrow amounts that are set as 25% of its *IMF quota* (page 209), the first called the *gold tranche* (page 188) and each subsequent one called a *credit tranche* (page 82).

Trans-Pacific Partnership
A *preferential trading arrangement* (page 342) being negotiated by the United States with countries of the Asia-Pacific region.

Trans-Pacific Strategic Economic Partnership Agreement
The *P4* (page 326) agreement among four countries — Brunei Darussalam, Chile, New Zealand and Singapore — that provides a "framework on which relationships between the Parties can be strengthened." Began in 2002 with three countries, adding Brunei in 2005.

Transaction cost
On the foreign exchange markets, this includes *broker's fees* (page 40) and/or the *bid/ask spread* (page 33).

Transaction value
The actual price of a product, paid or payable, used for *customs valuation* (page 91) purposes.

Transatlantic Economic Council
A political body in which the U.S. and EU seek to cooperate to advance economic integration between the two.

Transfer paradox
A *transfer* (see page 448) that makes the recipient worse off (i.e., an *immiserizing transfer* (page 210)) and/or that makes the donor better off.

Transfer payment
Payment made by the government or private sector of one country to another as a gift or aid, not as payment for any good or service nor as an obligation. Also called a unilateral transfer.

Transfer price
Literally this is the price charged on goods and services traded between subsidiaries of (often) a *multinational corporation* (page 293). However, the term usually connotes setting prices to minimize taxes paid, in response to differences in *corporate tax* (page 77) rates. Contrasts with *arm's length price* (page 16).

Transfer problem
Made famous in a debate between *Keynes (1929a,b,c)* (page 587) and *Ohlin (1929a,b)* (page 592), this is the question of whether

a financial transfer from one country to another will cause, at an unchanged *real exchange rate* (page 364), an equal change in the countries' bilateral *trade balance* (page 436), thus "effecting" the transfer in real terms.

Transfer union

A group of countries that unite sufficiently to use *transfer payments* (page 447) from one government to another as a regular means to accommodating changing needs across countries. The *EU* (page 137) is *not* a transfer union, though some have suggested that it should become one, and creation of the *EFSF* (page 128) in 2010 was a step in that direction.

Transfers

Transfer payments (page 447).

Transformation curve

Same as *production possibility frontier* (page 351). The name comes from the idea that, by devoting resources to producing one good instead of another, it is as though one good is being transformed into another.

Transhipment

See *transshipment* (page 449).

Transit zone

A particular type of *free trade zone* (page 177) where a port is provided by a coastal country for a neighbor that is landlocked or lacks port facilities. Goods may enter and leave the zone without being subject to the coastal country's *customs procedures* (page 90) or paying its *tariffs* (page 421).

Transition

The process of converting from a *centrally planned* (page 53), *non-market economy* (page 310) to a *market economy* (page 273). During that process, it is a transition economy.

Transition indicator

An index of the progress that a country has made in the process of *transition* (see above), produced by the *EBRD* (page 119).

Translog function

The transcendental logarithmic production function, a flexible functional form due to *Christensen et al. (1973)* (page 581).

With output Y and inputs X_i, it takes the form $\ln Y = \alpha_0 + \Sigma_i \alpha_i \ln X_i + 1/2 \Sigma_i \Sigma_j \beta_{ij} \ln X_i \ln X_j$.

Transmission mechanism

See *monetary transmission mechanism* (page 287).

Transnational corporation

1. Same as *multinational corporations* (page 293), though for some reason this term seems to be preferred by those who don't like them.

2. A corporation whose national identity is a matter of convenience only, and that will move its headquarters readily in response to incentives.

Transparency

The clarity with which a regulation, policy, or institution can be understood and anticipated. Depends on openness, predictability, and comprehensibility. Lack of transparency can itself be an *NTB* (page 314).

Transport cost

The cost of transporting a good, especially in international trade.

Transportation cost

See *transport cost* (above).

Transshipment

1. The transfer of a cargo from one ship or other form of transport to another.

2. The routing of a shipment through an intermediate port that is neither the origin nor the destination, especially if in a different country than both.

3. Routing through a different country, as above, in order to conceal the true *country of origin* (page 79) or in order to exploit a *preferential tariff* (page 342). See *trade deflection* (page 438).

Treasury bill

A short-term *bond* (page 36) issued by a government, usually referring to those issued by the U.S. government. Considered to carry close to zero *risk* (page 379), countries other than the U.S. often hold a large portion of their *international reserves* (page 236) in the form of U.S. treasury bills.

Treaty of Rome

The 1957 agreement among six countries of Western Europe to form the *European Economic Community* (page 140), which went into effect 1 January 1958.

Treaty port

A coastal city mostly in Asia made open to international trade and to residence by foreigners, as a result of pressure from foreign powers.

Trend

The long-term movement of an economic variable, such as its average rate of increase or decrease over a sufficient number of years to encompass several *business cycles* (page 42).

TRI

Trade restrictiveness index (page 443).

Triad

1. Europe, North America, and Japan.

2. The *EU* (page 137), the U.S., and Japan.

Triangular arbitrage

Arbitrage (page 16) among three currencies. For example (letting x/y be the currency x per unit of currency y exchange rate), if $\$/¥ > (\$/£)(£/¥)$, then an arbitrager can make a profit buying £ with \$; buying ¥ with those £; and then selling those ¥ for \$.

Triangular trade

1. A pattern of trade involving three countries, A, B, and C, in which A exports to B, B exports to C, and C exports to A. Provides a nice example of how *bilateral trade* (page 34) can be unbalanced even while each country's overall *trade balance* (page 436) is zero.

2. Term used specifically for the *slave trade* (page 394), in which ships often traversed one of several triangular routes. For example they might take slaves from Africa to the West Indies, sugar from the West Indies to New England, and rum from New England to Africa.

Triffin's dilemma

A flaw in the *dollar-based* (page 111) international monetary standard created by the *IMF* (page 209): To provide the growing *reserves* (page 373) that other central banks needed to sustain

growing economies, the U.S. needed to run *balance of payments deficits* (page 25) that would undermine confidence in the dollar as a *reserve asset* (page 373). Due to testimony before Congress by Robert Triffin in 1960.

Trigger price

See *minimum price system* (page 282).

Trigger price mechanism

The system put in place for U.S. imports of steel in 1978 and suspended in 1980 to speed up investigations of *dumping* (page 115). If prices were to fall below the *trigger price* (page 451), an antidumping investigation would begin without a prior complaint from the industry.

Trilemma

1. Any choice among three options, each of which is unsatisfactory.

2. Three desirable objectives, any two of which preclude the third.

Trilemma of international finance

The *trilemma* (page 451) in which any two of the following preclude the third: 1. free international *capital mobility* (page 48); 2. *exchange rate stability*(page 145); 3. *monetary independence* (page 286).

Trilemma of the world economy

The *trilemma* (see above) suggested by *Rodrik (2007)* (page 594) in which any two of the following preclude the third: 1. deep *economic integration* (page 123); 2. national *sovereignty* (page 400); 3. democratic politics.

TRIMs

Trade-related investment measures (page 445).

TRIPs

Trade-related aspects of intellectual property rights (page 444).

TRIPs Agreement

The agreement negotiated in the *Uruguay Round* (page 461) that incorporated issues of intellectual property into the *WTO* (page 472). It provides a set of minimum standards for *intellectual property protection* (page 226) to which all but the poorest member countries of the WTO must conform.

Troika

Term used for the three institutions — *European Commission* (page 139), *European Central Bank* (page 139), and *International Monetary Fund* (page 235) — that together tried to deal with the European debt and financial crises that began with the first Greek crisis of 2010.

Trough

The point in the *business cycle* (page 42) when an economic contraction reaches its lowest level before turning up. Contrasts with *peak* (page 330).

TRQ

Tariff rate quota (page 423).

Trust

An arrangement in which the *stock* (page 410) of several companies is controlled by a single entity. When the companies compete in the same industry and together constitute a significant share of that market, the trust can exercise monopoly power. Such arrangements are illegal in most industrialized countries, subject to *competition policies* (page 66) or *anti-trust policy* (page 14).

TSUS

Tariff Schedule of the United States, Annotated (page 423).

TSUSA

Tariff Schedule of the United States, Annotated (page 423).

Tuna-dolphin case

Actually a pair of cases, resulting from the U.S. ban on imports of tuna, under the *Marine Mammal Protection Act* (page 272), from countries that did not effectively prohibit tuna fishers from killing dolphins by catching them together with whole schools of tuna in large ("purse seine") nets. Cases filed under *GATT* (page 182) in 1991 and 1994 led to panel decisions against the U.S.

Tunnel

See *snake in the tunnel* (page 396).

Twin deficits

Refers to the *budget deficit* (page 41) and *trade deficit* (page 438) of a country (in spite of the fact that, although they are related, they are far from being the same or necessarily equal).

Two-cone equilibrium
A free-trade equilibrium in the *Heckscher-Ohlin Model* (page 199) in which prices are such that all goods cannot be produced within a single country, and instead there are two *diversification cones* (page 109). This, or a *multi-cone equilibrium* (page 291), will arise if countries' *factor endowments* (page 157) are sufficiently dissimilar compared to *factor intensities* (page 157) of industries. Contrasts with *one-cone equilibrium* (page 319).

Two-gap model
A model of *economic development* (page 122) that focuses on two constraints: the need for savings to finance investment, and the need for foreign exchange to finance imports.

Two-ness
The property of simple versions of many trade models that they have two of everything: goods, factors, and countries especially. An important issue, addressed by *Jones (1977)* (page 587), who coined the term, and by *Jones and Scheinkman (1977)* (page 587) is the extent to which the results of these models depend on this two-ness.

Two-speed Europe
A configuration of the *European Union* (page 141) in which some of the countries integrate more fully than others. The adoption of the *euro* (page 138) by only some of the countries that were then in the EU was the major example of a two-speed Europe. More commonly, the term now refers to changes that would involve some countries pursuing greater political integration.

UCC
Universal Copyright Convention (page 460).

Ulysses Effect
The role played by a trade agreement such as the *GATT* (page 182)/*WTO* (page 472) or a *PTA* (page 355) in constraining participating governments from acceding to demands of domestic interests, just as Ulysses had his crew lash his hands to the mast of his ship to help him resist temptation. Mentioned by *Anderson (2001)* (page 577).

UN
United Nations (page 458).

Unbundling
See *2nd unbundling* (page 476).

Uncertainty
Failure to know anything that may be relevant for an economic decision, such as future variables, details of a technology, or sales. In models, uncertainty usually appears as a *random variable* (page 361) and corresponding *probability density* (page 348) function. But in practice, most international models, especially of trade, assume *certainty* (page 54).

UNCITRAL
United Nations Commission on International Trade Law (page 458).

Uncovered interest arbitrage
The act of borrowing one currency and lending another without using the *forward market* (page 174) to protect against change in the *exchange rate* (page 144). Because of the risk of exchange-rate change, this can result in a loss and is therefore not truly a form of *arbitrage* (page 16). Sometimes called the *carry trade* (page 51).

Uncovered interest parity
Equality of expected returns on otherwise comparable financial assets denominated in two currencies, without any *cover* (page 80) against *exchange risk* (page 145). Uncovered interest parity requires approximately that $i = i^* + a$, where i is the domestic interest rate, i^* the foreign interest rate, and a the expected *appreciation* (page 15) of foreign currency at an annualized percentage rate.

UNCTAD

United Nations Conference on Trade and Development (page 597).

UNCTAD meetings

The intergovernmental meetings from which *UNCTAD* (page 455) gets its name, which occur every four years and began in 1964.

Under-invoicing

The provision of an *invoice* (page 240) that states price as less than is actually being paid. This might be done on an import in order to reduce the amount that will be collected by an *ad valorem tariff* (page 5). Or it might be done on an export to reduce apparent profit and thus taxes.

Underdeveloped country

A synonym, not usually used today, for *less developed country* (page 257).

Underemployment

The employment of workers for fewer hours or in less desirable jobs than they would prefer and are qualified for.

Undertaking

See *price undertaking* (page 346) or *single undertaking* (page 393).

Undervalued currency

The situation of a currency whose value on the *exchange market* (page 143) is lower than is believed to be sustainable. This may be due to a *pegged* (page 330) or *managed* (page 267) rate that is below the market-clearing rate, or, under a *floating rate* (page 169), it may be due to *speculative* (page 403) capital outflows. Contrasts with *over-valued currency* (page 325).

Undistorted

The absence of any *distortion* (page 108).

UNDP

United Nations Development Program (page 458).

UNECA

United Nations Economic Commission for Africa (page 458).

UNECE

United Nations Economic Commission for Europe (page 459).

Unemployed

Willing and able to work, looking for work, and without a job.

Unemployment

1. The condition of being *unemployed* (page 456). Types of unemployment include *cyclical unemployment* (page 91), *frictional unemployment* (page 178), and *structural unemployment* (page 413).

2. A measure of the number of workers who are *unemployed* (page 456). Contrasts with *employment* (page 131).

Unemployment rate

The ratio of *unemployment* (see above) to the *labor force* (page 248) of a country.

Unequal exchange

Trade in which the labor used to produce a country's exports is more than the labor used to produce its imports, as in the exchange between low-wage developing countries and high-wage developed countries.

Unfair trade

1. Under the *GATT* this refers only to exports that are *subsidized* (page 414) or *dumped* (page 115).

2. Under U.S. law, this also includes various actions that interfere with U.S. exports. See *Section 301* (page 386) and *Super 301* (page 416).

3. Also used to refer to almost any trade that the speaker objects to, sometimes including that based on low wages or weak regulations. See *fair price* (page 160).

Unfavorable balance of trade

An excess of *imports* (page 215) over *exports* (page 153), so that the *balance of trade* (page 25) is negative. This view, that a negative trade balance is bad for the country, harks back to *mercantilist* (page 279) views, and ignores that the country is currently benefiting from consuming more than it produces.

Unilateral aid

Aid (page 11) given by one country to another, as opposed to *multilateral aid* (page 292) in which countries contribute to an

international organization that in turn gives aid to deserving countries.

Unilateral transfer

Transfer payment (page 447).

Unilateralism

The use of *trade policy* (page 442) by a country ignoring or contrary to international agreements. The U.S. has sometimes been accused of unilateralism in its uses of *Section 301* (page 386), *Special 301* (page 400), *Title VII* (page 433), etc. Contrasts with *multilateralism* (page 293).

Unit elastic

Having an elasticity equal to one. For a *price elasticity* (page 344) of *demand* (page 97), this means that expenditure remains constant as price changes. For an *income elasticity* (page 216) it means that expenditure share is constant. *Homothetic preferences* (page 204) imply unit income elasticities. Contrasts with *elastic* (page 128) and *inelastic* (page 220).

Unit isocost line

An *isocost line* (page 242) along which cost is equal to one unit of the *numeraire* (page 314), such as one dollar.

Unit isoquant

The *isoquant* (page 242) for a quantity equal to one unit of a good. The unit isoquant is useful for relating the price of a good to the prices of factors employed in its production.

Unit labor cost

The cost of labor per unit of real output.

Unit labor requirement

The amount of labor used per unit of output in an industry; the ratio of labor to output. In a *Heckscher-Ohlin Model* (page 199), this varies along an *isoquant* (page 242) as different *techniques* (page 427) are chosen in response to different *factor prices* (page 158). But in a *Ricardian model* (page 378), these are the constant building blocks for defining *comparative advantage* (page 64) and determining behavior.

Unit of account

A basic function of *money* (page 287), providing a unit of measurement for defining, recording, and comparing value. That is, one

dollar signifies not only a one-dollar bill, but also a dollar's worth of money in other forms (deposits), of wealth in other forms than money, and of any good or service with a market value.

Unit tariff

Specific tariff (page 403).

Unit-value isoquant

The *isoquant* (page 242) for a quantity of a good worth one unit of value. This is meaningful only if the nominal price of the good is given, for some specified currency or *numeraire* (page 314). Unit-value isoquants are central to the *Lerner diagram* (page 256) for analyzing the *Heckscher-Ohlin Model* (page 199).

United Nations

An organization of countries established in 1945 with 51 members, expanded to 193 countries as of December 2013. Its purpose is "to preserve peace through international cooperation and collective security."

United Nations Commission on International Trade Law

A legal body created in 1966 to formulate and harmonize national rules on international commercial transactions. It includes (as of December 2013) 60 member states selected from the UN General Assembly, representing various geographic regions and economic and legal systems. It differs from the *WTO* (page 472) in its more technical focus and its broad representation.

United Nations Conference on Trade and Development

An intergovernmental body established in 1964 within the United Nations, responsible for trade and development. Historically it has often been the international voice of developing countries.

United Nations Development Programme

The "development network" of the *United Nations* (see above), operating in more than 177 countries (as of December 2013) "advocating for change and connecting countries to knowledge, experience and resources to help people build a better life."

United Nations Economic Commission for Africa

A *United Nations* (see above) regional commission to "promote the economic and social development..., foster intra-regional

integration, and promote international cooperation for Africa's development."

United Nations Economic Commission for Europe
One of five regional economic and social commissions set up by the *United Nations* (page 458), UNECE (or just ECE) has as its major aim to "promote pan-European economic integration."

United Nations Organizations
The complex and extensive system of organizations that exist under the umbrella of the *United Nations* (page 458). Several of these, like the *WTO* (page 472) and the *IMF* (page 209), play critical roles in the international economy.

United Nations Statistics Division
The United Nations agency that collects and maintains various statistical databases, including extensive data on international trade.

United States Agency for International Development
An independent federal government agency guided by the U.S. Department of State, USAID is the principal (but not the only) portion of the U.S. government that dispenses *aid* (page 11) to *developing countries* (page 101).

United States Court of International Trade
The U.S. court in which matters involving international trade are adjudicated. These include determinations of the *customs service* (page 90) and findings of the *ITC* (page 243).

United States Customs and Border Protection
The agency of the U.S. government, created 1 March 2003, incorporating the *U.S. Customs Service* (see below) as well as the U.S. Border Patrol.

United States Customs Service
The agency of the U.S. government that monitors the border to prevent illegal goods from crossing it and to collect *tariffs* (page 421) — customs duties — on legal goods that are subject to them. Now a part of *United States Customs and Border Protection* (see above).

United States International Trade Commission
An independent, quasi-judicial federal agency of the U.S. government that provides information and expertise to the legislative

and executive branches of government and directs actions against unfair trade practices. In trade policy, its commissioners assess injury in cases filed under the *escape clause* (page 136), *anti-dumping* (page 14), and *countervailing duty* (page 79) statutes.

United States Trade Representative

The cabinet-level official of the U.S. government "responsible for developing and coordinating U.S. international trade, commodity, and direct investment policy, and leading or directing negotiations with other countries on such matters."

Unity

One. For example, "an *elasticity* (page 129) greater than unity" means an elasticity (defined so as to be a positive number) greater than 1.00.

Universal Copyright Convention

One of two international *copyright* (page 76) conventions (the other is the *Berne Convention* (page 31), the UCC standardizes how an author may claim copyright so as to be recognized under national laws.

Unnatural trading bloc

A *trading bloc* (page 445) among countries that are not *natural trading partners* (page 299).

Unregistered exports and imports

See *registered exports and imports* (page 369).

Unrequited transfer

Same as *transfer payment* (page 447). "Unrequited" means "not in return for anything," but that is implicit in "transfer," at least in the context of international payments.

UNSD

United Nations Statistics Division (page 459).

Unskilled labor

Labor with a low level of *skill* (page 394) or *human capital* (page 206). Identified empirically as labor earning a low wage, with a low level of education, or in an occupational category associated with these; sometimes crudely proxied as *production workers* (page 352).

Unstable
Not *stable* (page 405, by either of its definitions). Unstable equilibrium arises when there are multiple *equilibria* (page 135), as in the case of *inelastic offer curves* (page 221) that intersect three times instead of once. The middle equilibrium is unstable.

UPF
Utility possibility frontier (page 462).

Upper-middle income country
See *middle income country* (page 281).

Upstream subsidization
Export of a good one of whose inputs has been subsidized.

Uridashi bond
A *bond* (page 36) sold to Japanese retail buyers but denominated in a foreign currency.

Uruguay Round
The *round* (page 380) of multilateral trade negotiations under the *GATT* (page 182) that commenced in 1986 and was completed in 1994 with the creation of the *WTO* (page 472). In addition it broke new ground by negotiating over *agriculture* (page 11), *textiles and apparel* (page 430), *services* (page 388), and *intellectual property* (page 225).

US-Central American Free Trade Agreement
A *free trade agreement* (page 177) signed in 2004 between the United States, the Dominican Republic, and five countries of Central America. The last to ratify *CAFTA-DR* was Costa Rica on 1 January 2009.

US-China Strategic and Economic Dialogue
A meeting of the heads of state of the United States and China that was initiated by Presidents Obama and Hu in April 2009 and has occurred annually, alternating between China and the U.S.

USAID
United States Agency for International Development (page 459).

User fee
See *customs user fee* (page 90).

USITC
United States International Trade Commission (page 459).

USTR

United States Trade Representative (page 460).

Utility function

A function that specifies the utility (well-being) of a consumer for all combinations of goods consumed (and sometimes with other considerations). Represents both their *welfare* (page 468) and their *preferences* (page 342).

Utility possibility frontier

In a diagram with levels of individual utility on the axes, a curve showing the maximum attainable levels of utility in a given situation, such as *free trade* (page 177) or *autarky* (page 21). Used by *Samuelson (1962)* (page 595) to demonstrate the *gains from trade* (page 181).

V4

The *Visegrad Group* (page 465) of countries.

Valuation

See *customs valuation procedure* (page 90).

Value added

The value of output minus the value of all *intermediate inputs* (page 228), representing therefore the contribution of, and payments to, *primary factors* (page 346) of production.

Value added tax

A tax that is levied only on the *value added* (see above) of a firm. A VAT is usually subject to *border tax adjustment* (page 37).

Value chain

The sequence of activities that a firm undertakes to create value, including the various steps of the *supply chain* (page 417) but also additional activities, such as marketing, sales, and service.

Term due to *Porter (1990)* (page 593) and used by Krugman in *slicing up the value chain* (page 395).

Value marginal product

Marginal value product (page 271).

Value product

Price times quantity produced, as in *marginal value product* (page 271).

Value quota

A *quota* (page 360) specifying value — price times quantity — of a good.

Variable cost

The portion of a firm or industry's cost that changes with output, in contrast to *fixed cost* (page 168).

Variable levy

A tax on imports that varies over time so as to stabilize the domestic price of the imported good. Essentially, the tax is set equal to the difference between the target domestic price and the world price.

Variable returns to scale

The property of a *production function* (page 351) that *returns to scale* (page 376) may be *increasing* (page 217) or *decreasing* (page 95), at different rates, at different levels of output.

Variance

A measure of how much an economic or statistical variable varies across values or observations. Its calculation is the same as that of the *covariance* (page 80), being the covariance of the variable with itself.

Variety

Refers to the multiplicity of *differentiated products* (page 103) that are available in some industries, a multiplicity that tends to become larger with trade.

VAT

Value added tax (page 462).

VAX ratio

The ratio of *value added* (page 462) to *gross exports* (page 193). Introduced and used by *Johnson and Noguera (2012)* (page 586)

to indicate (inversely) the "intensity of *production sharing*" (page 352).

Vehicle currency

The currency used to *invoice* (page 240) an international trade transaction, especially when it is not the national currency of either the importer or the exporter.

Velocity of money

The rate at which money changes hands in an economy, usually defined by the *equation of exchange* (page 134).

Vent for surplus

The concept that a country — especially a *developing country* (page 101) — may be able to gain by exporting the products of factors that would not be employed at all without trade. This "vent for surplus" theory of trade was developed especially by *Myint (1958)* (page 592), who attributed the term to *Williams (1929)* (page 598) and before that to *Mill (1848)* (page 591) and the idea to *Smith (1776)* (page 596).

Venture capital

A pool of money used to fund startup firms in exchange for shares of ownership that are expected to be cashed out within a few years as the successful startups go public or are acquired. The greater availability of venture capital in the U.S., compared to other countries, is said to contribute to its success in innovation.

VER

Voluntary export restraint (page 465).

Vernon product cycle

See *product cycle* (page 350).

Vertical FDI

Foreign direct investment (page 171) by a firm to establish manufacturing facilities in multiple countries, each producing a different input to, or stage of, the firm's production process. Contrasts with *horizontal FDI* (page 205).

Vertical integration

Production of different stages of processing of a product within the same firm.

Vertical intra-industry trade
Intra-industry trade (page 238) in which the exports and imports are *differentiated* (page 103) either by quality or (less commonly) are at different stages of processing. Contrasts with *horizontal IIT* (page 205).

Vertical specialization
Another term for *fragmentation* (page 175). Used by *Hummels, Rapoport, and Yi (1998)* (page 586).

VIE
Voluntary import expansion (see below).

VII
See *Title VII* (page 433).

Vinerian
Associated with the work of economist Jacob Viner, as in the Vinerian concept of *trade diversion* (page 439).

Visegrad Group
Also called the Visegrad Four, the group consists of the Czech Republic, Hungary, Poland, and Slovakia. It was formed in 1991 with the aim to "work together in a number of fields of common interest within the all-European integration."

Visible
In referring to international trade, used as a synonym for *good* (page 188). "Visibles trade" is trade in goods. Contrasts with *invisible* (page 240).

Volatility
The extent to which an economic variable, such as a price or an exchange rate, moves up and down over time.

Voluntary export restraint
A restriction on a country's imports that is achieved by negotiating with the foreign exporting country for it to restrict its exports.

Voluntary import expansion
The use of policies to encourage imports, in response to pressure from trading partners. Due to *Bhagwati (1987)* (page 579).

Voluntary restraint agreement
Same as a *VER* (page 464).

VRA
Voluntary restraint agreement, same as a *VER* (page 464).

Wage
The payment for the service of a unit of labor, per unit time. In trade theory, it is the only payment to labor, usually unskilled labor. In empirical work, wage data may exclude other compensation, which must be added to get the total cost of employment.

Wage insurance
A program to pay displaced workers, when they become reemployed and for a limited period of time, a specified fraction of the difference between their old wage and their lower new wage. As of 2002, the U.S. provides wage insurance to a limited number of workers as part of *Alternative Trade Adjustment Assistance* (page 12).

Wage-price spiral
A feedback process in which increasing wages lead, through costs, to increasing prices, while increasing prices lead, through the need to maintain *real wages* (page 365), to increasing wages.

Wage-rental ratio
The ratio of the wage of labor to the *rental price* (page 372) of either capital or land, whichever is the other *factor* (page 156) in a two-factor *Heckscher-Ohlin Model* (page 199). The ratio plays a critical role in this model since it determines the ratios of factors employed in both industries.

Waiver
An authorized deviation from the terms of a previously negotiated and legally binding agreement. Many countries have sought and obtained waivers from particular obligations of the *GATT* (page 182) and *WTO* (page 472).

Walras' law

The property of a *general equilibrium* (page 184) that if all but one of the markets are in equilibrium, then the remaining market is also in equilibrium, automatically. This follows from the *budget constraints* (page 41) of the market participants, and it implies that any one *market-clearing* (page 273) condition is redundant and can be ignored.

Walrasian adjustment

A market *adjustment mechanism* (page 6) in which the price rises when there is excess demand and falls when there is excess supply. Strictly speaking, these excess supplies and demands are those that would be valid without any history of disequilibrium, as with a *Walrasian auctioneer* (see below).

Walrasian auctioneer

A hypothetical entity that facilitates market adjustment in disequilibrium by announcing prices and collecting information about supply and demand at those prices without any disequilibrium transactions actually taking place.

WARP

Weak axiom of revealed preference (page 468).

Warsaw Pact

A "treaty of friendship, co-operation, and mutual assistance" including the Soviet Union and its satellite states in Central Europe. Signed in 1955, it included eight countries.

Washington Consensus

A set of economic practices and reforms deemed by *international financial institutions* (page 233) (located in Washington, D.C.) to be helpful for *financial stability* (page 165) and *economic development* (page 122); often imposed as *conditions* (page 69) for economic assistance by these institutions. Phrase coined by *John Williamson (1990)* (page 598).

Washington Consensus Mark 2

Name sometimes given to the views expressed by Dani Rodrik and co-authors, who amend or even replace the *Washington Consensus* (see above) with "get the institutions right." See *Rodrik et al. (2004)* (page 594).

Wassenaar Arrangement

The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies is a cooperative arrangement among a group of countries intended to voluntarily limit access to exports that might enhance the military capabilities of suspect countries. Named after the town in the Netherlands where it was negotiated in December 1995.

Water in the tariff

1. The extent to which a tariff is higher than necessary to be *prohibitive* (page 353).

2. The extent to which an *applied tariff* (page 15) is below the *bound tariff* (page 38).

WCO

World Customs Organization (page 471).

Weak axiom of revealed preference

The assumption that consumers who reveal strict preference for one bundle of goods over another will not, in other circumstances, reveal their preference for the second over the first. That is, if q^i, q^j are the vectors of goods purchased at prices p^i, p^j respectively, then $p^i q^i > p^i q^j \Rightarrow p^j q^i > p^j q^j$. Used in proving *correlation results* (page 77).

Wealth

The total value of the accumulated *assets* (page 18) owned by an individual, household, community, or country.

Webb-Pomerene Act

U.S. legislation enacted in 1918, exempting certain exporters and exporter associations from *anti-trust* (page 14) legislation.

WEF

World Economic Forum (page 471).

Welfare

Refers to the economic well-being of an individual, group, or economy. For individuals, it is conceptualized by a *utility function* (page 462). For groups, including countries and the world, it is a tricky philosophical concept, since individuals fare differently. In trade theory, an improvement in welfare is often inferred from an increase in *real national income* (page 365).

Welfare criterion

A basis, usually quantitative, for judging whether one state of the world or of an economy is better than another, for use in *welfare economics* (see below) and in evaluation of *policies* (page 337).

Welfare economics

The branch of economic thought that deals with economic *welfare* (page 468), including especially various propositions relating competitive *general equilibrium* (page 184) to the efficiency and desirability of an *allocation* (page 12). See the *first* (page 167) and *second* (page 385) theorems of welfare economics.

Welfare proposition

In trade theory, this usually refers to any of several *gains from trade theorems* (page 181).

Welfare state

A set of government programs that attempt to provide economic security for the population by providing for people when they are unemployed, ill, or elderly.

Welfare triangle

In a *partial equilibrium* (page 328) market diagram, a triangle representing the net welfare benefit or loss from a policy or other change. In trade theory it often means the triangle or triangles representing the *deadweight loss* (page 92) due to a tariff.

West African Development Bank

Banque Ouest Africaine de Developpement (page 28).

Western Hemisphere Free Trade Area

Name sometimes proposed for a *preferential trading arrangement* (page 342) including most or all of the countries of the western hemisphere. Now called *FTAA* (page 178).

WFOE

Wholly foreign-owned enterprise (page 470).

WHFTA

Western Hemisphere Free Trade Area (see above).

White knight

An person or firm that attempts to thwart a hostile *takeover* (page 420) of another firm, often by offering to acquire it on more favorable terms. In attempted cross-border takeovers, the

white knight is usually from the same country as the firm being acquired.

Wholly foreign-owned enterprise

While logically this term could apply to any foreign-owned enterprise in any country, it is used primarily for such enterprises in China.

Wide band

An *exchange regime* (page 145) in which the exchange rate is *pegged* (page 330), but the limits of intervention are set further apart than the usual ± one or two percent. Same as *target zone* (page 421).

Willingness to pay

The largest amount of money that an individual or group could pay, along with a change in policy, without being made worse off. It is therefore a monetary measure of the benefit to them of the policy change. If negative, it measures its cost.

WIPO

World Intellectual Property Organization (page 471).

Withholding tax

A tax on income that is levied at the source, thus diverted to the government before the recipient of the income ever sees it. Used in international tax treaties to assist tax collection.

Worker rights

Labor rights (page 249).

Working party

A group that is delegated to study an issue. Used by the *WTO* (page 472) as a first step in considering a new issue that may later become the subject of negotiations.

Working requirement

In *intellectual property rights* (page 226), a requirement that a patent, trademark, or copyright be used (a good produced or sold, for example) within a specified time period or else the right will lapse or be subject to *compulsory licensing* (page 68).

World Bank

A group of five closely associated international institutions providing loans and other development assistance to developing

countries. The five institutions are *IBRD* (page 208), *IDA* (page 208), *ICSID* (page 208), *IFC* (page 209), and *MIGA* (page 281). As of December 2013, the largest of these, IBRD, had 188 member countries.

World Customs Organization

The intergovernmental organization, based in Brussels, Belgium, that deals with matters of *customs* (page 89). It develops and promotes global standards and procedures for customs administration.

World Economic Conference

1. A gathering of world leaders in 1927, organized by the *League of Nations* (page 254) to stop the rise of *protectionism* (page 354). Nations agreed on a code to limit *quantitative restrictions* (page 358) and promised not to raise *tariffs* (page 421). The code was never ratified by enough countries, and the truce ended with the *Smoot-Hawley Tariff* (page 395).

2. A second gathering of world leaders, in London in 1933. Its main concern, at the insistence of U.S. President Roosevelt, was international payments including *reparations* (page 372) payments by Germany, and it failed to reach any agreement.

World Economic Forum

A self-described "independent, international organization incorporated as a Swiss not-for-profit foundation" that brings together leaders from business, government, academia, and civil society to seek solutions to the world's economic problems.

World Fact Book

An excellent source of information about the countries of the world, including basic economic data.

World Intellectual Property Organization

The United Nations organization that establishes and coordinates standards for *intellectual property protection* (page 226).

World market

See *world price* (page 472).

World Organization for Animal Health

Formed in 1924 as Office International des Epizooties, it kept its acronym *OIE* (page 317) when it adopted its current name in

2003. It is responsible for "improving animal health worldwide." The *WTO's* (see below) *SPS* (page 404) Agreement names OIE as the relevant organization for animal health.

World price

The price of a good on the *world market* (page 471), meaning the price outside of any country's borders and therefore exclusive of any trade taxes or subsidies that might apply crossing a border into a country but inclusive of any that might apply crossing out of a country.

World production possibility frontier

The *aggregate production possibility frontier* (page 10) for all of the countries of the world. Usually depicted for a two-good, two-country model.

World Trade Organization

A global international organization that specifies and enforces rules for the conduct of international trade policies and serves as a forum for negotiations to reduce barriers to trade. Formed in 1995 as the successor to the *GATT* (page 182), it had 160 member countries as of December 2013.

World transformation curve

The *world production possibility frontier* (see above).

WTO

World Trade Organization (see above).

X

In economic models involving international trade, X is usually chosen to represent exports, and M to represent imports, perhaps because E and I have too many other uses.

X-efficiency

The ability of a firm to get maximum output from its inputs. Failure to do so, called "X-inefficiency" or *technical inefficiency* (page 426), may be due to lack of incentives provided by competition. Improvement in X-efficiency is one hypothesized source of *gains from trade* (page 181). Term is due to *Leibenstein (1966)* (page 590).

Yaoundé Convention

A 1963 meeting and associated agreement, in Yaounde Cameroun, between the *European Economic Community* (page 140) and some 19 African states, mostly former colonies of EEC countries, granting them *preferential treatment* (page 342) on industrial exports. Predecessor to the *Lomé Convention* (page 263).

Year-on-year

Compared to the corresponding data from one year previously. For example, if a firm's 2nd-quarter profit rose 12% y/y, then its 2nd-quarter profit this year would be 12% higher than its 2nd quarter profit the year before. Same as year-over-year.

Yen block

A group of currencies, if it exists, whose values are tied more to the Japanese yen than to the U.S. dollar.

Yield

The amount of return on an *investment* (page 239), normally expressed as percent per year; the *interest rate* (page 227).

Yield curve

The variation of asset *yields* (see above) as the maturity of the asset rises. Also called the *term structure of interest rates*

(page 429). Normally, the yield on otherwise comparable assets rises with their time to maturity.

Yield spread

The difference between the yield on a particular bond and the yield on an otherwise comparable bond that is considered, like a U.S. *treasury bill* (page 449), to have essentially zero risk. The spread is an indicator of the risk of the bond and thus, as in the case of bonds issued by *emerging market* (page 130) governments, the economic strength of those governments.

YOY

Year-on-year (page 473).

Yuan

The principal unit of the *renminbi* (page 371); the currency of China. Each yuan is subdivided into ten *jiao*, which are in turn subdivided into ten *fen*.

Yuan block

A group of currencies, if it exists, whose values are tied more to the Chinese *yuan* (see above) than to the U.S. dollar.

Y/Y

Year-on-year (page 473).

Zaibatsu

A large capitalist enterprise in pre-World-War-II Japan, usually centered around a single family and encompassing a wide variety of companies. These were dissolved after World War II, but the companies tended to re-form into the *keiretsu* (page 245) of today, more loosely organized around banks.

Zero degree homogeneous

Homogeneous of degree zero (page 204).

Zero profit

A situation in which the profit in an industry is zero, usually as a result of *free entry and exit* (page 176). It may, if firms are not identical, refer only to the marginal firm. And it always means zero *excess profit* (page 143), not that all returns to capital invested in the industry are zero.

Zero substitution

An *elasticity of substitution* (page 129) of zero. In a *production function* (page 351), this means a *Leontief technology* (page 256).

Zero sum

By analogy with a *zero sum game* (see below), a situation is said to be zero sum if a gain for anyone requires a loss for someone else. A common misperception of international trade is that it is zero sum.

Zero sum game

A *game* (page 182) in which the payoffs to the players add up to zero, so that a gain for one is necessarily equaled by the loss to others. Contrasts with *positive sum game* (page 340).

Zeroing

The practice used by the U.S. in calculating *dumping margins* (page 115) of treating individual prices that are above the *fair price* (page 160) as being instead equal to that fair price, so that the average price is necessarily at or below the fair price and the dumping margin is positive.

Zipf's law

The regularity noticed by *Zipf (1949)* (page 599) that, within any country, the populations of cities are close to proportional to $1/r$, where r is the population rank of the city. Thus the largest city has about twice the population of the second largest, three times the population of the third largest, etc.

Zollverein

The German *customs union* (page 90) formed among various German states starting in 1818 and viewed as a precursor to German unification.

0-9

1:1

1. Short name for Argentina's policy in the 1990s of fixing its currency's value to the U.S. dollar, one peso equaling one dollar. **2.** Later, 1:1 trade policy referred to Argentina's *trade balancing mechanism* (page 436).

1st unbundling

See *2nd unbundling* (below).

2 × 2 × 2 model

The *Heckscher-Ohlin Model* (page 199) with 2 factors, 2 goods, and 2 countries.

2nd unbundling

The name given by *Baldwin (2006)* (page 578) to the wave of international *fragmentation* (page 175) that began in the late 20th century. Contrasts with the 1st unbundling in which production and consumption ceased to be kept together, permitting the growth of *international trade* (page 237).

11

Chapter 11 (page 56).

18th century rule

The principle of *gains from trade* (page 181) understood by writers as early as 1701 and stated by *Viner (1937)* (page 598) that "it pays to import commodities from abroad whenever they can be obtained in exchange for exports at a smaller real cost than their production at home would entail."

45-degree rule

See *Thirlwall's law* (page 431).

50 Years Is Enough

A U.S.-based coalition of organizations committed to the transformation of the *IMF* (page 209) and the *World Bank* (page 470). Its more formal name is U.S. Network for Global Economic Justice. Its demands include *debt cancellation* (page 93), end of

structural adjustment (page 413), and payment of various *reparations* (page 372).

77

G-77 (page 181).

201

Section 201 (page 385).

301

1. *Section 301* (page 386).

2. *Special 301* (page 400).

421

Section 421 (page 386).

807 imports

Tariff items 806 & 807 (page 422).

1974

Trade Act of 1974 (page 435).

1992

Europe 1992 (page 139).

Part II
Picture Gallery

1. Edgeworth Production Box

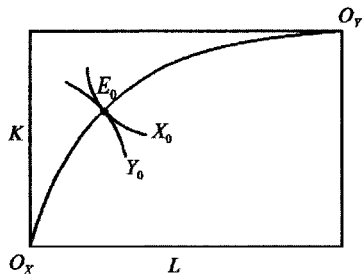
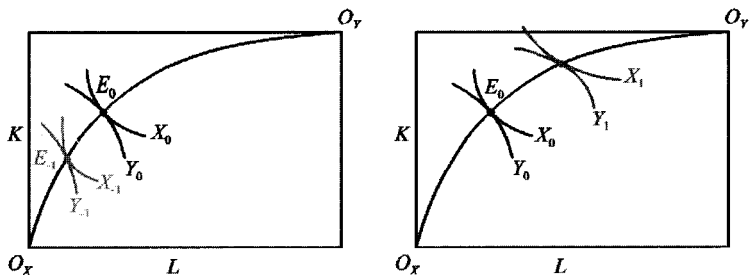


Fig. 1. Basic Edgeworth Production Box.



A: Into Y **B**: Into X

Fig. 1.1. Factor Re-allocation along Efficiency Locus (A and B).

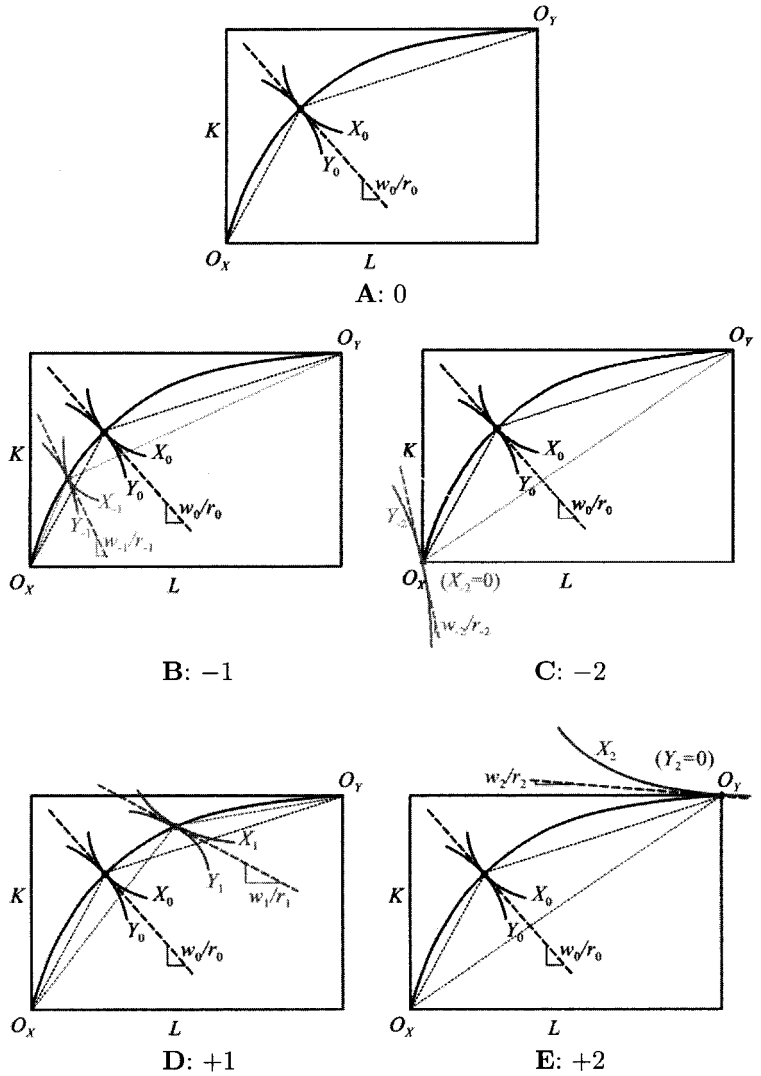
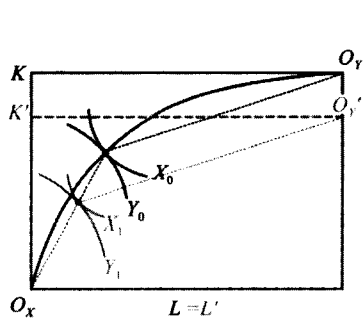
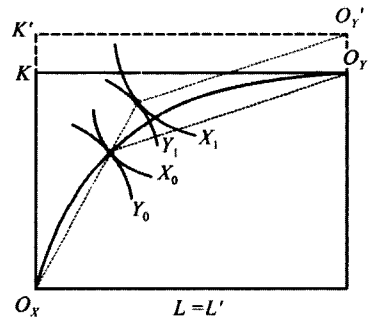


Fig. 1.2. Factor Proportions and Factor Prices along Efficiency Locus (A–E).



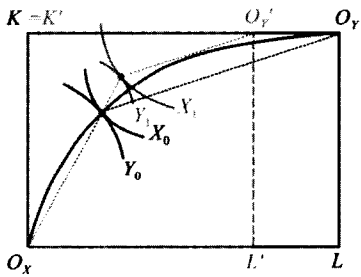
$\Delta K < 0$

A: Less K



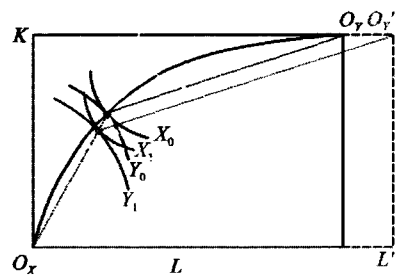
$\Delta K > 0$

B: More K



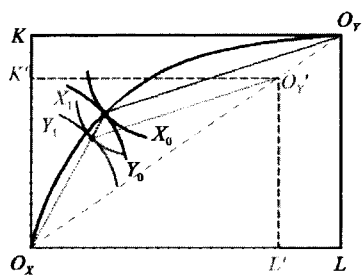
$\Delta L < 0$

C: Less L



$\Delta L > 0$

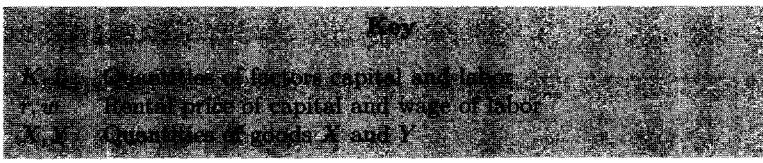
D: More L



$\Delta K < 0, \Delta L < 0, \Delta K/K = \Delta L/L$

E: Less K&L (in proportion)

Fig. 1.3. Changes in Factor Endowments (A–E).



Explanation

The basic Edgeworth production box, shown in Fig. 1, has dimensions equal to the *factor endowments* (page 157) of a country, and it shows all of the ways that those endowments can be allocated across two industries for producing two goods, X and Y. The lower-left corner serves as the origin for measuring *allocations* (page 12) of factors to industry X, and the upper-right corner as the origin for allocations to industry Y. Thus every point in the box represents a particular allocation, with all of both factors allocated to the two industries in quantities given by the coordinates with respect to these two origins.

Production functions for each industry are represented by *isoquants* (page 242) drawn relative to these two origins, the one for industry Y being rotated 180 degrees from the usual orientation. Thus the outputs of the two goods are represented by the two isoquants, one for each industry, passing through any particular point in the box.

An *efficient allocation* (page 128) is one for which these two isoquants are tangent, as shown at E_0 for X_0 and Y_0. The set of all such tangencies is the *efficiency locus* (page 127), the curve $O_X E_0 O_Y$. Under the usual assumption of *constant returns to scale* (page 71) in both industries, the efficiency locus cannot cross the upward-sloping diagonal of the box, and it must therefore lie either wholly above it, as shown, if industry X is *capital intensive* (page 48) compared to industry Y, or wholly below it in the opposite case.

The diagram can be used to illustrate the effects of factor re-allocations along the efficiency locus on outputs and factor

prices, where the latter appear via *isocost lines* (page 242) tangent to the isoquants. It can also be used to show the effects of changing factor endowments, under the assumption that prices of goods (and therefore of factors, due to *FPE* (page 175)) are held constant.

Factor Re-allocation

If factors are re-allocated from one industry to the other, as for example in response to a change in relative prices (which cannot easily be shown in this diagram), movement will be along the efficiency locus. If factors are moved into industry Y, then movement is down and to the left along this locus, to the point shown in Fig. 1.1 as E_{-1}. If factors are moved into industry X, then equilibrium moves up and to the right to point E_1.

Factor Proportions and Factor Prices along Efficiency Locus

At each point along the efficiency locus, factor proportions appear as the slopes of the rays from the two respective origins to the point. The ratio of the two factor prices at each point is given by the slope of the single straight line that is tangent to both isoquants at that point (single, because they are tangent to each other) as in Fig. 1.2A. Since factor proportions depend monotonically on relative factor prices, the two (different) ratios of factors employed in each industry must move in the same direction, as both factors are re-allocated along the efficiency locus.

Thus, for a small re-allocation into industry Y and out of industry X, numbered "-1" in Fig. 1.2B, the ratios of capital to labor employed rise in both, and this in turn requires that the relative wage of labor, w/r shown by the (absolute) slope of the tangent to the isoquants, rises as well. That is, both isoquants become steeper as we move down and to the left along the efficiency locus.

This process continues until the corner of the box is reached at O_X. At that point in Fig. 1.2C, all factors are employed in

industry Y, whose factor proportions equal that of the country, and the factor prices are given by the slope of the Y-isoquant only. This is shown as the allocation numbered "-2".

Allocations "$+1$" and "$+2$" in Figs. 1.2D and 1.2E show the analogous movement of factors out of industry Y and into X. In both industries, this causes capital-labor ratios to fall and the relative wage of labor to fall as well.

Changes in Endowments

A change in factor endowments appears as a change in the dimensions of the box. This is most easily done holding one corner of the box fixed, O_X, and letting the opposite corner, O_Y, move to reflect the new factor endowments. Holding prices of goods and therefore factors constant (due to FPE), the ratios of capital to labor employed in each industry remain unchanged. Thus the new equilibrium allocation can be found by simply shifting the Y-industry factor-proportions ray along with O_Y, keeping it parallel to what it was before, and finding where it crosses the unchanged X-industry factor-proportions ray.

The results, illustrated in Fig. 1.3 for "Less K," "More K," etc., are the *Rybczynski Theorem* (page 381) results that a rise in K or a fall in L cause more of both factors to be allocated to capital-intensive industry X, and thus the output of X to rise, while output of Y falls. A proportional change in both factor endowments, on the other hand, causes both outputs to rise or fall together, in the same proportion.

2. Integrated World Economy Diagram

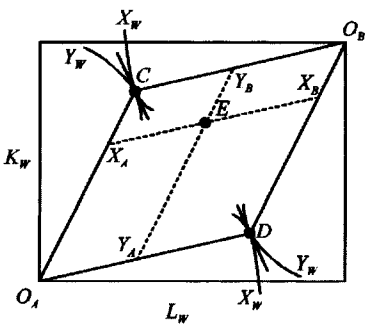
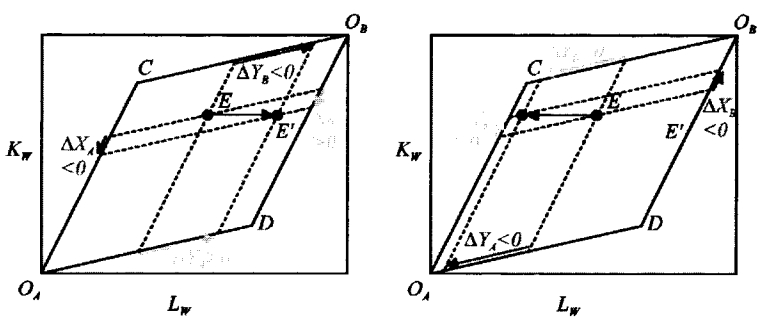
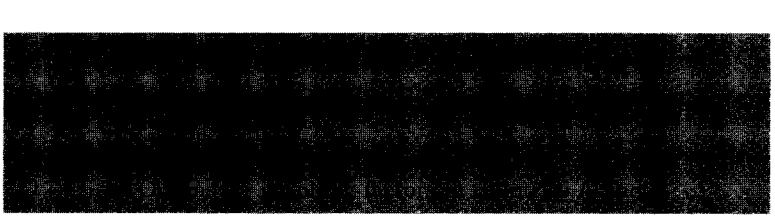


Fig. 2. Integrated World Economy Diagram.



A: Into Country A **B**: Into Country B

Fig. 2.1. Effects of Factor Re-allocation of Labor Across Countries into A and B.



Explanation

The diagram (Fig. 2) shows allocations of two factor endowments between two countries for given prices of the two goods that the countries are able to produce. The prices themselves do not appear in the diagram but enter instead through their corresponding (via *FPE* (page 175)) factor prices and the cost-minimizing ratios of factors that each industry would employ at those factor prices. The dimensions of the box are the combined factor endowments of the two countries, with each point inside the box representing a division of these endowments between them as measured from their respective origins O_A and O_B, much as in the *Edgeworth production box* (page 126). The industry factor ratios are the slopes of the rays O_AC (and its parallel DO_B) for capital-intensive good X and O_AD (and its parallel CO_B) for good Y. These rays form a parallelogram, within which lie all allocations of the two factors to the two countries consistent with both countries producing both goods and thus having factor price equalization. (Outside this parallelogram it is simply not possible to fully employ both factors while still using them in these proportions.)

In most uses of the diagram, the prices of the goods are those that would prevail in equilibrium if the world were to contain only these two countries and if they were fully "integrated," in the sense that both goods and factors were able to move freely between them. These goods prices would then imply corresponding factor prices and factor proportions such that factors would be fully employed in the world economy, some producing good X and others good Y in the quantities demanded at those prices, X_W and Y_W. Thus the isoquants through points C and D in Fig. 2 represent these

outputs, which may be represented with respect to either O_A or O_B, as shown.

The diagram can also be used to represent two countries that do not constitute the whole world, or two regions within a country, facing arbitrary exogenous prices. In that case, X_W and Y_W become the outputs of only this part of the world if it alone is integrated and has FPE, and these outputs need not equal demand.

In either case, the diagram can be used to identify how factors are allocated to the two industries across the two countries, and thus how the two countries' outputs of X and Y depend on the country allocation of their combined factor endowments. For the particular allocation indicated at point E in Fig. 2, the dotted lines parallel to the sides of the parallelogram intersect the parallelogram at country A's allocation to industry X, X_A, etc.

Effects of Re-allocating Factors Across Countries

If factors are re-allocated from one of these two countries to the other, this does not change their combined outputs so long as the allocation remains inside the FPE parallelogram. The cases shown in Fig. 2.1 are for re-allocation of labor from B to A, and from A to B. In both cases, the country receiving labor expands its employment of both factors in the labor-intensive industry, Y, and thus expands output there. And to keep both factors fully employed, it must reduce employment of both factors in the capital-intensive industry, X, and thus reduce its output of X. This is an example of the *Rybczynski Theorem* (page 381) in action. Re-allocation of capital, not shown, would have analogous effects.

3. IS-LM-BP Diagram

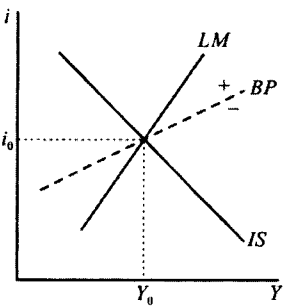


Fig. 3. Basic IS-LM-BP Diagram.

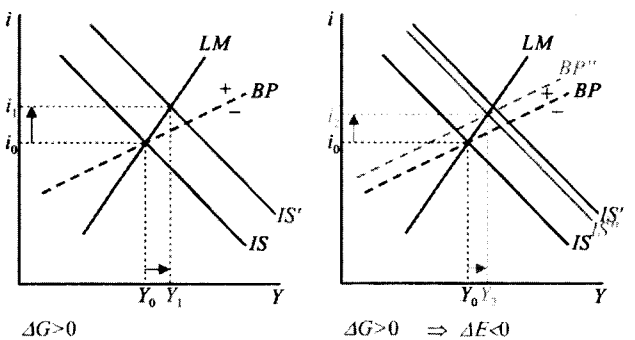
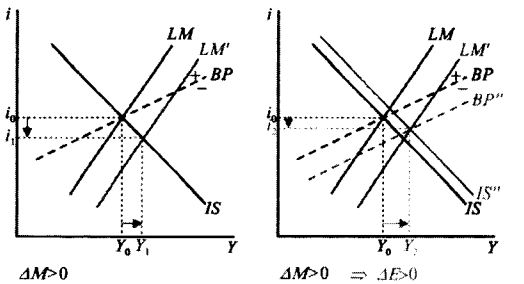


Fig. 3.1. Fiscal Stimulus (A and B).



A: Fixed **B**: Flexible

Fig. 3.2. Monetary Stimulus (A and B).

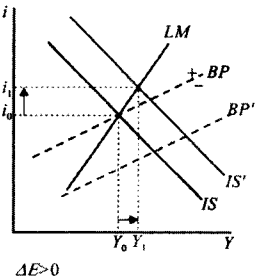
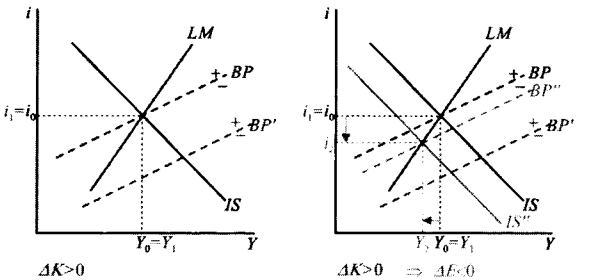
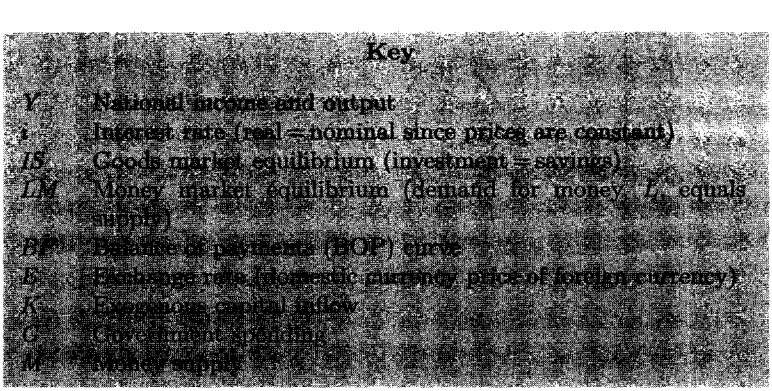


Fig. 3.3. Devaluation.



A: Fixed **B**: Flexible

Fig. 3.4. Capital Inflow (A and B).



Explanation

Equilibrium is at the intersection of *IS* and *LM* (see Fig. 3). With a pegged exchange rate this may lie off the *BP* curve, indicating a BOP in surplus (+) above or deficit (−) below. With a floating exchange rate, a secondary adjustment of the exchange rate, *E* (with effects shown in light gray), must move the three curves so as to intersect in one place, in order to get equilibrium in the exchange market.

From the diagram (Fig. 3), one can read the following effects of exogenous changes, for the case shown (which assumes relatively mobile capital and *sterilization* (page 409) of exchange market intervention — see Notes on page 493).

Fiscal expansion (Fig. 3.1)

An increase in government spending (or a tax cut) shifts the *IS*-curve to the right. With a fixed exchange rate this causes income and the interest rate both to rise. The rise in interest rate attracts a capital inflow that, with relatively mobile capital, is sufficient to create a BOP surplus. With a flexible exchange rate this is an excess demand for domestic currency, which therefore appreciates. The appreciation dampens the increase in both income and the interest rate.

Monetary expansion (Fig. 3.2)

An increase in the money supply shifts the *LM* curve to the right, raising income and lowering the interest rate. With a fixed exchange rate, both of these changes contribute to BOP deficit. With a flexible rate, this is an excess supply of domestic currency, which therefore depreciates. The depreciation further stimulates income, but dampens the fall in interest rate.

Devaluation (Fig. 3.3)

A devaluation of the otherwise fixed exchange rate stimulates demand for domestic goods shifting the *IS*-curve to the right, but also shifting the *BP* curve down and creating a BOP surplus. (This ignores the possibility of a *J-curve* (page 243) — see below.)

Capital Inflow (Fig. 3.4)

An exogenous capital inflow has no effect on *IS* or *LM* under a fixed exchange rate, since the central bank is sterilizing its effect on the interest rate. It merely causes a BOP surplus. With a flexible rate, however, this surplus causes an appreciation, which reduces demand and shifts the *IS* curve to the left. Thus the capital inflow lowers income and the interest rate under a flexible exchange rate.

Notes

1. The relative slopes of the *LM* and *BP* curves are crucial to some of these results. The case shown in Figs. 3.1 to 3.4 assumes that capital is sufficiently mobile internationally that the BP curve is flatter than the *LM* curve. The extreme case of perfect capital mobility would have a horizontal *BP* curve.
2. In addition to the two A and B cases shown, one could (and should) also look at the case of a fixed exchange rate with *non-sterilization* (page 312). In that case, whenever there is a BOP disequilibrium the money supply will be changing, rising with a surplus and falling with a deficit (which are in turn indicated by the + and − signs in

the diagram). The *LM* curve therefore shifts until all three curves intersect at once.

3. Exchange rate devaluation (and depreciation) is shown as shifting the *IS* and *BP* curves both to the right. This requires that *import demand elasticities* (page 211) are large enough to satisfy the *Marshall-Lerner Condition* (page 276). Without this, as is perhaps likely in the short run, both would shift in the other direction. This is one possible cause of the *J curve* (page 243), worsening the balance of trade in the short run, and also reducing aggregate demand.
4. An exogenous change in exports and/or imports due to any of a variety of causes ranging from changing trade policies to business cycle fluctuations abroad will have effects under fixed exchange rates similar to the devaluation shown in Fig. 3.3. Under a flexible exchange rate, however, matters are complicated by the need to know how an exchange rate change alters capital flows. Depending on the nature of expectations, among other things, anything — or nothing — is possible. In particular, it may be that, say, an exogenous increase in exports will be exactly offset, in its effects on the trade balance and aggregate demand, by an exchange rate appreciation.
5. The model here takes all foreign variables as given, under the assumption that this is a *small open economy* (page 395). If that is not the case, there will be *foreign repercussions* (page 172) from the foreign response to this country's changes in trade and capital flows, and results may change.

4. Lerner Diagram

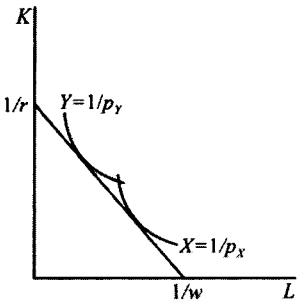


Fig. 4. Basic Lerner Diagram.

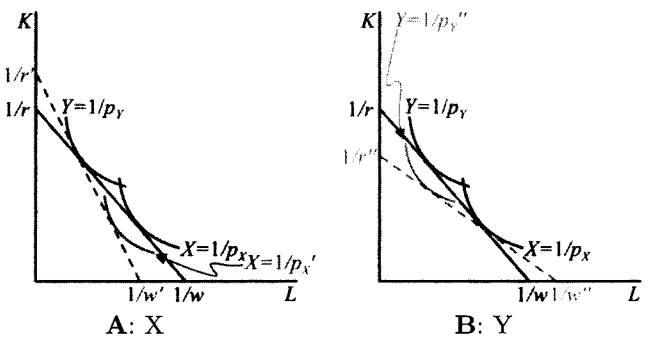


Fig. 4.1. Price Changes — Increase in Price of X and Y (A and B).

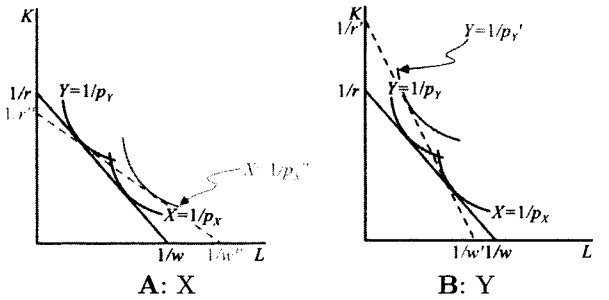


Fig. 4.2. Price Changes — Decrease in Price of X and Y (A and B).

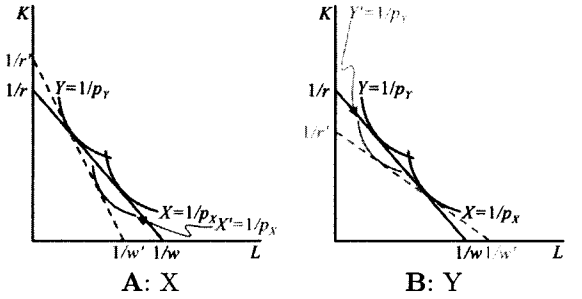


Fig. 4.3. Technological Change (Hicks Neutral) — Improvement in X and Y (A and B).

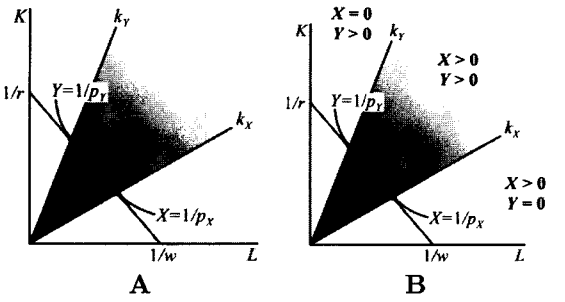
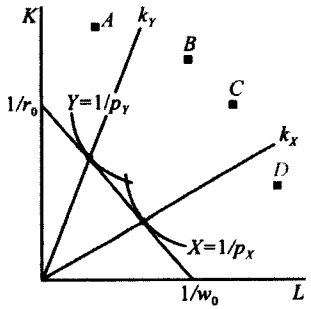
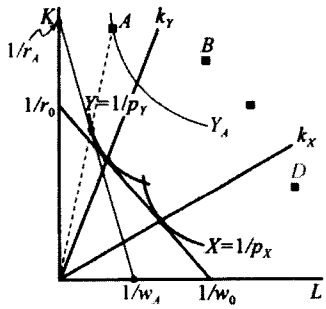


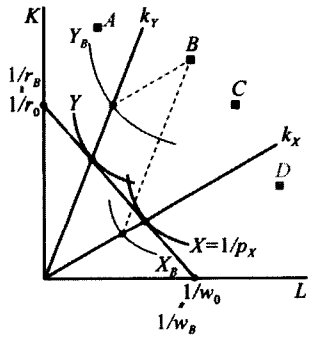
Fig. 4.4. Extensions: A, Diversification cone; and B, Patterns of Specialization.



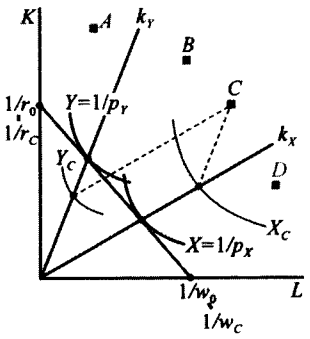
Endowments



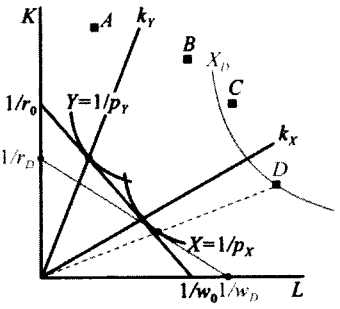
A



B



C



D

Fig. 4.5. Extensions — Factor Allocations and Factor Prices (Endowments, A–D).

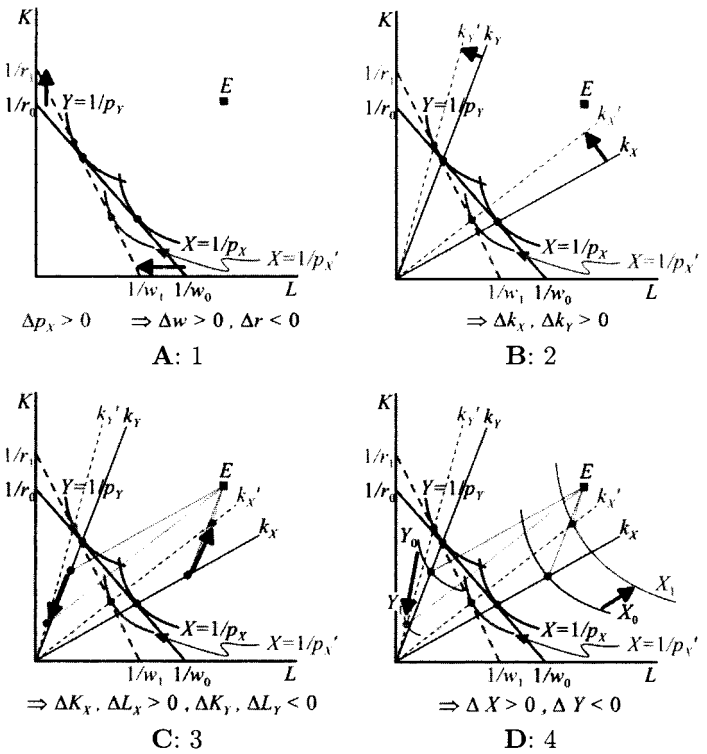
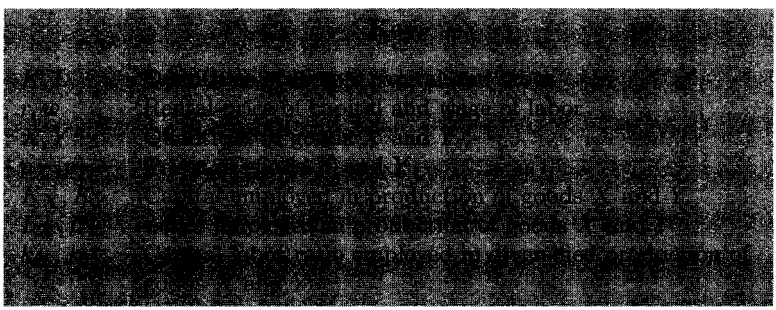


Fig. 4.6. Extensions — Factor Allocations and Factor Prices: Increase in Price of X (A–D).



Explanation

The basic Lerner diagram, shown in Fig. 4, uses *unit-value isoquants* (page 458) and *unit isocost lines* (page 457) to determine the *factor prices* (page 158) that are consistent with positive production of two goods under perfect competition. The unit-value isoquants incorporate both *nominal* (page 307) prices and *technology* (page 427), both of which are taken as given for the diagram. The unit isocost line is then determined within the diagram as the straight line tangent to both of the unit-value isoquants — the *common tangent* (page 63). The factor prices represented by (the reciprocals of) the intercepts of this isocost line permit both industries to just break even and therefore permit both to produce without a positive profit. If only one such common tangent exists, as it appears in the diagram, then these factor prices are the unique ones consistent with positive production at the goods prices for which the unit-value isoquants were drawn.

The diagram can be used as a powerful tool for deriving many of the results of the *Heckscher-Ohlin Model* (page 199). It is especially useful for finding the effects of a change in the prices of goods on factor prices, but with the extensions shown it can also determine other things.

Price Changes (Figs. 4.1–4.2)

A price change appears in the diagram in Figs. 4.1 and 4.2 as a shift of a unit-value isoquant. An increase in the price of good X, for example, means that a smaller quantity of good X is worth one dollar. With *linearly homogeneous* (page 260) technologies, the new unit-value isoquant is just a shrunken version of the old, contracted inward toward the origin by the fraction of the price increase. See Fig. 4.1.

As shown, an increase in the price of X, then, shifts the X-isoquant inward, causing the common tangent to rotate clockwise. From the intercepts, the wage rises and the rental falls. A fall in price of X has the opposite effects, while a change in the price of Y is analogous. See Fig. 4.2.

Technological Change (Fig. 4.3)

A technological improvement for producing a good causes the isoquant for the same quantity to be shifted inwards. The shift need not be proportional, but Fig. 4.3 assumes *Hicks neutral* (page 201) progress, for which it is. Thus the picture looks exactly the same as that for an increase in the price of the good. The effects are correspondingly the same, except that one must be careful in distinguishing changes in quantities from changes in values for a good with a changed technology.

Extensions

The Lerner diagram provides a convenient starting point for further analysis of the Heckscher-Ohlin Model. The figure can be used to determine, essentially in the following order:

- industry factor ratios (techniques) corresponding to diversification;
- the diversification cone;
- patterns of specializatio;

and with addition of a point representing factor endowments,

- factor employment in each industry and
- industry outputs.

The effects on all of these variables can therefore be derived, for any initial pattern of specialization, due to changes in anything exogenous to the diagram: prices, technology, and factor endowments.

The Diversification Cone (Fig. 4.4.A)

If factor prices are those given by the common tangent, as they must be for both goods to be produced, then the cost-minimizing techniques of production in the two industries are at the two points of tangency. Therefore, the factor ratios at these points of tangency, and the rays with these slopes labeled k_X and k_Y, as in Fig. 4.4.A, represent these techniques. The diversification cone is the set of all factor endowments lying on or between these rays.

Patterns of Specialization (Fig. 4.4.B)

The reason for calling it the diversification cone, aside from its shape, is that only for factor endowments lying inside the cone — between the rays k_X and k_Y — will a country produce both goods. Otherwise it would not be able to employ both factors fully, since it would be using either a higher or lower ratio of factors in both industries than it has in its endowment. Outside the cone, therefore, the country completely specializes, producing only the most labor-intensive good, X, below the cone and only the most capital intensive good, Y, above it.

Factor Allocations and Factor Prices (Fig. 4.5.)

Outside the cone, the factor allocations are simple. The entire endowment is employed in one industry. For firms to do that willingly, they must face factor prices that induce them to hire factors in the same proportions as the endowment. Therefore, factor prices outside the cone are not given by the common tangent, but rather by the slope of the operating industry's isoquant at the factor ratio of the country's endowment.

Inside the cone, factor prices are given by the common tangent, and the industries employ factors in the ratios k_X and k_Y. With two factors and two goods, there is only one way that factors can be fully employed given this constraint. It can be found by constructing lines parallel to the k_X and k_Y rays from the point representing the country's factor endowment to where each intersects the other industry's ray. The point of intersection is the amount of factors allocated to that industry.

Effects of a Price Change (Fig. 4.6)

All of this can be combined to determine the effects of changes in variables that are exogenous to the Lerner diagram, such as prices. Figure 4.6 shows an increase in the price of good X. The price increase pulls the unit-value isoquant for X in toward the origin. This causes the common tangent to rotate clockwise, becoming

steeper and representing a higher relative price of labor compared to capital. In nominal terms, the wage rises and rental falls. These changes cause both industries to substitute toward using less labor and more capital, moving up and to the left along their isoquants to higher ratios of capital to labor. This increase in the capital-labor ratios of diversification means that the diversification cone rotates counterclockwise. Some factor endowments that previously would have involved specialization in the more capital-intensive industry now will accommodate both industries, while other factor endowments that were inside the cone but closer to its bottom edge are now below it, switching from producing both goods to producing only X. For endowments that remain within the cone, factors must be re-allocated in order to keep them fully employed at the new higher capital-labor ratios. The more labor-intensive industry, even though it now employs a higher ratio of capital to labor, also must expand, employing a larger amount of both factors. The capital-intensive industry Y, on the other hand, employs less of both factors and contracts. Thus, for a country within the cone, the output of X rises and the output of Y falls.

Notes

1. The Lerner diagram works only for *linearly homogeneous* (page 260) technologies. With that assumption, every isoquant for an industry is exactly like every other, just scaled inward or outward, and a single isoquant — such as the unit-value isoquant — completely describes the technology. Without linear homogeneity or something equivalent to it, the Lerner diagram would make no sense and cannot be used.
2. Only a Hicks-neutral technological change is illustrated in Fig. 4.3. However, one of the counter-intuitive messages of the Lerner diagram is that this neutrality is not very important for the effects of technological change on factor prices. An improvement in the technology for producing X, for example, will pull its unit-value isoquant inward no matter how it may be biased in favor of labor or capital, and as long as the other isoquant does not change, the common tangent must get steeper. Thus if both goods are produced so that the country is (and remains) inside the diversification cone, technological progress in the

labor-intensive industry causes a rise in the relative wage regardless of any factor bias in the progress itself.

3. The isoquants in Fig. 4 do not display a *factor intensity reversal* (page 157). If they were to do so, then there could be two common tangents, not one, and with multiple reversals there could be even more. For each common tangent there is a corresponding diversification cone.

5. Offer Curve Diagram

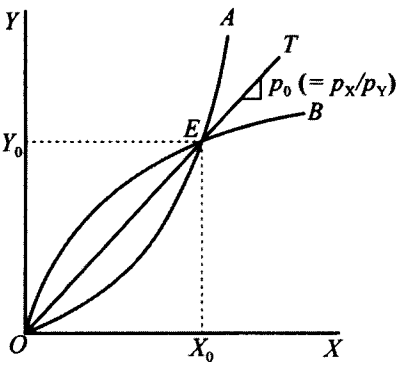
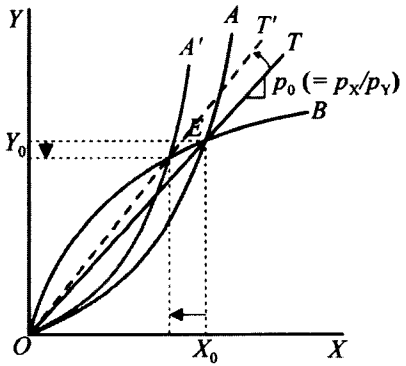
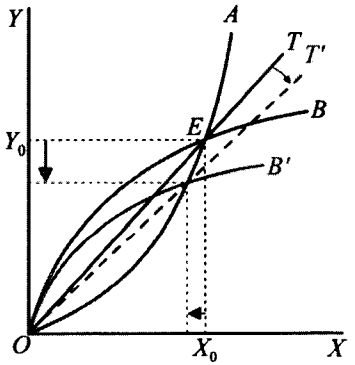


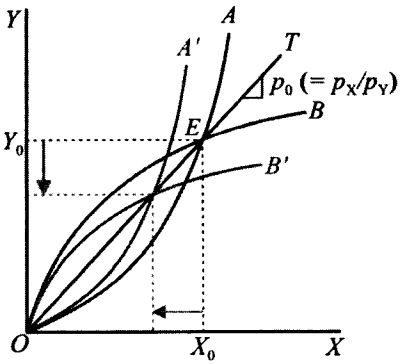
Fig. 5. Basic Offer Curve Diagram.



A: Tariff levied by A

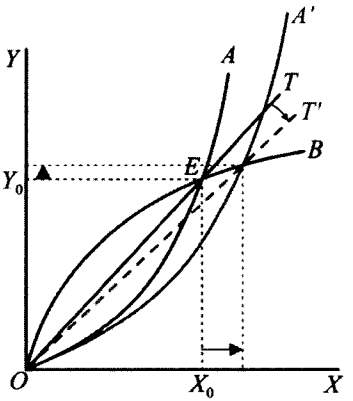


B: Tariff levied by B

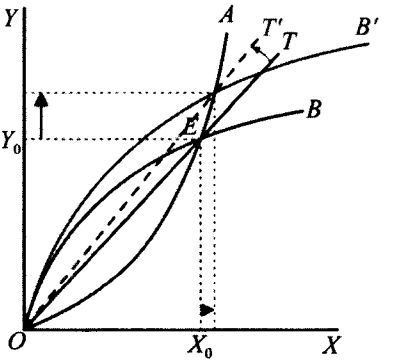


A&B: Tariff levied by A and B

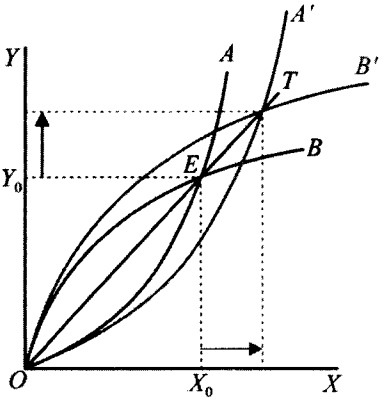
Fig. 5.1. Tariff (A, B, A&B).



A: Expansion by A

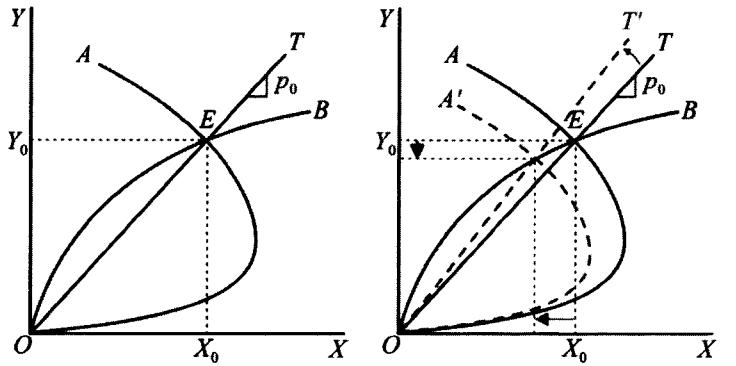


B: Expansion by B



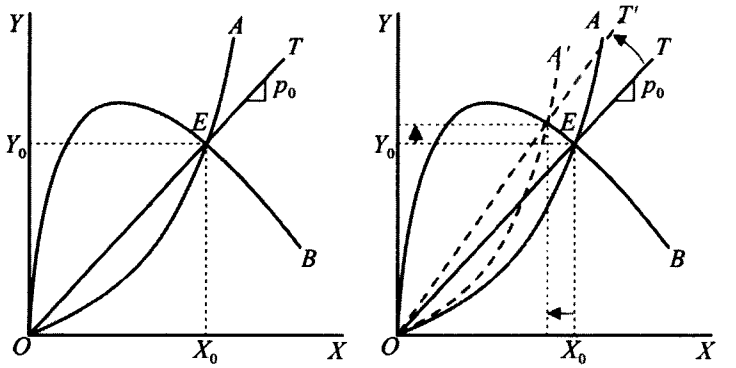
A&B: Expansion by A and B

Fig. 5.2. Expansion (A, B, A&B).



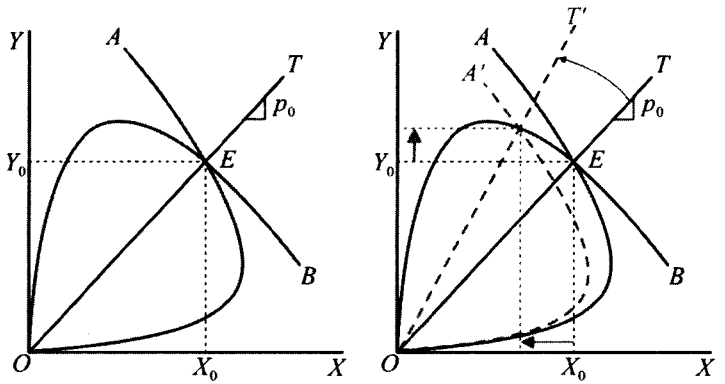
A: Equilibrium **B**: Tariff levied by A

Fig. 5.3. Variants: Inelastic Demand by Country A (A and B).



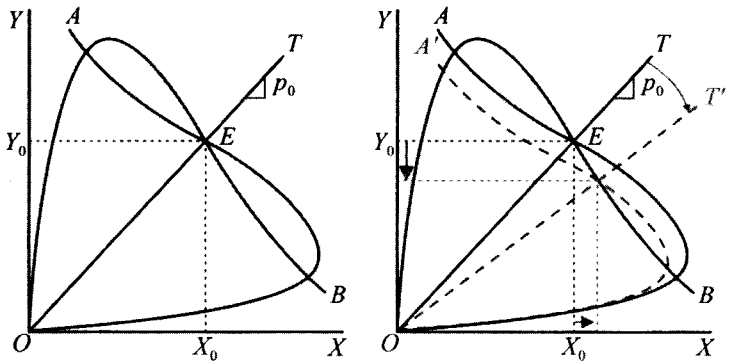
A: Equilibrium **B**: Tariff levied by A

Fig. 5.4. Variants: Inelastic Demand by Country B (A and B).



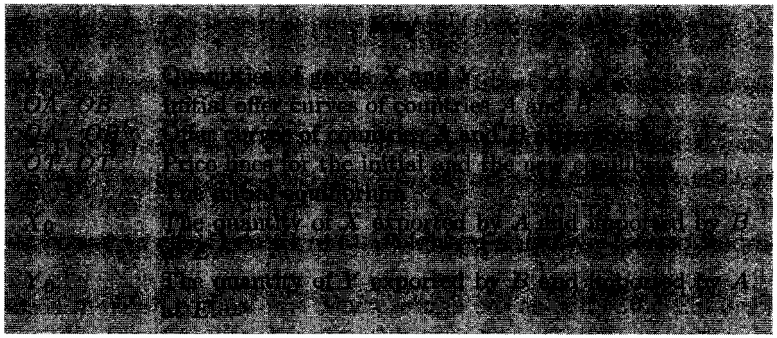
A: Equilibrium **B**: Tariff levied by A

Fig. 5.5. Variants: Inelastic Demand by Both (A and B).



A: Equilibrium **B**: Tariff levied by A

Fig. 5.6. Variants: Inelastic Demand by Both Very Inelastic (A and B).



Explanation

The offer curve OA records the quantities of good X that country A supplies to the world market for export and the quantities of good Y that it demands from the world market as imports, for all prices. The prices are only implicit in the diagram (Fig. 5), represented as rays from the origin the slopes of which are the prices of good X relative to good Y. This is possible since balanced trade (which is assumed throughout), requires that $p_Y Y = p_X X$, and therefore that $Y/X = p_X/p_Y$. Thus the offer curve can be read as giving the quantity of good X that country A is willing to export in exchange for various quantities of imported good Y, or equivalently as the amounts of both X and Y that it is willing to trade at various prices along rays from O.

Offer curve OB is similarly defined for country B, except that the directions of trade for it are reversed. This is why it is something of a mirror image of OA. That is, it records quantities of good Y that B will export in exchange for various quantities of imports of good X. In equilibrium, of course, country B must import what A exports and vice versa, which is why equilibrium is found where the two curves intersect, at E.

By representing both good X and good Y in a single diagram in this way, the intersection of the two offer curves depicts equilibrium in both markets simultaneously, something that is possible (indeed necessary) because of *Walras' law* (page 467).

Offer curves need not be upward sloping throughout. If they are, as drawn in Fig. 5, that says that the country is willing to spend more, in exports, for additional quantities of imports as their price falls (and the relative price of exports therefore rises). If this is true, it means that the demand for imports is *elastic* (page 128), and therefore such offer curves are often themselves called "elastic." If demand for imports instead becomes *inelastic* (page 220) at low import prices — which is possible but not theoretically necessary — then the offer curve bends back on itself as shown in the variants in Figs. 5.3–5.6. This, as the figures show, can lead to different sorts of responses of prices and quantities of trade to various shocks.

Tariff (Fig. 5.1)

The effects of a tariff on a country's offer curve depend on how the tariff revenue is spent. If, as is customary to assume, it is *redistributed* (page 368), then the tariff in a *nondistorted* (page 311) economy unambiguously reduces the desired quantities traded at any given world price. Thus the offer curve shifts in toward the origin along every ray. Beyond this, one cannot say much about the size of the shift, which depends on both preferences and the constraints of technology and factor endowments. Nonetheless, this is often enough to determine qualitatively the effects on equilibrium prices and quantities, at least on the world market.

As shown in the panels of Fig. 5.1 with both offer curves elastic a tariff by either country (or both) reduces the quantities of both goods traded. The effect on the world price (*terms of trade* (page 429)) depends (not necessarily simply) on the sizes of the two tariffs, each country's terms of trade tending to *improve* (page 215) most the larger its own tariff is and the smaller the other country's is. This, of course, is the reason for the likelihood of *retaliation* (page 375) when a country seeks to use an *optimal tariff* (page 322).

Expansion (Fig. 5.2)

Economic expansion, due either to factor accumulation or technological progress, tends to cause a country to trade more at any given prices, and thus shifts its offer curve out away from the origin. This

is not inevitable, however, as illustrated elsewhere with the *trade and transformation curve diagram* (page 525), which shows that if expansion is sufficiently biased in favor of the import-competing good, desired trade may decrease. All the panels of Fig. 5.2, however, assume that economic expansion in a country causes it to trade more, for given prices.

The outward shift of a country's offer curve that results is therefore just the opposite of the inward shift due to a tariff, although the exact shape of the change could well be different. Not much more therefore needs to be said about this case.

Variants (Figs. 5.3–5.6)

Implications of a tariff (and of expansion, for that matter) can be somewhat different when import demands are inelastic than when they are elastic, as the variants shown in Figs. 5.3 to 5.6 illustrate. For a country that levies a tariff, having its own import demand be inelastic does not matter a great deal, except perhaps to the sizes of the changes that result. But having the foreign offer curve be inelastic matters a lot.

When country A levies a tariff against a world whose demand for its export is inelastic, then the effect is actually to *increase* its quantity of imports, not reduce it. The reason is that by reducing its demand for imports at the initial price it causes the price of its imports to fall and of its exports to rise. But the inelastic foreign demand means that the other country increases its expenditure on imports when their price rises, and their expenditure *is* their exports. So the price of their exports must fall by enough to induce the tariff-levying country to buy more of them. Complicated?

Things seem to get even stranger if both countries have inelastic import demands, especially in the extreme case shown in Fig. 5.6. Here, almost everything seems to go nuts, as country A's tariff seems to cause it to push *up* the price of its imports and down the price of its exports, therefore causing it to export more and import less. This appearance is deceiving, however, for all of this weirdness started from an equilibrium that, on inspection, would have been unstable. In the unlikely event that the world started from the unstable equilibrium at E in Fig. 5.6, the tariff would

actually have caused the system to move to the stable equilibrium northwest of it, with results much more like the other cases.

Notes

1. Offer curves need not be nearly as smooth and well-behaved as shown. In the *Ricardian model* (page 378), for example, they include straight lines from the origin and kinks. And in general, especially once a tariff is imposed, they need not even be concave to the origin.
2. The offer curves shown in Figs. 5.1 to 5.6 are drawn only in one quadrant of the diagrams. However, in fact they extend beyond the origin into the negative quadrant, where the directions of trade are reversed. If preferences are well-behaved, they will not intersect in that negative quadrant, but if consumers are heterogeneous, they may.
3. The slope of an offer curve at the origin is the country's autarky price. In fact, country A's offer curve lies wholly above a price line through the origin with slope equal to its autarky relative price, and country B's lies wholly below such a line for it. This in turn illustrates that a trade equilibrium must be at prices that lie between the two countries' autarky prices.
4. Offer curves work only with two goods and two countries, not more. To use them in more complicated worlds, it is necessary to aggregate. That is not too hard, especially for countries under ideal conditions (no distortions). Studying country A, for example, we can interpret country B as the entire rest of the world.

6. Specific-Factors Model

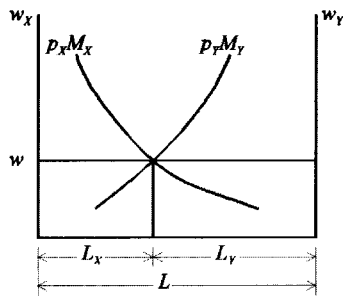


Fig. 6. Specific-Factors Model.

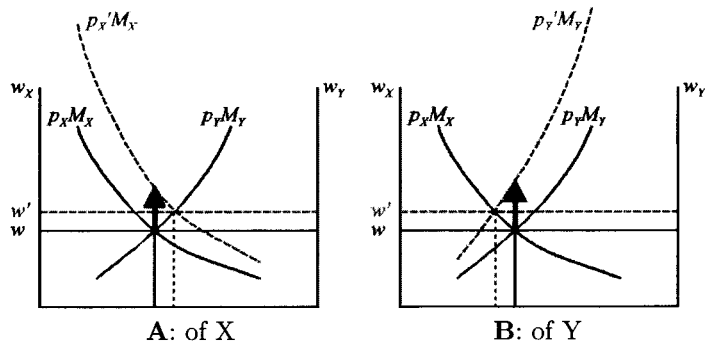


Fig. 6.1. Increase in Price (A and B).

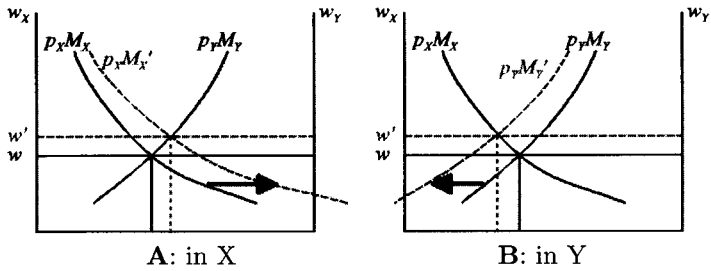


Fig. 6.2. Increase in Endowment of Specific Factor (A and B).

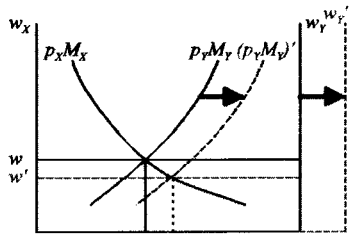
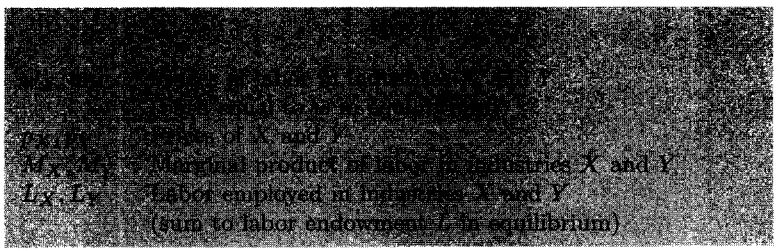


Fig. 6.3. Increase in Endowment of Labor.



Explanation

The economy has two sectors and three factors. Each sector has a specific factor that is confined to it, and each also employs

labor, which is perfectly mobile between them. Figure 6 depicts the labor market, the fixed supply of labor (the labor endowment) being its width, and the two sectors' demands for labor drawn as functions of the wage from opposite corners. Demand for labor in each sector is given by a curve the height of which is the value of labor's marginal product in the sector: pM. Equilibrium is at the intersection of these two curves, determining both the common wage and the allocation of labor between the sectors.

Effects of Changing Prices

A rise in the price of either good shifts its sector's labor demand curve proportionally upward. This causes its intersection with the unchanged labor demand curve of the other sector to move up along that curve, increasing both the equilibrium common wage and employment in the sector where the price has risen.

Implicit in this is that output rises in the sector with the higher price and falls in the other sector. Also, since the wage rises by less than the upward shift of the curve (the heavy arrow in Fig. 6.1, showing the size of the price increase), it follows that the nominal wage of labor rises relative to the unchanged price but falls relative to the increased price, implying that the effect on the real wage is, from this information, ambiguous.

Also implicit in the figure are the effects on real returns to specific factors, which respond to changes in labor employment by rising in the expanding sector and falling in the contracting sector.

Effects of Changing Endowments of Specific Factors

An increase in the endowment of a specific factor in a sector makes labor in that sector more productive. Assuming *constant returns to scale* (page 71), the marginal product of labor depends only on the ratio of factors, and therefore the marginal product curve shifts horizontally by the percentage change in the specific factor, as shown in Fig. 6.2. Like the price increases shown in Fig. 6.1, this raises the equilibrium employment in the sector with more of the specific factor, and raises the equilibrium nominal wage in both.

Output rises in the expanding sector, due now to the increases in both factors, while output in the other sector contracts. Since prices in this case are fixed, the rise in nominal wage is also an increase in real terms.

The real return to the non-expanded specific factor goes up, since it depends on its ratio to employed labor. The real return to the expanded specific factor goes down, analogously, since employment of labor in that sector expands by less than the increase in the specific factor (shown again by the heavy arrow in Fig. 6.2).

Effects of Changing Endowment of Labor

An increase in endowment of labor expands the horizontal dimension of the figure. Holding its left side fixed in Fig. 6.3, the right side moves to the right by the amount of the increased endowment, and since the Y-sector labor demand is drawn relative to the vertical axis on the right, it shifts horizontally by the same absolute amount. The result is a fall in the equilibrium wage and a rise in employment of labor (and thus both output and returns to specific factors) in both sectors.

7. Tariff in Partial Equilibrium

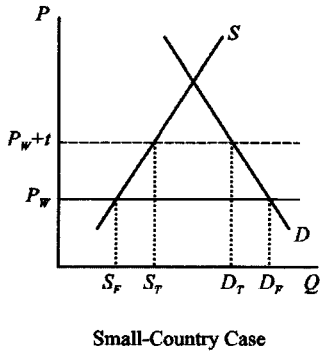


Fig. 7. Tariff in Partial Equilibrium.

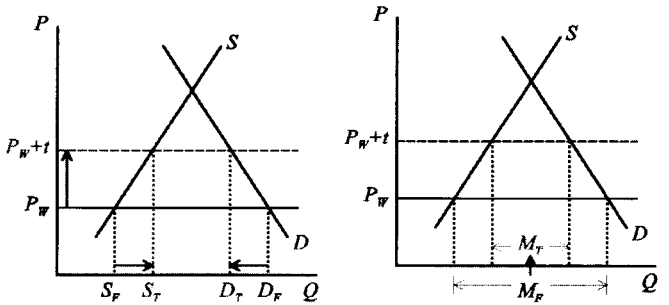


Fig. 7.1. Small-Country Case, Effects of Tariff: A and B.

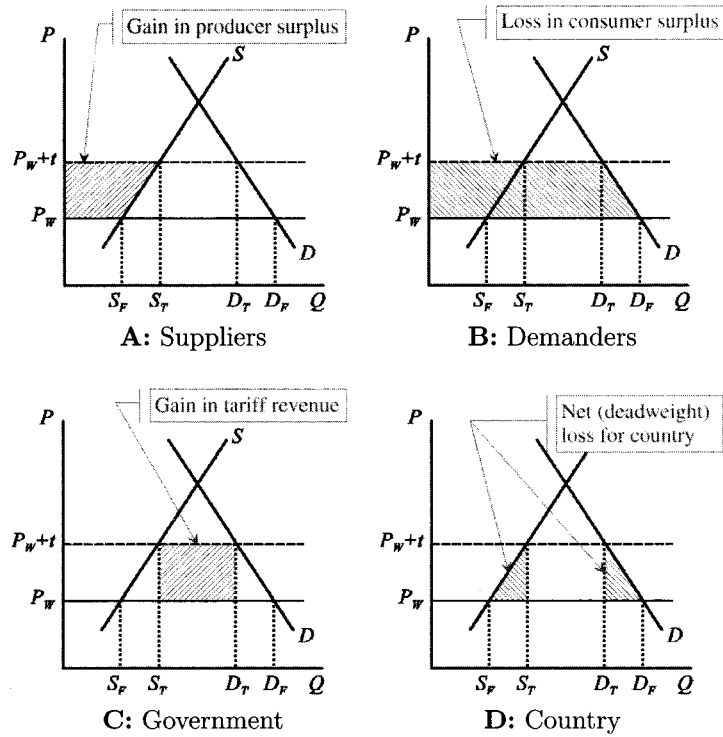
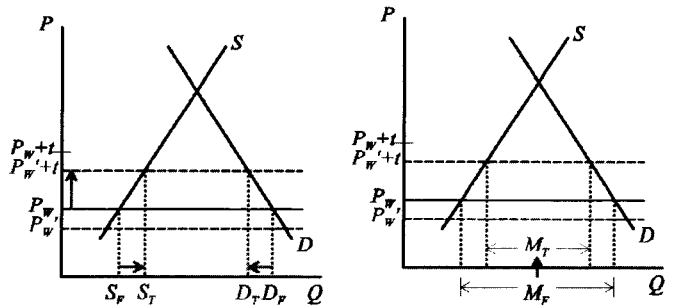
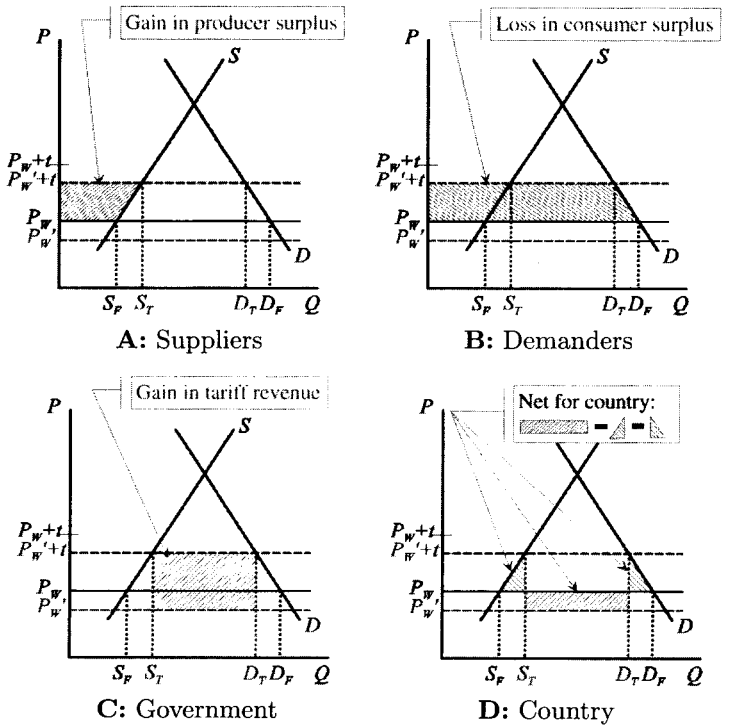


Fig. 7.2. Small-Country Case, Welfare Effects: A–D.



A: P and Q's **B:** Imports

Fig. 7.3. Large-Country Case, Effects of Tariff: A and B.



A: Suppliers **B:** Demanders

C: Government **D:** Country

Fig. 7.4. Large-Country Case, Welfare Effects: A–D.

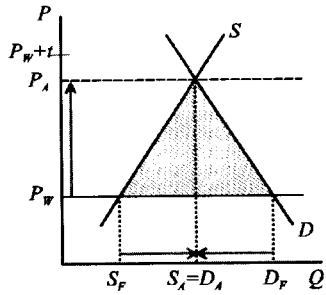


Fig. 7.5. Prohibitive Tariff, Effects on P, Q's and welfare.

Key:
P, Q Price and quantity of good
S, D Domestic supply and demand in importing country
F, T Equilibrium values under free trade and tariff
t Specific tariff rate
P_W Price of good on world market

Explanation

The diagram (Fig. 7) shows upward-sloping supply and downward-sloping demand for a good inside a country. The world price, P_W, is assumed to be below the country's autarky price, so that it has excess demand at the world price and will import the good if it is free to do so. If that were not the case, a tariff on imports would have no effect. Thus, with free trade, the country supplies and demands the good in the amounts S_F and D_F respectively, as determined by the supply and demand curves in Fig. 7.

A tariff raises the domestic price above the world price by the amount of the tariff, so long as the good continues to be imported. The effects on the domestic market depend on whether the tariff induces any change in the world price. In the small-country case

of Figs. 7.1 and 7.2, the country's imports are too small to matter for the world market and the world price remains unchanged. If the importing country is large, however, its reduced demand for imports causes the world price to fall by an amount that cannot be determined with this diagram alone. The large-country case shown in Figs. 7.3 and 7.4 simply assumes an arbitrary fall in the world price. Finally, if the tariff is larger than the gap between the country's autarky price and the world price, then it is "prohibitive," reducing imports of the good to zero in Fig. 7.5.

Small-Country Case

In the small-country case, the world price remains unchanged, and therefore the domestic price must rise by the full amount of the tariff. This rise in price causes domestic supply to rise and domestic demand to fall, along the respective supply and demand curves in Fig. 7.1. Since the quantity of imports is the difference between demand and supply, imports are reduced by both of these changes.

Effects on welfare within the country can be measured by various areas in Fig. 7.2. The rise in price benefits suppliers, as measured by the increase in *producer surplus* (page 350), which is the area to the left of the supply curve between the old and new prices. The same price increase hurts demanders, as measured by the decrease in *consumer surplus* (page 73), which is the analogous area to the left of the demand curve. In addition to these effects on the market participants, the tariff-levying government also benefits in the form of increased government revenue from the tariff, which is simply the rectangle representing the tariff itself multiplied by the new level of imports. This tariff revenue accrues directly to the government, but presumably indirectly to the domestic population as taxpayers.

The net of these three changes is necessarily a loss in the small country case, since the gains to suppliers and government are both subsumed within the larger area of loss to demanders. The net loss

appears as two triangles, with height equal to the size of the tariff and width equal to the amounts by which supply and demand have changed. Together these triangles measure the *deadweight loss* (page 92) from the tariff, and they exist only to the extent that the tariff has induced changes in the behavior of the market participants.

Large-Country Case

The small-country analysis also implies that a country of any size will demand less from the world market, as a result of a tariff, for any given world price. This reduced demand from the world market, if the country is large enough to matter at all, causes the world price to fall. The size of this fall depends on properties of the world market that do not appear here, although it is normally smaller than the tariff itself.

The fall in world price implies that the domestic price rises by less than the tariff. Qualitatively, the rising domestic price has the same effects on domestic suppliers and demanders as in the small-country case, but quantitatively both the gain to suppliers and the loss to demanders are reduced, since the price increase is smaller. The tariff revenue, on the other hand, is *not* reduced by the fall in world price. On the contrary, with a specific tariff the tariff revenue is larger here, since the size of the tariff itself is the same and the quantity of imports (which has fallen less) is larger. In Fig. 7.4C, the rectangle of tariff revenue is no longer fully subsumed within the area of lost consumer surplus, but instead extends below it.

The net welfare effect of the tariff on a large tariff-levying country can therefore be positive. This is the case, in Fig. 7.4D, if the portion of tariff revenue shown by the upward-sloping-cross-hatched rectangle below P_W is larger than the sum of the two downward-sloping-cross-hatched triangles of deadweight loss. If so, this is a case of an *optimal tariff* (page 322) that has successfully

altered the importing country's *terms of trade* (page 429) in its favor. Indeed, the benefit depends entirely on being able to push down the world price, which the country pays for its imports, and thus occurs at the expense of foreign exporters. (The effect on welfare abroad does not appear in this figure.)

Prohibitive Tariff

If a tariff is set high enough, it will choke off all trade in the good. For this to happen in the small country, the tariff need only be as large as the difference between its *autarky price* (page 21) (i.e., the price P_A at which domestic supply equals domestic demand) and the world price. For it to happen in a large country, the same must be true, except that the relevant world price is the one that will prevail after the country's imports are zero. In either case, however, the result, shown in Fig. 7.5, is that the country moves to its autarky equilibrium with the autarky price P_A, and this is the case even if the tariff is made still larger. That is, once the tariff is large enough to eliminate trade, further increases in the tariff have no effect on anything.

The welfare effect of a prohibitive tariff is analogous to a *nonprohibitive tariff* (page 311), in that suppliers gain and demanders lose. However, there is no tariff revenue, since imports are zero, and as a result the deadweight loss from the tariff is maximized.

Notes

1. The analysis here uses a *partial equilibrium* (page 328) model, thus focusing only on the market for a single good and ignoring any interactions with other markets. This is justified if the market in question is too small to matter for all other markets, in which case unfortunately it may be too small to matter for anything. Fortunately, the partial equilibrium model also provides a good approximation to what would be found with a more complete general equilibrium model even for a market that does matter for others, as long as the feedbacks through

those markets on itself are small. In practice, whether justified or not, the partial equilibrium model is very commonly used.

2. What is critically important in the use of this analysis is that this tariff be the only one being changed, or one of only a few. If tariffs are being changed on most products that a country trades, as for example during implementation of a *trade round* (page 443), then results are likely to differ substantially from what one would get from just adding up the effects of multiple partial equilibrium analyses.

8. Trade and Transformation Curve Diagram

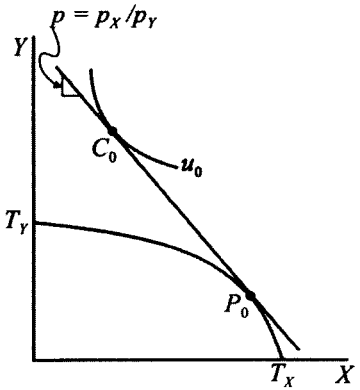


Fig. 8. Basic Trade and Transformation Curve Diagram.

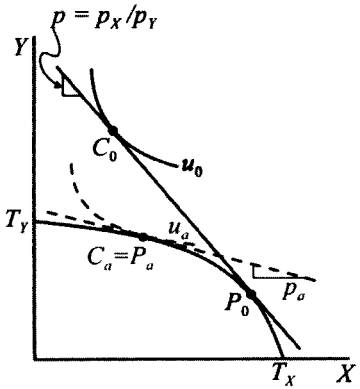
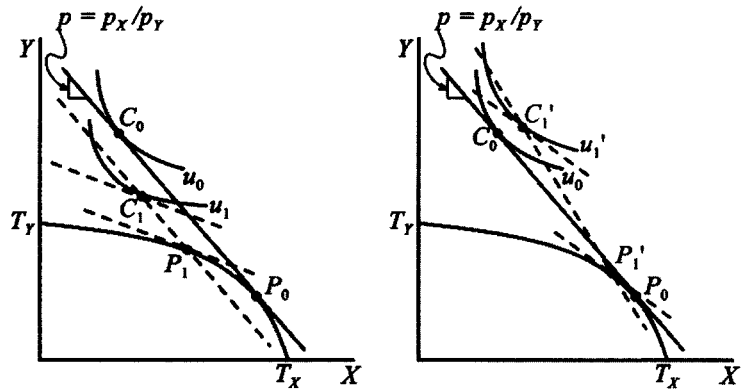
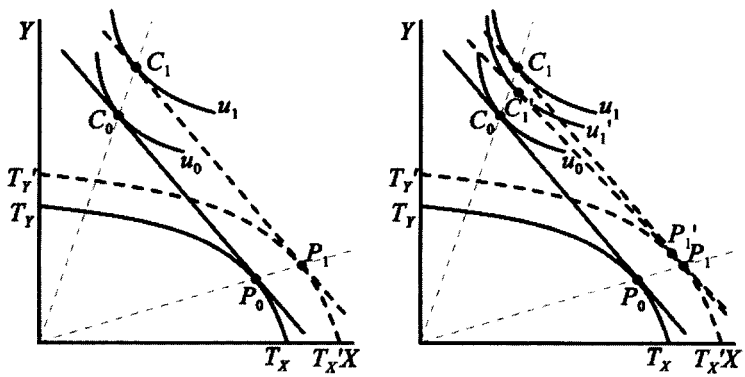


Fig. 8.1. Autarky.



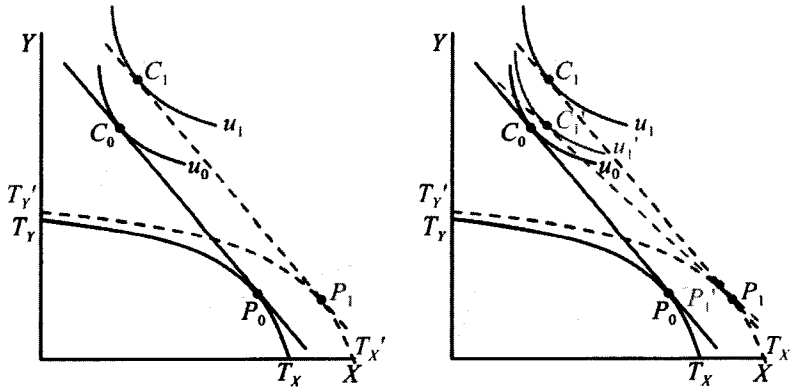
A: Small country **B**: Large country

Fig. 8.2. Tariff (A and B).



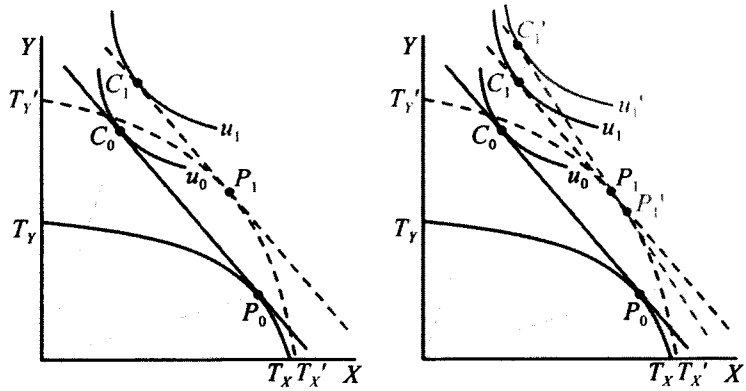
A: Small country **B**: Large country

Fig. 8.3. Expansion Neutral (A and B).



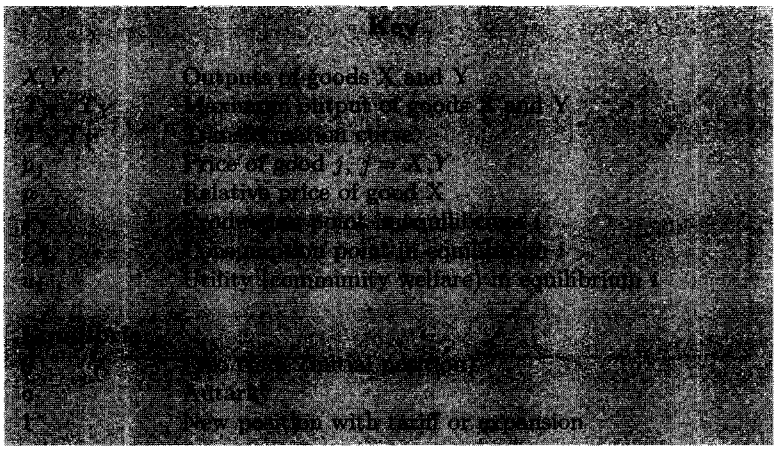
A: Small country **B**: Large country

Fig. 8.4. Expansion — Export Biased (A and B).



A: Small country **B**: Large country

Fig. 8.5. Expansion — Import Biased (A and B).



Explanation

The trade and transformation curve diagram combines information about *technology* (page 427) and *endowments* (page 132) represented by a *transformation curve* (page 448) with information about prices represented by *price lines* (page 345) to determine levels of production, consumption, and therefore trade. By using *community indifference curves* (page 64), the diagram also provides an easy representation of effects on a country's *welfare* (page 468).

The basic diagram shown in Fig. 8 starts with the transformation curve, $T_X T_Y$, the position and shape of which depend on the technologies for producing the two goods, X and Y. It is usually drawn *concave* (page 68) to the origin, as shown, representing either *diminishing returns* (page 104) due to *specific factors* (page 402) in the two industries or differences in their relative *factor intensities* (page 157) in the *Heckscher-Ohlin Model* (page 199). The curve is linear in the *Ricardian model* (page 378), and kinked-linear with *Leontief technologies* (page 256). The position and shape also depend on factor endowments, the curve extending further in the direction of the good for which the country has relatively the most specific or intensive factors.

Prices are added to the diagram via a downward-sloping *price line* (page 345), along which the combined value of goods is constant. A competitive economy maximizes the value of output at the prices facing producers, so if these are domestic prices, production is determined by a tangency between the transformation curve and the price line, as at P_0 above. The value of a country's output is also its income, so this price line is also the budget line of consumers in the aggregate. Representing their preferences by a family of community indifference curves, the consumption point is found as a tangency with this price line, as at C_0 above. The level of aggregate welfare is the utility reached by this indifference curve, u_0 above.

Finally, the quantities traded are found by comparing production and consumption. This can be done by adding the *trade triangle* (page 444) to the diagram. Its horizontal side shows the trade of good X (in this case an export, since production is to the right of consumption), and its vertical side shows trade in good Y (import, here).

The diagram can be used for a wide variety of theoretical exercises, including the following.

Comparison of Free Trade and Autarky (Fig. 8.1)

In *autarky* (page 21), the country must produce what it consumes. Therefore the best that it can do is to consume on the highest indifference curve that it can reach. This is also what a competitive economy will actually do, since the same price line that induces production at P_a induces consumption there as well. Figure 8.1 shows immediately that the level of welfare is lower in autarky than with free trade, and also that a country will export the good whose relative price in autarky is lower than the price that will prevail with trade. Trade causes the output of the export good to rise and that of the import good to fall.

Effects of a Tariff (Fig. 8.2)

A *tariff* (page 421) causes the domestic price of the imported good to be higher than the world price, and thus the domestic relative

price of the exported good, X in this case, to be lower. If the country is *small* (page 395), so that the world price remains unchanged with the tariff, then the tariff faces producers with a flatter price line, to which they respond by producing less of good X and more of good Y, at a tangency of the transformation curve with this flatter price line. The budget line of the country as a whole is still given by world prices, however, now passing through this new production point, P_1. To have *balanced trade* (page 26), consumption must be on this line, at a point of tangency between an indifference curve and another domestic price line parallel to that facing producers. The effects of the tariff in the small country include a drop in welfare compared to free trade, and a reduction in the quantities traded. The large-country case differs, in that the world price of the exported good rises when less of it is supplied to the world market, and this steepens the price line, both world and domestic, as shown in Fig. 8.2. The main difference from the small-country case is that the large country's welfare may rise, as shown.

Expansion (Figs. 8.3–8.5)

Production possibilities can expand due either to an advance in technology or to an accumulation of factors. In either case, the transformation curve shifts outward, but it can do this in various ways depending on the cause of the expansion. Figures 8.3 to 8.5 show three cases, neutral and biased toward goods X and Y respectively. For a small country, trade expands in the first two of these cases, but it declines in the third. For a large country, these changes imply that the world price of X falls and rises respectively. When it falls, as it does most with export-biased expansion, this undermines the benefits of the expansion and may conceivably lower welfare altogether, although it does not in the case shown in Fig. 8.4B.

Notes

1. The diagrams are drawn assuming *homothetic preferences* (page 204). That is why the consumption points move radially outward in the small-country cases of expansion. Without that, effects of trade could

be somewhat different, depending on which good has the higher income elasticity.

2. The diagrams all assume *balanced trade* (page 26). Without that, there must be a *capital inflow* (page 47) or outflow, which will enable the country to consume either more or less than its income from production. This can be handled by shifting price lines out and in respectively.
3. The tariff analysis assumes that the tariff revenue is *redistributed* (page 368) to consumers. That is why the price line they face is further out than the one faced by producers, since consumer income includes these transfers.

Part III
Lists of Terms in International Economics by Subject

Lists of Terms in International Economics by Subject

1. ARGUMENTS FOR PROTECTION

Balance of payments (page 24)
Cultural (page 85)
Domestic distortions (page 112)
Employment (page 131)
Environmental protection (page 134)
Externalities (page 155)
Fairness (page 161)
Foreign investment (page 172)
Income redistribution (page 216)
Infant industry (page 221)
Labor standards (page 250)
Monopoly (page 289)
National defense (page 297)
Non-economic objectives (page 309)
Optimal tariff (page 322)
Patriotism (page 329)
Pauper labor (page 330)
Revenue (page 376)
Second best (page 385)
Self-sufficiency (page 387)
Strategic industry (page 411)
Strategic trade policy (page 412)
Sunset industry (page 416)
Terms of trade (page 429)

2. CENTRAL BANKS

Country	Currency	Central Bank
Argentina	Argentine peso	Banco Central de la República Argentina
Australia	dollar	Reserve Bank of Australia
Brazil	real	Banco Central do Brasil
Canada	dollar	Bank of Canada
China	renminbi	People's Bank of China
Eurozone	euro	European Central Bank
India	rupee	Reserve Bank of India
Indonesia	rupiah	Bank Indonesia
Iran	rial	Central Bank of Iran
Japan	yen	Bank of Japan
Korea, South	won	Bank of Korea
Malaysia	ringgit	Bank Negara Malaysia
Mexico	peso	Banco de México
Poland	zloty	National Bank of Poland
Russia	ruble	Bank of Russia
Saudi Arabia	riyal	Saudi Arabian Monetary Agency
South Africa	rand	South African Reserve Bank
Sweden	krona	Sveriges Riksbank
Switzerland	franc	Swiss National Bank
Taiwan	dollar	Central Bank of the Republic of China (Taiwan)
Thailand	baht	Bank of Thailand
Turkey	new lira	Central Bank of the Republic of Turkey
United Kingdom	pound	Bank of England
United States	dollar	Federal Reserve Bank

3. COUNTERTRADE

Barter (page 28)
Buyback (page 43) arrangement
Clearing agreement (page 59)

Counterpurchase contract (page 79)
Offset requirement (page 317)
Reverse countertrade (page 378)
Swap scheme (page 419)
Switch trading (page 420)

4. COUNTRY GROUPS

Name	Countries Included
Baltic countries (page 27)	Estonia, Latvia, and Lithuania
Maghreb (page 267)	Algeria, Libya, Mauritania, Morocco, Tunisia, and Western Sahara
Nordic countries (page 312)	Denmark, Finland, Iceland, Norway, and Sweden
Scandinavia (page 383)	Denmark, Norway, and Sweden
Visegrad Group (page 465)	Czech Republic, Hungary, Poland, and Slovakia

5. CRISES

Name	Year (start)
Asian Crisis (page 17)	1997
Black Wednesday (page 35)	1992
Global Financial Crisis (page 186)	2008
Latin American Debt Crisis (page 252)	1982
Peso Crisis (page 334)	1994
Tequila Crisis (page 428)	1994

6. DEVELOPMENT BANKS

African Development Bank Group (page 8)
Asian Development Bank (page 18)
Caribbean Development Bank (page 50)
Central American Bank for Economic Integration (page 52)
Corporacion Andina de Fomento (page 77)
East African Development Bank (page 119)

European Bank for Reconstruction and Development (page 139)
European Investment Bank (page 140)
Inter-American Development Bank (page 226)
International Fund for Agricultural Development (page 233)
Islamic Development Bank (page 241)
Nordic Development Fund (page 313)
Nordic Investment Bank (page 313)
OPEC Fund for International Development (page 320)
West African Development Bank (page 469)
World Bank Group (page 470)

7. EFFECTS

Balassa-Samuelson Effect (page 26) of productivity increase on the real exchange rate
Beachhead effect (page 29) of having once entered a market
Border effect (page 37) on prices either side of an international border
Fisher Effect (page 168) of inflation on interest rates
Home market effect (page 203) of home market size on exports
Hostage effect (page 206) of continued partial ownership by a selling firm
Income effect (page 216) of price on demand, through effect on real income
International Fisher Effect (page 233) of interest rates on exchange rate changes
Kravis-Lipsey-Bhagwati Effect (page 247) of factor-endowment differences on price levels
Laursen-Metzler Effect (page 252) of terms of trade on expenditure
Locomotive effect (page 262) of one country's income growth on other countries'
Magnification effect (page 267) of exogenous prices and endowments in the Heckscher-Ohlin Model
Penn Effect (page 331) of economic development on prices
Portfolio balance effect (page 338) of exchange market intervention

Pro-competitive effect (page 348) of trade on economic welfare
Ratchet effect (page 361) of a variable that can move in only one direction
Spending effect (page 403) of export income on demand for non-tradables, within the *Dutch disease* (page 116)
Substitution effect (page 415) of price on demand, through substitution for other products
Terms of trade effect (page 429) of a tariff by a large country on world price of the import
Ulysses Effect (page 454) of a trade agreement in constraining political action

8. EMPIRICAL FINDINGS

Feldstein-Horioka puzzle (page 163)
Leontief paradox (page 256)
Mystery of the missing trade (page 295)

9. EXCHANGE REGIMES

1:1 (page 476)
Crawling peg (page 81)
Currency board (page 86)
Dirty float (page 106)
Exchange control (page 143)
Floating exchange rate (page 169)
Managed float (page 267)
Pegged exchange rate (page 330)
Target zone (page 421)
Wide band (page 470)

10. FRAGMENTATION: TERMS AND TYPES

2nd unbundling (page 385)
Delocalization (page 97)
Disintegration (page 107)

Global factory (page 186)
Global production sharing (page 186)
Global supply chain (page 187)
Internationalization (page 238)
Intra-mediate trade (page 239)
Intra-product specialization (page 239)
Kaleidoscope comparative advantage (page 245)
Multistage production (page 294)
Offshoring (page 317)
Outsourcing (page 325)
Production sharing (page 352)
Slicing up the value chain (page 395)
Splintering (page 404)
Subcontracting (page 414)
Trade in tasks (page 440)
Unbundling (page 454)
Vertical specialization (page 465)

11. GATT AND WTO MINISTERIALS

GATT

1.	Geneva, Switzerland	1957
2.	Tokyo, Japan	1959
3.	Geneva, Switzerland	1961
4.	Geneva, Switzerland	1963
5.	Geneva, Switzerland	1967
6.	Tokyo, Japan	12–14 September 1973
7.	Geneva, Switzerland	November 1982
8.	Punta del Este, Uruguay	September 1986
9.	Montreal, Canada	December 1988
10.	Geneva, Switzerland	1989
11.	Brussels, Belgium	3–7 December 1990
12.	*Marrakesh, Morocco* (page 276)	April 1994

WTO

1. *Singapore* (page 393)	9–13 December 1996
2. *Geneva, Switzerland* (page 184)	18–20 May 1998
3. *Seattle, USA* (page 384)	30 November–3 December 1999
4. *Doha Qatar* (page 110)	10–14 November 2001
5. *Cancún, Mexico* (page 44)	10–14 September 2003
6. *HongKong, China* (page 205)	13–18 December 2005
7. *Geneva, Switzerland* (page 184)	30 November–2 December 2009
8. *Geneva, Switzerland* (page 184)	15–17 December 2011

12. GATT ARTICLES*

Article I	General *Most-Favored-Nation* (page 290) Treatment
Article II	Schedules of *Concessions* (page 69)
Article III	*National Treatment* (page 298) on Internal Taxation and Regulation
Article IV	Special Provisions relating to Cinematograph Films
Article V	Freedom of Transit
Article VI	*Anti-dumping* (page 14) and *Countervailing Duties* (page 79) [Superseded by later agreements]
Article VII	*Valuation for Customs Purposes* (page 462) [Superseded by later agreement]
Article VIII	Fees and Formalities Connected with Importation and Exportation
Article IX	Marks of Origin
Article X	Publication and Administration of Trade Regulations
Article XI	General Elimination of *Quantitative Restrictions* (page 358)

Article XII	Restrictions to Safeguard the *Balance of Payments* (page 24)
Article XIII	Non-discriminatory Administration of *Quantitative Restrictions* (page 358)
Article XIV	Exceptions to the rule of Non-discrimination
Article XV	Exchange Arrangements
Article XVI	*Subsidies* (page 414)
Article XVII	*State Trading Enterprises* (page 408)
Article XVIII	Governmental Assistance to Economic Development [Includes exception for *infant industries* (page 221)]
Article XIX	Emergency Action on Imports of Particular Products [*Safeguards* (page 381)]
Article XX	General Exceptions [*Non-economic objectives* (page 309) (health, safety)]
Article XXI	Security Exceptions [*National defense* (page 297)]
Article XXII	Consultation
Article XXIII	Nullification or Impairment [*Dispute settlement* (page 108)]
Article XXIV	Territorial Application, Frontier Traffic, *Customs Unions* (page 90) and *Free Trade Areas* (page 177)
Article XXV	Joint Action by the Contracting Parties
Article XXVI	Acceptance, Entry into Force, and Registration
Article XXVII	Withholding or Withdrawal of Concessions
Article XXVIII	Modification of Schedules; Tariff Negotiations
Article XXIX	The Relation of this Agreement to the *Havana Charter* (page 198)
Article XXX	Amendments
Article XXXI	Withdrawal
Article XXXII	Contracting Parties
Article XXXIII	*Accession* (page 4)

*These titles are taken from the Text of the General Agreement on Tariffs and Trade, dated 1986 but referred to in the Final Act of the Uruguay Round Negotiations as GATT 1947.

13. INDEXES

Balassa Index (page 26) of *revealed comparative advantage* (page 376)
Baltic dry index (page 27) of shipping charges
Barro Misery Index (page 28) of macroeconomic misfortune
Big Mac Index (page 33) of *PPP* (page 340)
Competitiveness index (page 66) of country competitiveness
Consumer price index (page 72) of retail prices
Deardorff-Dixit-Norman Index (page 92) of comparative advantage
Export price index (page 152)
Export quantity index (page 152)
Finger-Kreinin Index (page 166) of export similarity
Global Competitiveness Index (page 186) of country competitiveness
Grubel-Lloyd Index (page 195) of *intra-industry trade* (page 238)
Head-Ries Index (page 198) of trade costs between countries
Headcount index (page 198) of poverty
Herfindahl Index (page 200) of industry concentration
Human development index (page 207) of human well-being
Implicit price deflator (page 210) of economy-wide prices
Import price index (page 213)
Import quantity index (page 213)
Index of sustainable economic welfare (page 219)
Krugman specialization index (page 247) of production patterns compared
Lafay Index (page 250) of *revealed comparative advantage* (page 376)
Meade Index (page 278) of *gains from trade* (page 181)
Misery index (page 283) of macroeconomic misfortune
Open markets index (page 320) ranking of trade openness
Openness index (page 321) of openness to trade
Price index (page 345) of average price changes
Quantity index (page 359) of average quantity changes

Specialization index (page 402) of production patterns compared
Trade complementarity index (page 437) of potential trade by country pairs
Trade concentration index (page 437) of reliance on few exporters
Trade intensity index (page 440) of bloc trade relative to world
Trade restrictiveness index (page 443) of tariffs and NTBs

14. INTERNATIONAL CLASSIFICATION SYSTEMS

BTN	Brussels Tariff Nomenclature
CCCN	Customs Cooperation Council Nomenclature
CPA	Classification of Products by Activity
HS	Harmonized System
ISIC	International Standard Industrial Classification
NACE	Statistical Classification of Economic Activities in the European Community
NAICS	North American Industry Classification System
SITC	Standard International Trade Classification

15. INTERNATIONAL COMMODITY AGREEMENTS AND ORGANIZATIONS

Association of Natural Rubber Producing Countries (page 19)
International Cocoa Organization (page 231)
International Coffee Organization (page 231)
International Cotton Advisory Committee (page 231)
International Grains Council (page 233)
International Jute Organization (page 234)
International Lead and Zinc Study Group (page 234)
International Olive Oil Council (page 235)
International Rubber Study Group (page 236)
International Sugar Organization (page 237)
International Tropical Timber Organization (page 238)
Organization of the Petroleum Exporting Countries (page 324)

16. MEMBERSHIPS

APEC (page 15) Members

Country	Year Joined	Country	Year Joined
Australia	1989	New Zealand	1989
Brunei Darussalam	1989	Papua New Guinea	1993
Canada	1989	Peru	1998
Chile	1994	(The) Philippines	1989
China, P.R.	1991	Russia	1998
Hong Kong, China	1991	Singapore	1989
Indonesia	1989	Taipei, Chinese	1991
Japan	1989	Thailand	1989
Korea, ROC	1989	United States	1989
Malaysia	1989	Vietnam	1998
Mexico	1993		

ASEAN (page 17) Members

Country	Year Joined	Country	Year Joined
Brunei Darussalam	1984	Myanmar	1997
Cambodia	1999	(The) Philippines	1967
Indonesia	1967	Singapore	1967
Lao PDR	1997	Thailand	1967
Malaysia	1967	Vietnam	1995

BSEC (page 40) Members

Member States of Black Sea Economic Cooperation

Albania	Moldova
Armenia	Romania
Azerbaijan	Russia
Bulgaria	Turkey
Georgia	Ukraine
Greece	

CARICOM (page 50) Members

Antigua and Barbuda	Guyana	Saint Lucia
(The) Bahamas	Haiti	Saint Vincent and the Grenadines
Barbados	Jamaica	Suriname
Belize	Montserrat	Trinidad and Tobago
Dominica	Saint Kitts and Nevis	
Grenada		

Associate Members

Anguilla	Cayman Islands
Bermuda	Turks and Caicos Islands
British Virgin Islands	

Commonwealth of Independent States (page 63) Members

Armenia	Kazakhstan	Tajikistan
Azerbaijan	Kyrgyzstan	Turkmenistan
Belarus	Moldova	Ukraine
Georgia	Russia	Uzbekistan

European Union (page 141) Members

Member	Joined	Member	Joined
Austria	1995	Italy	1958
Belgium	1958	Latvia	2004
Bulgaria	2007	Lithuania	2004
Cyprus	2004	Luxembourg	1958
Czech Republic	2004	Malta	2004
Denmark	1973	(The) Netherlands	1958
Estonia	2004	Poland	2004
Finland	1995	Portugal	1986
France	1958	Romania	2007
Germany	1958	Slovakia	2004
East Germany	1990	Slovenia	2004
Greece	1981	Spain	1986
Croatia	2013		

Member	Joined	Member	Joined
Hungary	2004	Sweden	1995
Ireland	1973	United Kingdom	1973

Eurozone (page 138) Members

Member	Joined	Member	Joined
Austria	1999	Italy	1999
Belgium	1999	Luxembourg	1999
Cyprus	2008	Malta	2008
Estonia	2011	(The) Netherlands	1999
Finland	1999	Portugal	1999
France	1999	Slovakia	2009
Germany	1999	Slovenia	2007
Greece	2000	Spain	1999
Ireland	1999		

Fondo Latinoamericano de Reservas (page 170) Members

Bolivia
Colombia
Costa Rica
Ecuador
Peru
Uruguay
Venezuela

G-20 (page 180) Members

1. Argentina
2. Australia
3. Brazil
4. Canada
5. China
6. France
7. Germany
8. India
9. Indonesia
10. Italy
11. Japan
12. Mexico
13. Russia
14. Saudi Arabia
15. South Africa
16. South Korea
17. Turkey
18. United Kingdom
19. United States

(This list has only 19 countries. The 20th member is the European Union, represented by both its rotating Council presidency and the European Central Bank.)

Group of Fifteen (page 194) Members

1. Algeria
2. Argentina
3. Brazil
4. Chile
5. Egypt
6. India
7. Indonesia
8. Islamic Republic of Iran
9. Jamaica
10. Kenya
11. Malaysia
12. Mexico
13. Nigeria
14. Senegal
15. Sri Lanka
16. Bolivarian Republic of Venezuela
17. Zimbabwe

(There are 17 members in the Group of 15. The group membership has changed over time, but it has kept the name.)

Group of Ten (page 194) Members

1. Belgium
2. Canada
3. France
4. Germany
5. Italy
6. Japan
7. (The) Netherlands
8. Sweden
9. Switzerland
10. United Kingdom
11. United States

(There are 11 members in the Group of Ten. The "Ten" refers to the *IMF* (page 209) members, to which Switzerland was added.)

Gulf Cooperation Council (page 196) Members

Bahrain
Kuwait
Oman
Qatar
Saudi Arabia
United Arab Emirates

OECD (page 316) Members as of January 2014

Member	DAC*	Joined OECD
Australia	Yes	1971
Austria**	Yes	1961
Belgium**	Yes	1961
Canada**	Yes	1961
Chile	No	2010
Czech Republic	Yes	1995
Denmark**	Yes	1961

Member	DAC*	Joined OECD
Estonia	No	2010
Finland	Yes	1969
France**	Yes	1961
Germany**	Yes	1961 (E. Germany 1990)
Greece**	Yes	1961
Hungary	No	1996
Iceland**	Yes	1961
Ireland**	Yes	1961
Israel	No	2010
Italy**	Yes	1961
Japan	Yes	1964
Korea	Yes	1996
Luxembourg**	Yes	1961
Mexico	No	1994
(The) Netherlands**	Yes	1961
New Zealand	Yes	1973
Norway**	Yes	1961
Poland	Yes	1996
Portugal**	Yes	1961
Slovak Republic	Yes	2000
Slovenia	Yes	2010
Spain**	Yes	1961
Sweden**	Yes	1961
Switzerland**	Yes	1961
Turkey**	No	1961
United Kingdom**	Yes	1961
United States**	Yes	1961

*Member of Development Assistance Committee as of January 2014. DAC also includes EU.
**Original member when OECD replaced *OEEC* (page 316).

OPEC (page 320) Members as of January 2014

Member	Joined	Withdrew
Algeria	1969	—
Angola	2007	—

Member	Joined	Withdrew
Ecuador	1973	—
Gabon	1975	1995
Indonesia	1962	2009
Iran	1960	—
Iraq	1960	—
Kuwait	1960	—
Libya	1962	—
Nigeria	1971	—
Qatar	1961	—
Saudi Arabia	1960	—
United Arab Emirates	1967	—
Venezuela	1960	—

Organization of American States (page 324) Members

Antigua and Barbuda
Argentina
(The) Bahamas
Barbados
Belize
Bolivia
Brazil
Canada
Chile
Colombia
Costa Rica
Cuba*
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
Paraguay
Peru
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Suriname
Trinidad and Tobago
United States of America
Uruguay
Venezuela

*Cuba is a member but its government has been excluded from participating since 1962.

Paris Club (page 328) Members

Australia	Germany	Spain
Austria	Ireland	Sweden
Belgium	Italy	Switzerland
Canada	Japan	United Kingdom
Denmark	(The) Netherlands	United States
Finland	Norway	
France	Russia	

Schengen Area (page 383) Members

Member	Joined	Member	Joined
Austria	1995	Italy	1990
Belgium	1985	Latvia	2007
Bulgaria	— not yet	Lithuania	2007
Cyprus	— not yet	Luxembourg	1985
Czech Republic	2007	Malta	2007
		(The) Netherlands	1985
Denmark	1996 (partial member)	Norway	1999 (associated)
Estonia	2007	Poland	2007
Finland	1996	Portugal	1991
France	1985	Romania	— not yet
Germany	1985	Slovakia	2007
Greece	1992	Slovenia	2007
Hungary	2007	Spain	1991
Iceland	1999 (associated)	Sweden	1996
		Switzerland	2008
Ireland	2000 (partial member)	United Kingdom	1999 (partial member)

Warsaw Pact (page 467) Members (1955)

Albania	People's Republic of Albania
Bulgaria	People's Republic of Bulgaria

Czechoslovakia	Czechoslovak Republic
East Germany	German Democratic Republic
Hungary	Hungarian People's Republic
Poland	Polish People's Republic
Rumania	Rumanian People's Republic
Soviet Union	Union of Soviet Socialist Republics

17. MODELS

2 × 2 × 2 model (page 476)
Cairnes-Haberler Model (page 44)
Canonical model of currency crises (page 45)
Continuum model (page 74)
Dornbusch-Fisher-Samuelson (DFS) Model (page 113)
Eaton-Kortum Model (page 119)
Factor proportions model (page 159)
Flying Geese model (page 169)
Gravity model (page 190)
Heckscher-Ohlin Model (page 199)
Heckscher-Ohlin-Vanek Model (page 199)
Heterogeneous firm model (page 200)
IS-LM model (page 241)
IS-LM-BP model (page 242)
Knowledge capital (KK) model (page 246)
Linear regression model (page 260)
Melitz Model (page 279)
Multifactor model (page 291)
Multigood model (page 292)
Mundell-Fleming Model (page 294)
Neoclassical growth model (page 302)
Neotechnology model (page 302)
North-South model (page 314)
Obsolescing bargain model (page 315)
Ramsey growth model (page 361)
Ricardian model (page 378)

Ricardo-Viner Model (page 378)
Solow Model (page 398)
Specific-factors model (page 402)
Standard trade model (page 407)
Sticky price model (page 410)
Technology gap model (page 428)
Two-gap model (page 453)

18. NONTARIFF BARRIERS

Administrative entry procedure (page 7)
Advance deposit requirements (page 7)
Anti-dumping (page 14)
Border tax adjustments (page 37)
Consular fees and formalities (page 72)
Countertrade (page 79)
Countervailing duties (page 79)
Customs procedures (page 90)
Domestic content requirements (page 112)
Embargos (page 130)
Exchange controls (page 143)
Government procurement practices (page 189)
Import licensing (page 212)
Preferential trading arrangements (page 342)
Prohibitions (page 353)
Quotas (page 360)
Rules of origin (page 380)
Special entry procedures (page 401)
Standards (page 406)
State trading (page 408)
Subsidies (page 414)
Tariff quotas (page 423)
Technical barriers (page 426)
Variable levies (page 463)
Voluntary export restraints (page 465)
Voluntary restraint agreements (page 465)

19. OTHER NONTARIFF MEASURES

Export limitations (page 151)
Export requirements (page 153)
Export subsidies (page 153)
Voluntary import expansions (page 465)

20. PARADOXES AND PUZZLES

Fama forward premium puzzle (page 161)
Feldstein-Horioka puzzle (page 163)
Home bias puzzle (page 203)
Immiserizing growth (page 210)
Leontief paradox (page 256)
Lerner paradox (page 256)
Metzler paradox (page 280)
Paradox of plenty (page 327)
Purchasing power parity puzzle (page 356)
Resource curse (page 374)
Siegel's paradox (page 392)
Trade co-movement puzzle (page 437)
Trade cost puzzle (page 437)
Transfer paradox (page 447)

21. PREFERENTIAL TRADING ARRANGEMENTS

African Economic Community (page 8)
Andean Community (page 13)
Andean Pact (page 14)
ASEAN Free Trade Area (page 17)
Australia-New Zealand Closer Economic Relations Trade Agreement (page 20)
CAFTA (page 44)
Canada-US Auto Pact (page 44)
Canada-US Free Trade Agreement (page 44)
Caribbean Basin Initiative (page 50)

Central American Common Market (page 52)
Central European Free Trade Agreement (page 53)
Common Market of Eastern and Southern Africa (page 63)
Cotonou Agreement (page 78)
European Free Trade Association (page 140)
European Union (page 141)
Generalized System of Preferences (page 184)
Gulf Cooperation Council (page 196)
Israel-US Free Trade Agreement (page 243)
LAFTA (page 251)
LAIA (page 251)
Lomé Convention (page 263)
MERCOSUR (page 279)
NAFTA (page 295)

22. PRODUCT-SPECIFIC AGREEMENTS, INSTITUTIONS, AND CONFLICTS

Banana war (page 27)
Boeing-Airbus dispute (page 36)
Bovine Meat Agreement (page 38)
Chicken war (page 56)
Civil Aircraft Agreement (page 58)
Dairy Agreement (page 91)
Shrimp-turtle case (page 392)
Textiles and Clothing Agreement (page 430)
Tuna-dolphin case (page 452)

23. REGIONAL COMMISSIONS FOR ECONOMIC AND SOCIAL DEVELOPMENT

Economic and Social Commission for Asia and the Pacific (page 121) (ESCAP)
Economic and Social Commission for Western Asia (page 121) (ESCWA)

Economic Commission for Latin American and the Caribbean (page 121) (ECLAC)
United Nations Economic Commission for Africa (page 458) (ECA)
United Nations Economic Commission for Europe (page 459) (ECE)

24. SPANISH ACRONYMS IN INTERNATIONAL ECONOMICS*

Spanish		English	
Acronym	**Name**	**Acronym**	**Name**
ALADI (page 11)	Asociación Latinoamericana de Integración	LAIA	*Latin-American Integration Association* (page 252)
ALCA (page 12)	Acuerdo de Libre Comercio de las Américas	FTAA	*Free Trade Area of the Americas* (page 177)
ALCAN (page 12)	Acuerdo de Libre Comercio de América del Norte	NAFTA	*North American Free Trade Agreement* (page 313)
BID (page 33)	Banco Interamericano de Desarrollo	IADB	*Inter-American Development Bank* (page 226)
BM (page 36)	Banco Mundial		*World Bank* (page 470)
CAN (page 44)	Comunidad Andina		*Andean Community* (page 13)

Spanish		English	
Acronym	**Name**	**Acronym**	**Name**
CEPAL (page 53)	Comision Economica para America Latina y el Caribe	ECLAC	*Economic Commission for Latin America and the Caribbean* (page 121)
FMI (page 169)	Fondo Monetario Internacional	IMF	*International Monetary Fund* (page 235)
MERCOSUR (page 279)	Mercado Común del Sur		Common Market of the South
OEA (page 316)	Organización de Estados Americanos	OAS	*Organization of American States* (page 324)
OIT (page 317)	Organización Internacional del Trabajo	ILO	*International Labor Organization* (page 234)
OMC (page 318)	Organización Mundial de Comercio	WTO	*World Trade Organization* (page 472)
ONU (page 319)	Organización de Naciones Unidas	UN	*United Nations* (page 458)
PNUD (page 336)	Programa de Naciones Unidas para el Desarrollo	UNDP	*United Nations Development Programme* (page 458)
TLC (page 433)	Tratado de Libre Comercio	FTA	*Free Trade Agreement* (page 177)

*Thanks to Gonzalo R. Gutierrez for providing these.

25. TECHNIQUES OF ANALYSIS

Hat algebra (page 198)
Meade geometry (page 278)

26. TERMS OF TRADE DEFINITIONS

Commodity terms of trade (page 62) $= P_{pc}/P_{mf}$
Double factoral terms of trade (page 113) $= (P_x/P_m) \times (A_x/A_m)$
Gross barter terms of trade (page 192) $= (Q_m/Q_x)$
Income terms of trade (page 217) $= P_x Q_x/P_m$
Net barter terms of trade (page 303) $= (P_x/P_m)$
Single factoral terms of trade (page 393) $= (P_x/P_m) \times A_x$

where:

A_m = *Factor productivity* (page 159) of *imports* (page 211)
A_x = *Factor productivity* (page 159) of *exports* (page 148)
P_m = Price of *imports* (page 211)
P_{mf} = Price of *manufactures* (page 268)
P_{pc} = Price of *primary commodities* (page 346)
P_x = Price of *exports* (page 148)
Q_m = Quantity of *imports* (page 211)
Q_x = Quantity of *exports* (page 148)

27. THEORETICAL PROPOSITIONS

Alchian-Allen Theorem (page 12)
Factor price equalization theorem (page 158)
Gains from trade theorem (page 181)
Heckscher-Ohlin Theorem (page 199)
Kemp-Wan Theorem (page 245)
Lerner symmetry theorem (page 257)
Rybczynski Theorem (page 381)
Starrett's impossibility theorem (page 408)
Stolper-Samuelson Theorem (page 411)

28. TRADE DISPUTES

Banana war (page 27)
Beef hormone (page 30)
Boeing-Airbus dispute (page 36)
Byrd Amendment (page 43)
Chicken war (page 56)
Foreign Sales Corporation (page 172)
Shrimp-turtle (page 392)
Softwood lumber (page 398)
Tuna-dolphin (page 452)

29. TRADE MINISTRIES

Country	Acronym	Ministry
China	—	Ministry of Commerce
Japan	METI	Ministry of Economy, Trade and Industry
New Zealand	—	Ministry of Foreign Affairs and Trade
Singapore	MTI	Ministry of Trade and Industry
United States	USTR	United States Trade Representative

30. TRADE ROUNDS

Multilateral Negotiation under the GATT and WTO

1. Geneva Round	1947
2. Annecy Round	1949
3. Torquay Round	1950–51
4. Geneva Round	1955–56
5. *Dillon Round* (page 104)	1960–61
6. *Kennedy Round* (page 246)	1963–67
7. *Tokyo Round* (page 433)	1973–79
8. *Uruguay Round* (page 461)	1986–94
9. *Doha Round* (page 111)	2002–

31. UNCTAD MEETINGS

UNCTAD I	Geneva, Switzerland	13 March–16 June 1964
UNCTAD II	New Delhi, India	1 February–29 March 1968
UNCTAD III	Santiago, Chile	13 April–21 May 1972
UNCTAD IV	Nairobi, Kenya	5–31 May 1976
UNCTAD V	Manila, The Philippines	7 May–3 June 1979
UNCTAD VI	Belgrade, Serbia	6–30 June 1983
UNCTAD VII	Geneva, Switzerland	9 July–3 August 1987
UNCTAD VIII	Cartagena, Colombia	8–25 February 1992
UNCTAD IX	Midrand, South Africa	27 April–11 May 1996
UNCTAD X	Bangkok, Thailand	12–19 February 2000
UNCTAD XI	São Paulo, Brazil	13–18 June 2004
UNCTAD XII	Accra, Ghana	20–25 April 2008
UNCTAD XIII	Doha, Qatar	21–26 April 2012

32. UNITED NATIONS ORGANIZATIONS

For a complete list of all UN organizations, see the UN's alphabetic index. The following are just the ones most relevant to international economics.

International Bank for Reconstruction and Development (page 230)
International Centre for Settlement of Investment Disputes (page 230)
International Development Association (page 232)
International Finance Corporation (page 233)
International Labor Organization (page 234)
International Monetary Fund (page 235)
Multilateral Investment Guarantee Agency (page 292)
United Nations Conference on Trade and Development (page 458)
World Bank (page 470)
World Intellectual Property Organization (page 471)
World Trade Organization (page 472)

33. UNITED STATES GOVERNMENT UNITS (DEALING WITH INTERNATIONAL ECONOMIC MATTERS)

Court of International Trade (page 80)
Customs Service (page 90)
International Trade Administration (page 237) (ITA)
International Trade Commission (page 237) (ITC)
United States Trade Representative (page 460) (USTR)

Part IV
Origins of Terms in International Economics

Origins of Terms in International Economics

Balance of trade

Price (1905) (page 594) examines the origins of this concept, the exact wording of which appeared in 1615 and the concept of which, without the wording, can be found as early as 1381 in England, when writers were concerned that by importing a greater value than it was exporting, England was losing money — i.e., gold and silver. Somewhat before the term "balance of trade" appeared, similar concerns were said in 1601 to be due to "overbalancing of foreign commodities." From the discussion by Price, it appears that "balance of trade" in this early use referred to a situation in which values of exports and imports were equal, rather than today's use measuring the extent to which they are unequal.

Fetter (1935) (page 584) dates the term to 1623, apparently disagreeing with Price that its use in 1615 was comparable. His main concerns are with the common attribution that a positive balance of trade is *favorable* (page 162) and with whether the term includes only trade in goods or instead extends beyond that to include other payments such as we today would include in the *balance on current account* (page 26) or even *balance of payments* (page 24). It appears that early writings used the term variously in each of these senses.

[I was alerted to the articles by Price and Fetter by *Obstfeld (2012)* (page 592).]

Barter terms of trade

See *terms of trade* (page 429) for *Taussig's (1927)* (page 597) refinements of Marshall's "terms of trade."

CES function

Arrow et al. (1961, pp. 225–226) (page 577) described their empirical motivation to "derive a mathematical function having the properties of (i) homogeneity, (ii) constant elasticity between capital and labor, and (iii) the possibility of different elasticities for different industries." They named it the *CES function* (page 54) and estimated it across industries and countries.

Comparative advantage

Ruffin (2002) (page 594) credits the concept of *comparative advantage* (page 64) and the *law of comparative advantage* (page 252) to *Ricardo (1951–1973)* (page 594), in a discovery that Ruffin dates to early October 1816. The law was developed in Ricardo's celebrated chapter on foreign trade, while the term "comparative advantage" seems to have first appeared in a later chapter (Ricardo (1951–1973), Vol I, p. 263). In crediting Ricardo, Ruffin disagrees with *Chipman (1965)* (page 581) who credits *Torrens (1815)* (page 597). From what I see in this debate, Torrens deserves credit for first stating the possibility that a country will import a good in which it has an *absolute advantage* (page 3), even though he seems not to have recognized its importance, and he certainly did not work out the full conditions needed for this to happen, as Ricardo did.

Continuum of goods

The first to model trade with a *continuum of goods* (page 74) were *Dornbusch, Fischer, and Samuelson (1977)* (page 583), who also use that term in their title. They cite an unpublished paper by Charles Wilson, also dated 1977, that further explores their model, but in the published version of that paper, *Wilson (1980)* (page 598) credits them with having suggested this modification of traditional trade theory.

Currency area

Mundell (1961, p. 657) (page 592) spoke of "...defining a *currency area* (page 85) as a domain within which exchange rates are fixed...". Perhaps because the exchange rates among separate national currencies are seldom if ever truly fixed, the term has come to mean a group of countries that share a common

currency. Mundell also coined the term "optimum currency area" which is now more commonly expressed as *optimal currency area* (page 321).

Diversification cone

Dixit and Norman (1980, p. 52) (page 582) attribute this to *Lerner (1952)* (page 590) and *McKenzie (1955)* (page 591). I see nothing in Lerner to justify this. McKenzie, however, makes considerable use of the concept in the form of a set of factor endowments within which *factor price equalization* (page 158) occurs, though he does not give it a name. Since he projects factor requirements and factor endowments onto a simplex, his set appears as a triangle, though a cone is implicit. I do not yet know who may have preceded Dixit and Norman in using this term.

DUP activity

Bhagwati (1982) (page 579) introduced this acronym for *directly unproductive profit-seeking activity* (page 105). After listing a variety of activities that fit this description, including *rent seeking* (page 371), *revenue seeking* (page 377), and others, he said (p. 990), "Thus, these are aptly christened DUP activities."

Dutch disease

Term was coined by *The Economist* (page 125) in an article "The Dutch Disease" in the issue of 26 November 1977, pp. 82–83, which included the passage "... in the words of Lord Kahn [1905–1989], 'when the flow of North Sea oil and gas begins to diminish, about the turn of the [21st] century, our island will become desolate.' Any disease which threatens that kind of apocalypse deserves close attention." The article attributes the problems of the Dutch economy (an external appearance of strength but internally high unemployment and a declining manufacturing sector) to "three causes, only one of them external." These are (1) a strong currency; (2) high industrial costs; and (3) use of government gas revenues to increase spending rather than investment. As used since, the term has been focused primarily on the real exchange rate. The term was used by *Corden and Neary (1982)* (page 582), whose reference to it as "... sometimes

referred to as the 'Dutch Disease"' suggested that it had passed into common usage.

Edgeworth-Bowley box

The origins of this are examined by *Tarascio (1972)* (page 597). The *Edgeworth-Bowley box* (page 126) diagram got its name when *Bowley (1924)* (page 580) drew a box around a rotated version of an indifference curve diagram of *Edgeworth (1881)* (page 583). However, Bowley did not claim originality, and *Pareto (1906)* (page 593) had actually been the first to draw and use the actual box diagram.

Factoral terms of trade

See *terms of trade* (page 429) for *Viner's (1937)* (page 598) introduction of both *single* (page 393) and *double* (page 113) factoral terms of trade.

Fragmentation

Used to mean a splitting up of production processes, the term *fragmentation* (page 175) was first introduced by *Jones and Kierzkowski (1990)* (page 587), who start their analysis by noting (p. 31) that increasing returns and specialization encourage a growing firm to "switch to a production process with *fragmented* (page 175) production blocks connected by service links.... Such fragmentation spills over to international markets." (Italics in original.) Many other terms have been used with the same, or related, meanings, as listed here in Part III of the Glossary (refer to *fragmentation terms and types* (page 539)), but "fragmentation" seems to have caught on most widely.

Grexit

This term first appeared in print in *Buiter and Rahbari (2012)* (page 581). DeTraci Regula, in an undated posting on *About.com*, suggests that the term was coined by the second author, Citigroup's Ebrahim Rahbari. She also points out the prior existence of *GrexIt.com* (page 192), an e-mail storage and organizing tool.

Immiserizing growth

The term *immiserizing growth* (page 210) was used by *Bhagwati (1958)* (page 579) and it seems unlikely that anyone

used it before him, since he seems to have coined the word "immiserizing." As for the concept, Bhagwati credits Johnson (*1953* (page 586), *1955* (page 586)) with identifying a form of immiserizing growth and also with working out the conditions for Bhagwati's form of it in an unpublished note. Long before both of them, *Edgeworth (1894, pp. 39–40)* (page 583) had shown, though only by example, that increased production of exports could so reduce their relative price that the country loses or, as Edgeworth put it, is "damnified by the improvement." He in turn credits *Mill (1821)* (page 591) with noting the possible worsening of the terms of trade, though Mill apparently incorrectly equated this worsening with a necessary decline in welfare. (I have not read Mill and am taking Edgeworth's word for this.)

Income terms of trade

Dorrance (1948) (page 583) suggested this measure of the *terms of trade* (page 429) as an alternative to the *net barter terms of trade* (page 303) and the *gross barter terms of trade* (page 192) that, he argued, gave a misleading indication of the extent to which a country was gaining from trade when markets were in disequilibrium, as had become more common in the mid-20th century than it was when the earlier terms were coined in the 19th century. A rise in a country's barter terms of trade, due to a rise in its prices relative to the price of imports, could be harmful if it mainly caused a fall in the quantity it was able to sell. The income terms of trade, because it relates the *value* (page 462) of exports — price times quantity — to the price of imports, will correctly record a decline if the price increase is more than offset by a quantity decrease.

Law of comparative advantage

See *comparative advantage* (page 64).

Lerner diagram

The *Lerner diagram* (page 256) was first drawn by Lerner in an unpublished seminar paper in 1933. He used *unit-value isoquants* (page 458) together with *unit isocost lines* (page 457) to show the relationship between goods prices and factor prices in the *HO model* (page 202). That paper was reproduced, "as it was originally written" according to the journal editor, as *Lerner*

(1952) (page 590). I don't know who first called it the Lerner diagram, although *Findlay and Grubert (1959)* (page 584) made extensive use of the diagram, attributing it to Lerner.

Some (including myself, until I learned better) have called it the *Lerner-Pearce diagram* (page 256), giving credit also to *Pearce (1952)* (page 593). In fact, although Pearce in this article was debating Lerner regarding the likelihood of factor price equalization, he used *unit isoquants* (page 457), not unit-value isoquants, for the purpose. Since these do not align in equilibrium with a single unit isocost line, they cannot be used in the same way, and they do not achieve the essential simplicity of Lerner's construction.

Meade Index

Meade (1955a) (page 591) did not put his calculation into the form of an index, except in an appendix, but rather suggested adding up the increases in trade and the decreases in trade separately, each weighted by tariffs, and concluding that there had been a gain from trade (in his context of formation of a *customs union*) (page 90) if the former were larger than the latter.

In his example of the duty on Dutch and Belgian beer, Meade (p. 66) said: "What we need to do, therefore, is to take all the changes in international trade which are due directly or indirectly to the reduction in the Dutch duty on Belgian beer; value each change at its supply price in the exporting country and weight it by the *ad valorem* (page 5) rate of duty in the importing country; add up the resulting items for all increases of trade and do the same for all decreases of trade; if the resulting sum for the increases of trade is greater than that for the decreases of trade, than [sic] there is an increase of welfare; and *vice versa*."

Meade's main point was that one should not look only at the product on which the tariff is being reduced, but rather at all changes in trade that will be caused, both positive and negative, by that change. Of course if tariffs on all other products were universally zero, then the contributions to his calculation for them would also be zero. Hence, this is a simple way of taking account of the *second-best* (page 385) nature of a tariff reduction when tariffs on other products are not zero.

In his Appendix II (pp. 120–121), Meade formalized his calculation and called it "an index of the change in world welfare," which he derived as

$$dU = u\Sigma_i\{dx_i(p_i - c_i)\}$$

where U is world utility, u is the common marginal utility, dx_i is the change in trade of good i, p_i is price to consumers, and c_i is price (i.e., cost) to producers.

It seems to have been *Vanek (1965, p. 15)* (page 598) who first called this the Meade Index.

Peso problem

The term is often attributed to Milton Friedman, who apparently commented on the market for the Mexican peso in the early 1970s and explained Mexico's high (relative to the U.S.) interest rate by the concern that the peso would be devalued, which it later was. It is not clear that Friedman actually used the term "peso problem," however. Paul Krugman, in his blog on 15 July 2008, says that the term was coined in the "MIT grad student lunchroom," perhaps by him or perhaps by Bill Krasker, who he says "published the first paper using the term" in *Krasker (1980)* (page 588).

Policy space

Although the term or a variant began to be used in *UNCTAD* (page 455) discussions and documents in the early 2000s, it was defined explicitly in the *São Paulo Consensus* (page 382) of *UNCTAD (2004, p. 2)* (page 597): "...the space for national economic policy, i.e., the scope for domestic policies, especially in the areas of trade, investment and industrial development, is now often framed by international disciplines, commitments and global market considerations."

Purchasing power parity

It was *Cassel (1918, p. 413)* (page 581) who introduced the term in the context of discussing how exchange rates should be reset after World War I and the large differences in inflation that occurred in different countries, especially Sweden and England. "...the rates of exchanges should accordingly be expected to deviate from their old parity in proportion to the inflation

of each country." "I propose to call this parity the '*purchasing power parity*' (page 356)." The idea, though not the name for it, is much older than that, said to date back at least to the 16th century.

Rent seeking

Rent seeking (page 371) was introduced to the trade literature by *Krueger (1974)* (page 588), who defined it generally but applied it to *quantitative restrictions* (page 358) on trade. She noted (p. 291) that government restrictions on economic activity "give rise to rents . . . , and people often compete for the rents." She called this competition rent seeking, a term that she apparently coined and that has caught on hugely.

Second-best argument for protection

The introduction of the term "second best" in the context of protection was by *Meade (1955b)* (page 591), who included four chapters on "The Second-Best Argument for Trade Control" with subheadings "The raising of revenue," "The Partial Freeing of Trade," "Domestic Divergences," and "Dumping as a complex case."

The classic paper establishing that trade policy is only second best in general for dealing with domestic distortions is by *Bhagwati and Ramaswami (1963)* (page 580), who do not cite Meade. However, they also do not use the term "second best," and the point of their contribution is to argue for policies superior to trade policies. The term "second best" was adopted by *Lipsey and Lancaster (1956)* (page 590), attributing it to Meade, but their application to tariffs is concerned only with the optimal level of one tariff when another is non-zero. By *Bhagwati et al. (1969)* (page 580), Bhagwati too was using the "second-best" terminology, but again his and his co-authors' main point was that tariffs are not even second best but only at most third best when other policies can be adjusted. Thus trade economists have generally used the second-best argument *against* protection rather than *for* protection.

If policies superior to tariffs are not available, however, the argument may become one in favor of protection. Thus in its

simplest form, a government that is unable to levy any other kind of tax but requires revenue in order to function will use tariffs no matter how far down the list from first-best tariffs may lie. This has presumably been understood since long before the distorting effects of tariffs were examined by economists. And even here, the argument is subject to the caveat that the benefits from the government activity must outweigh the welfare losses due to the tariff.

This is equally true in more complex cases. The *infant industry argument* (page 221) depends on distortions that prevent infant industries from reaping the full benefits of their production. The first-best policy is to correct or offset that distortion, perhaps by a production subsidy. But if production subsidies are unavailable (not just rejected politically, since that should in principle apply even more to a tariff, if it were fully understood), then a second-best tariff will be beneficial if not too large.

Technology gap model

Those who write about technology gap models routinely cite *Posner (1961)* (page 593) as the first of several papers with this idea. However, Posner's paper includes neither the word "technology" nor the word "gap." It was *Hufbauer (1966)* (page 586) who elaborated Posner's idea and spoke of a "technological gap account" of trade. *Krugman (1986)* (page 589) may have been the first to formalize the model to modern standards, and he certainly used the words. One source cites the same Krugman (1986) paper but listed as "Conference of the International Economic Association, Sweden, 1982," suggesting that the switch from "technological" to "technology" may have originated then with Krugman. I have found no earlier use of the term "technology gap."

Terms of trade

It appears that the phrase "terms of trade" was first used with more or less its modern meaning by *Marshall (1923), p. 161* (page 590). In an example involving countries E and G, he speaks of "the amounts to which E and G would be severally willing to trade at various 'terms of trade'; or, to use a phrase which is more

appropriate in some connections, at various 'rates of exchange'." He then explains his preference for the new term on the grounds that "rates of exchange" may be understood to connote monetary exchange rates, while he meant the rate at which goods are traded for other goods.

Having introduced the expression in the book, Marshall then uses it in subsequent discussions, but he does not use it exclusively. He seems to alternative between "terms of trade" and "rate of interchange," which seem to be synonyms as he uses them.

There is a slight uncertainty as to whether this is Marshall's first use of the expression. This is because it also appears in Appendix J of the same book, which a footnote explains was largely written much earlier, between 1869 and 1873, and which was "privately printed and circulated among economists at home and abroad in 1879" (p. 330). However, Appendix J with only very few exceptions does *not* use "terms of trade," but rather alternates between "rate of interchange" and "exchange index." It seems likely that the few (I only found two) occurrences of "terms of trade" in that appendix were added when it was presumably revised for its 1923 publication. This is supported by the fact that "terms of trade" does not appear at all in the 1920 8th edition of *Marshall's (1890) Principles* (page 590).

Was Marshall the first to use the term? *Taussig (1927)* (page 597) says so, citing Marshall (1923). And I have confirmed that *Mill (1848)* (page 591) did not use the term. That of course leaves open a great many others who might have. But from the way Marshall introduces the term, it at least appears that he thought it was new.

Taussig (1927), after explaining Marshall's preference for "terms of trade" over "rate of exchange," goes on "to reduce still further the possibilities of misunderstanding" by refining the expression as *barter terms of trade* (page 28), emphasizing that it refers to the rate at which goods are exchanged for other goods.

Taussig also distinguishes *net* (page 303) and *gross* (page 192) barter terms of trade, the latter allowing for total amounts paid even when they differ from prices due to trade imbalance that might arise from, say reparation payments.

Viner (1937) (page 598) argued that the classical economists were concerned not just with the rates at which goods exchanged for one another, but also with the rates at which factors exchange, through their production of goods and trade. He therefore introduced the *factoral terms of trade* (page 160), both *single* (page 393) and *double* (page 113).

Thank-you note

As a policy to respond to a foreign subsidy. I attribute this to Paul Krugman fairly early in his career. I have, however, been unable to track down where he actually said it. I once asked him directly, but he couldn't recall.

Third World

"But the term third world did not originally refer to geopolitics. The first to use it in its modern sense was Alfred Sauvy, a French demographer who drew a parallel with the 'third estate' (the people) during the French revolution. In 1952 Sauvy wrote that 'this ignored, exploited, scorned Third World, like the Third Estate, wants to become something, too.' He was paraphrasing a remark by Emmanuel-Joseph Sieyès, a delegate to the Estates-General of 1789, who said the third estate is everything, has nothing but wants to be something. The salient feature of the third world was that it wanted economic and political clout." From "Seeing the World Differently," *The Economist* (page 125), 10 June 2010.

Trade deflection

Shibata (1967) (page 596) defines this as a "redirection of imports from third countries through the partner country with the lowest tariff, with the sole aim of realizing tax advantage by exploiting the rate differentials between the member countries within an economic union." He notes that trade deflection had previously

been defined in the Stockholm Convention, which established the *European Free Trade Association* (page 140), but somewhat more narrowly and differently as arising from difference in tariffs on raw materials or intermediate inputs that allows a final good to be exported from one member to another of an *FTA* (page 178).

Bibliography

Akamatsu, Kaname (1961). "A Theory of Unbalanced Growth in the World Economy," *Weltwirtschaftliches Archiv*, 86(Heft 2), pp. 196–217. See *Flying Geese* (page 169).

Alchian, Armen A. and William R. Allen (1964). *University Economics*, Belmont, CA: Wadsworth. See *Alchian-Allen Theorem* (page 12).

Alexander, Sidney (1952). "Effects of a Devaluation on a Trade Balance," *IMF Staff Papers* 2(2) (April), pp. 263–278. See *absorption approach* (page 3).

Anderson, James E. and J. Peter Neary (1996). "A New Approach to Evaluating Trade Policy," *Review of Economic Studies* 63(1) (January), pp. 107–125. See *trade restrictiveness index* (page 443).

Anderson, James E. and Eric van Wincoop (2003). "Gravity with Gravitas: A Solution to the Border Puzzle," *American Economic Review* 93(1) (March), pp. 170–192. See *multilateral resistance* (page 293).

Anderson, Kym (2001). "Globalization, WTO, and ASEAN," *ASEAN Economic Bulletin* 18(1) (April), pp. 12–23. See *Ulysses Effect* (page 454).

Antweiler, Werner and Daniel Trefler (2002). "Increasing Returns and All That: A View from Trade," *American Economic Review* 92(1) (March), pp. 93–119. See *intra-mediate trade* (page 239).

Armington, Paul S. (1969). "A Theory of Demand for Products Distinguished by Place of Production," *IMF Staff Papers* 16(1) (March), pp. 159–178. See *Armington assumption* (page 16).

Arndt, Sven W. (1997). "Globalization and the Open Economy," *North American Journal of Economics and Finance* 8(1), pp. 71–79. See *intra-product specialization* (page 239).

Arrow, K.J., H.B. Chenery, B.S. Minhas, and R.M. Solow (1961). "Capital-Labor Substitution and Economic Efficiency," *Review of Economics and Statistics* 43(3) (August), pp. 225–250. See *CES function* (page 54), *homohypallagic* (page 204), and *SMAC function* (page 395).

Backus, David K., Patrick J. Kehoe, and Finn E. Kydland (1994). "Dynamics of the Trade Balance and the Terms of Trade: The

J-Curve?" *American Economic Review* 84(1) (March), pp. 84–103. See *terms of trade* (page 429).

Bagwell, Kyle and Robert W. Staiger (1999). "Regionalism and Multilateral Tariff Cooperation," in John Piggott and Alan Woodland (eds.), *International Trade Policy and the Pacific Rim*, New York, NY: St. Martins Press. See *tariff complementarity* (page 421).

Balassa, Bela (1964). "The Purchasing Power Parity Doctrine: A Reappraisal," *Journal of Political Economy* 72(6) (December), pp. 584–596. See *Balassa-Samuelson Effect* (page 26).

Balassa, Bela (1965). "Trade Liberalization and 'Revealed' Comparative Advantage," *Manchester School* 33(2) (May), pp. 99–123. See *revealed comparative advantage* (page 376).

Baldwin, Richard E. (1988). "Hysteresis In Import Prices: The Beachhead Effect," *American Economic Review* 78(4) (September), pp. 773–785. See *Beachhead effect* (page 29).

Baldwin, Richard E. (2006). "Globalization: The Great Unbundling(s)," paper contributed to the project *Globalisation Challenges for Europe and Finland* organized by the Secretariat of the Economic Council of Finland, 30 September 2006. See *2nd unbundling* (page 476).

Baldwin, Robert E. (1948). "Equilibrium in International Trade: A Diagrammatic Analysis," *Quarterly Journal of Economics* 62(5) (November), pp. 748–762. See *Baldwin envelope* (page 26).

Baldwin, Robert E. (1969). "The Case Against Infant Industry Protection," *Journal of Political Economy* 77(3) (May-June), pp. 295–305. See *infant industry protection* (page 221).

Barro, Robert (1999). "Reagan vs. Clinton: Who's the Economic Champ?" *Business Week*, 22 February, p. 22. See *misery index* (page 283).

Baumol, William J., John C. Panzar, and Robert D. Willig (1982). *Contestable Markets and the Theory of Industry Structure*, Academic Press, 1982. See *contestable market* (page 73).

Bentham, Jeremy (1789/1948). *An Introduction to the Principles of Morals and Legislation*, London: Hafner, 1948, p. 326. See *international* (page 229).

Bergson, Abram (1938). "A Reformulation of Certain Aspects of Welfare Economics," *Quarterly Journal of Economics* 52(2) (February), pp. 310–334. See *Bergsonian social welfare function* (page 31).

Bergsten, C. Fred (1975). *Toward a New International Economic Order*, Lexington, MA: Lexington Books. See *bicycle theory* (page 32).

Bergsten, C. Fred (1997). "Open Regionalism," *The World Economy* 20(5) (August), pp. 545–565. See *open regionalism* (page 321).

Bergsten, C. Fred. and William R. Cline (1982). *Trade Policy in the 1980s* Washington, DC: Institute for International Economics. See *bicycle theory* (page 32).

Bernhofen, Daniel M. and John C. Brown (2005). "An Empirical Assessment of the Comparative Advantage Gains from Trade: Evidence from Japan," *American Economic Review* 95(1) (March), pp. 208–225. See *Deardorff-Dixit-Norman Index* (page 92).

Bhagwati, Jagdish N. (1958). "Immiserizing Growth: A Geometrical Note," *Review of Economic Studies* 25(3) (June), pp. 201–205. See *immizerizing growth* (page 210).

Bhagwati, Jagdish (1982). "Directly Unproductive Profit-Seeking (DUP) Activities," *Journal of Political Economy* 90(5) (October), pp. 988–1002. See *DUP activities* (page 116).

Bhagwati, Jagdish N. (1984). "Splintering and Disembodiment of Services and Developing Nations," *The World Economy* 7(2) (June), pp. 133–144. See *splintering* (page 404).

Bhagwati, Jagdish N. (1984). "Why Are Services Cheaper in Poor Countries?," *Economic Journal* 94(374) (June), pp. 279–286. See *Kravis-Lipsey-Bhagwati Effect* (page 247).

Bhagwati, Jagdish N. (1985). "Protectionism: Old Wine in New Bottles," *Journal of Policy Modeling* 7(1), pp. 23–33. See *quid pro quo FDI* (page 360).

Bhagwati, Jagdish N. (1987). "Quid Pro Quo DFI and VIEs: Political-Economy-Theoretic Analyses," *International Economic Journal* 1(1), pp. 1–14. See *VIE* (page 465).

Bhagwati, Jagdish (1991). *The World Trading System at Risk*, Princeton, NJ: Princeton University Press. See *stumbling bloc* (page 414).

Bhagwati, Jagdish (1993). "Regionalism and Multilateralism: An Overview," in Jaime de Melo and Arvind Panagariya (eds.), *New Dimensions in Regional Integration*, pp. 22–51. See *dynamic time path question* (page 118).

Bhagwati, Jagdish N. (1995). "US Trade Policy: The Infatuation with FTAs," Discussion Paper Series No. 726, April; said to be forthcoming in Claude Barfield (ed.), *The Dangerous Obsession with Free Trade Areas*, AEI, 1995, although I do not find record of this being published. See *spaghetti bowl* (page 400).

Bhagwati, Jagdish N. and Vivek H. Dehejia (1994). "Freer Trade and Wages of the Unskilled — Is Marx Striking Again?" in

Jagdish N. Bhagwati and Marvin Kosters (eds.), *Trade and Wages: Leveling Wages Down?*, Washington, DC: American Enterprise Institute, pp. 36–75. See *kaleidoscope comparative advantage* (page 245).

Bhagwati, Jagdish N. and Arvind Panagariya (eds.) (1996). *The Economics of Preferential Trade Agreements*, College Park: Center for International Economics, University of Maryland. See *preferential trading arrangement* (page 342).

Bhagwati, Jagdish N. and V.K. Ramaswami (1963). "Domestic Distortions, Tariffs and the Theory of Optimum Subsidy," *Journal of Political Economy* 71(1) (February), pp. 44–50. See *second-best argument for protection* (page 385).

Bhagwati, Jagdish N., V.K. Ramaswami, and T.N. Srinivasan (1969). "Domestic Distortions, Tariffs and the Theory of Optimum Subsidy: Some Further Results," *Journal of Political Economy* 77(6) (Nov.–Dec.), pp. 1005–1010. See *second-best argument for protection* (page 385).

Bhagwati, Jagdish N. and T.N. Srinivasan (1980). "Revenue Seeking: A Generalization of the Theory of Tariffs," *Journal of Political Economy* 88(6) (December), pp. 1069–1087. See *revenue seeking* (page 377).

Bickerdike, C.F. (1920). "The Instability of Foreign Exchanges," *Economic Journal* 30(117) (March), pp. 118–122. See *Bickerdike-Robinson-Metzler Condition* (page 32).

Borkakoti, Jitendralal (1975). "Some Welfare Implications of the Neo-Technology Hypothesis of the Pattern of International Trade," *Oxford Economic Papers*, 27(3) (November), pp. 383–399. See *neotechnology model* (page 302).

Bowley, Arthur (1924). *The Mathematical Groundwork of Economics*. See *Edgeworth-Bowley box* (page 126).

Brander, James and Paul Krugman (1983). "A 'Reciprocal Dumping' Model of International Trade," *Journal of International Economics* 15(3/4) (November), pp. 313–321. See *reciprocal dumping* (page 366).

Brander, James A. and Barbara J. Spencer (1981). "Tariffs and the Extraction of Foreign Monopoliy Rents under Potential Entry," *Canadian Journal of Economics* 14(3) (August), pp. 371–389. See *strategic trade policy* (page 412).

Brander, James A. and Barbara J. Spencer (1984). "Tariff Protection and Imperfect Competition," in Henryk Kierzkowski (ed.),

Monopolistic Competition and International Trade, Oxford Univ. Press. See *strategic trade policy argument for a tariff* (page 412).

Brecher, Richard A. and C.F. Diaz-Alejandro (1977). "Tariffs, Foreign Capital, and Immiserizing Growth," *Journal of International Economics* 7(4) (November), pp. 317–322. See *Brecher-Alejandro Proposition* (page 39).

Bruno, Michael (1963). *Interdependence, Resource Use and Structural Change in Israel*, Jerusalem: Bank of Israel. See *domestic resource cost* (page 112).

Bruno, Michael (1972). "Domestic Resource Costs and Effective Protection: Clarification and Synthesis," *Journal of Political Economy* 80(1) (Jan.-Feb.), pp. 16–33. See *domestic resource cost* (page 112).

Buiter, Willem and Ebrahim Rahbari (2012). "*Rising Risks of Greek Euro Area Exit*," *Global Economics View*, 6 February. See *grexit* (page 192).

Cagan, P. (1956). "The Monetary Dynamics of Hyperinflation," in Milton Friedman (ed.), *Studies in the Quantity Theory of Money*, Chicago: University of Chicago Press. See *hyperinflation* (page 207).

Calvo, Guillermo A. (1998). "Capital Flows and Capital Market Crises: The Simple Economics of Sudden Stops," *Journal of Applied Economics* 1(1) (November), pp. 35–54. See *sudden stop* (page 415).

Calvo, Guillermo A. and Carmen Reinhart (2002). "Fear of Floating," *Quarterly Journal of Economics* 117(2) (May), pp. 379–408. See *fear of floating* (page 163).

Carr, David L., James R. Markusen, and Keith E. Maskus (2001). "Estimating the Knowledge-Capital Model of the Multinational Enterprise," *American Economic Review* 91(3) (June), pp. 693–708. See *knowledge capital model* (page 246).

Cassel, Gustav (1918). "Abnormal Deviations in International Exchanges," *Economic Journal* 28(112) (December), pp. 413–415. See *purchasing power parity* (page 356).

Chipman, John S. (1965). "A Survey of the Theory of International Trade: Part I, The Classical Theory," *Econometrica* 33(3) (July), pp. 477–519. See *comparative advantage* (page 64).

Christensen, Laurits R., Dale W. Jorgenson, and Lawrence J. Lau (1973). "Transcendental Logarithmic Production Frontiers," *Review of Economics and Statistics* 55(1) (February), pp. 28–45. See *translog function* (page 448).

Coase, Ronald (1960). "The Problem of Social Cost," *Journal of Law and Economics* 3 (October), pp. 1–44. See *Coase Theorem* (page 59).

Corden, W. Max (1966). "The Structure of a Tariff System and the Effective Protective Rate," *Journal of Political Economy* 74(3) (June), pp. 221–237. See *effective rate of protection* (page 127).

Corden, W. Max (1974). *Trade Policy and Economic Welfare* Oxford: Clarendon Press. See *conservative social welfare function* (page 70).

Corden, W. Max and J. Peter Neary (1982). "Booming Sector and De-Industrialization in a Small Open Economy," *Economic Journal* 92(368) (December), pp. 825–848. See *origin of Dutch disease* (page 116).

Cournot, A. (1897). *Researches into the Mathematical Principles of the Theory of Wealth*, New York. See *Cournot's law* (page 80).

Creamer, D. (1943). "Shifts of Manufacturing Industries," *Industrial Location and Natural Resources*, Washington, DC: U.S. Government Printing Office, pp. 85–104. See *constant market share analysis* (page 71).

Deardorff, Alan V. (1979). "One-Way Arbitrage and Its Implications for the Foreign Exchange Market," *Journal of Political Economy* 87(2) (April), pp. 351–364. See *one-way arbitrage* (page 319).

Deardorff, Alan V. (1980). "The General Validity of the Law of Comparative Advantage," *Journal of Political Economy* 88(5) (October), pp. 941–957. See *Deardorff-Dixit-Norman Index* (page 92).

Deardorff, Alan V. (1982). "The General Validity of the Heckscher-Ohlin Theorem," *American Economic Review* 72(4) (September), pp. 683–694. See *comvariance* (page 68).

Deardorff, Alan V. (1994). "The Possibility of Factor Price Equalization, Revisited," *Journal of International Economics* 36(1–2) (February), pp. 167–175. See *lens condition* (page 255).

Dixit, Avinash K. and Gene M. Grossman (1982). "Trade and Protection with Multistage Production," *Review of Economic Studies* 49(4), pp. 583–594. See *multistage production* (page 294).

Dixit, Avinash K. and Victor Norman (1980). *Theory of International Trade*, London: Cambridge University Press. See *Integrated World Economy* (page 225) and *Deardorff-Dixit-Norman Index* (page 92).

Dixit, Avinash K. and Joseph E. Stiglitz (1977). "Monopolistic Competition and Optimum Product Diversity," *American Economic Review* 67(3) (June), pp. 297–308. See *Dixit-Stiglitz function* (page 110).

Dornbusch, Rudiger (1976). "Expectations and Exchange Rate Dynamics," *Journal of Political Economy* 84(6) (December), pp. 1161–1176. See *exchange rate overshooting* (page 144).

Dornbusch, Rudiger, Stanley Fischer, and Paul A. Samuelson (1977). "Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods," *American Economic Review* 67(5) (December), pp. 823–839. See *DFS model* (page 102) and *continuum-of-goods model* (page 74).

Dornbusch, Rudiger, Stanley Fischer, and Paul A. Samuelson (1980). "Heckscher-Ohlin Trade Theory with a Continuum of Goods," *Quarterly Journal of Economics* 95(2) (September), pp. 203–224. See *DFS model* (page 102), *continuum-of-goods model* (page 74).

Dorrance, G.S. (1948). "The Income Terms of Trade," *Review of Economic Studies* 16(1), pp. 50–56. See *income terms of trade* (page 217).

Dunning, J.H. (1979). "Explaining Changing Patterns of International Production: In Defence of an Eclectic Theory," *Oxford Bulletin of Economics and Statistics* 41(4) (November), pp. 269–295. See *OLI paradigm* (page 318).

Eaton, Jonathan and Samuel Kortum (2002). "Technology, Geography, and Trade," *Econometrica* 70(5) (September), pp. 1741–1779. See *Eaton-Kortum Model* (page 119).

Eaton, Jonathan, Samuel Kortum, Brent Neiman, and John Romalis (2011). "Trade and the Global Recession," NBER Working Paper #16666 (January). See *Head-Ries Index* (page 198).

Edgeworth, Francis. Y. (1881). *Mathematical Psychics.* See *Edgeworth-Bowley box* (page 126).

Edgeworth, Francis. Y. (1894). "The Theory of International Values," *Economic Journal* 4 (March) pp. 35–50. See *immiserizing growth* (page 210).

Eichengreen, Barry and Ricardo Hausmann (1999). "Exchange Rate and Financial Fragility," NBER Working Paper 7418. See *original sin* (page 324).

Ethier, Wilfred (1974). "Some of the Theorems of International Trade with Many Goods and Factors," *Journal of Economic Perspectives* 4(2) (May), pp. 199–206. See *core propositions* (page 77).

Fama, Eugene F. (1984). "Forward and Spot Exchange Rates," *Journal of Monetary Economics* 14(3) (November), pp. 319–338. See *Fama regression* (page 161).

Feenstra, Robert C. (1998). "Integration of Trade and Disintegration of Production in the Global Economy," *Journal of Economic Perspectives* 12(4) (Fall), pp. 31–50. See *disintegration* (page 107).

Feenstra, Robert C. and Gordon H. Hanson (2003). "Global Production Sharing and Rising Inequality: A Survey of Trade and Wages," in Kwan Choi and James Harrigan (eds.), *Handbook of International Trade* Basil, Blackwell, pp. 146–187. See *global production sharing* (page 186).

Feldstein, Martin and Charles Horioka (1980). "Domestic Saving and International Capital Flows," *Economic Journal* 90(358) (June), pp. 314–329. See *Feldstein-Horioka puzzle* (page 163).

Ferrantino, Michael (2006). "Quantifying the Trade and Economic Effects of Non-Tariff Measures," OECD Trade Policy Working Paper No. 28, 20 January. See *handicraft method* (page 196).

Fetter, Frank Whitson (1935). "Favorable Balance of Trade," *Quarterly Journal of Economics* 49(4) (August), pp. 621–645. See *balance of trade* (page 25).

Findlay, Ronald and Harry Grubert (1959). "Factor Intensities, Technological Progress and the Terms of Trade," *Oxford Economic Papers* 11(1), pp. 111–121. See *Lerner diagram* (page 256).

Finger, J. Michael and Mordechai E. Kreinin (1979). "A Measure of 'Export Similarity' and Its Possible Uses," *Economic Journal* 89(356) (December), pp. 905–912. See *Finger-Kreinin Index* (page 166).

Fisher, Irving (1930). *The Theory of Interest*, New York: Macmillan. See *Fisher Effect* (page 168).

Fleming, J.M. (1962). "Domestic Financial Policies under Fixed and under Floating Exchange Rates," *IMF Staff Papers* 9(3) (November), pp. 369–380. See *Mundell-Fleming Model* (page 294).

Frankel, Jeffrey (1997). *Regional Trading Blocs in the World Economic System* Washington, DC: Institute for International Economics. See *trade intensity index* (page 440), *natural trading partner* (page 299), and *supernatural trading bloc* (page 416).

Friedman, Milton (1953). "The Case for Flexible Exchange Rates," *Essays in Positive Economics*, Chicago: University of Chicago Press. See *stabilizing speculation* (page 405).

Friedman, Milton (1969). "The Optimum Quantity of Money," *The Optimum Quantity of Money and Other Essays*, Chicago: Aldine Publishing Company. See *Friedman rule* (page 178).

Gabaix, Xavier (2011). "The Granular Origins of Aggregate Fluctuations," *Econometrica* 79(3) (May), pp. 733–772. See *granularity* (page 190).

Grossman, Gene M. and Elhanan Helpman (1999). "The Internationalization of Economic Activity," National Science Foundation grant, July. See *internationalization* (page 238).

Grossman, Gene M. and Alan Krueger (1993). "Environmental Impacts of a North American Free Trade Agreement," in Peter M. Garber (ed.), *The Mexico-U.S. Free Trade Agreement*, Cambridge, MA: MIT Press, pp. 13–56. See *environmental Kuznets curve* (page 134).

Grubel, Herbert G. and Peter J. Lloyd (1975). *Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products*, New York: Wiley. See *Grubel-Lloyd Index* (page 195), *intra-industry trade* (page 238).

Grunwald, Joseph and Kenneth Flamm (1985). *The Global Factory: Foreign Assembly in International Trade*, Washington, DC: Brookings Institution. See *the global factory* (page 186).

Haberler, Gottfried von (1937). *The Theory of International Trade with Its Applications to Commercial Policy*, New York: Macmillan. See *specific factor* (page 402).

Hamilton, Clive and Paul Kniest (1991). "Trade Liberalisation, Structural Adjustment and Intra-Industry Trade: A Note," *Weltwirtschaftliches Archiv* 127(2) (June), pp. 356–367. See *marginal intra-industry trade* (page 269).

Harberger, Arnold C. (1950). "Currency Depreciation, Income, and the Balance of Trade," *Journal of Political Economy* 58(1) (February), pp. 47–60. See *Harberger-Laursen-Metzler Effect* (page 196).

Hardin, Garrett (1968). "The Tragedy of the Commons," *Science* 162(3859) (December), pp. 1243–1248. See *tragedy of the commons* (page 446).

Harrod, Roy F. (1933). *International Economics*, London: James Nisbet and Cambridge University Press. See *Balassa-Samuelson Effect* (page 26).

Hausmann, Ricardo, Jason Hwang, and Dani Rodrik (2007). "What You Export Matters," *Journal of Economic Growth* 12(1) (March), pp. 1–25. See *product mix diagram* (page 351).

Head, Keith and John Ries (2001). "Increasing Returns versus National Product Differentiation as an Explanation for the Pattern of U.S.-Canada Trade," *American Economic Review* 91(4) (September), pp. 858–876. See *Head-Ries Index* (page 198).

Heckscher, Eli (1919). "The Effect of Foreign Trade on the Distribution of Income," *Ekonomisk Tidskrift*, pp. 497–512. See *Heckscher-Ohlin Model* (page 199).

Hicks, John R. (1940). "The Valuation of the Social Income," *Economica* 7(26) (May), pp. 105–124. See *Kaldor-Hicks criterion* (page 245).

Hufbauer, Gary C. (1966). *Synthetic Materials and the Theory of International Trade*, Cambridge, MA: Harvard University Press. See *technology gap model* (page 428).

Hufbauer, Gary C. (1970). "The Impact of National Characteristics and Technology on Commodity Composition of Trade in Manufactured Goods," in Raymond Vernon (ed.), *The Technology Factor in International Trade*, New York: National Bureau of Economic Research. See *neotechnology model* (page 302).

Hummels, David, Dana Rapoport, and Kei-Mu Yi (1998). "Vertical Specialization and the Changing Nature of World Trade," *FRBNY Economic Policy Review* (June), pp. 79–99. See *vertical specialization* (page 465).

Hummels, David and Alexandre Skiba (2004). "Shipping the Good Apples Out? An Empirical Confirmation of the Alchian-Allen Conjecture," *Journal of Political Economy* 112(6) (December), pp. 1384–1402. See *Alchian-Allen Theorem* (page 12).

Johnson, Harry G. (1953). "Equilibrium Growth in an Expanding Economy," *Canadian Journal of Economics and Political Science* 19(4) (November), pp. 478–500. See *immiserizing growth* (page 210).

Johnson, Harry G. (1953/1954). "Optimum Tariffs and Retaliation," *Review of Economic Studies* 21(2), pp. 142–153. See *optimal tariff argument* (page 322) and *tariffs and retaliation* (page 424).

Johnson, Harry G. (1955). "Economic Expansion and International Trade," *Manchester School* 23(2) (May), pp. 95–112. See *immizerizing growth* (page 210).

Johnson, Robert C. and Guillermo Noguera (2012). "Accounting for Intermediates: Production Sharing and Trade in Value Added," *Journal of International Economics* 86(2) (March), pp. 224–236. See *VAX ratio* (page 463).

Jones, Ronald W. (1965). "The Structure of Simple General Equilibrium Models," *Journal of Political Economy* 73(6) (December), pp. 557–572. See *hat algebra* (page 198) and *magnification effect* (page 267).

Jones, Ronald W. (1971). "A Three-Factor Model in Theory, Trade, and History," in Bhagwati, *et al.* (eds.), *Trade, Balance of Payments, and Growth: Essays in Honor of C.P. Kindleberger*, Amsterdam: North-Holland. See *Ricardo-Viner Model* (page 378).

Jones, Ronald W. (1977). "'Two-ness' in Trade Theory: Costs and Benefits," *Special Papers in International Economics* No. 12, International Finance Section, Princeton University (April). See *two-ness* (page 453).

Jones, Ronald W. and Henryk Kierzkowski (1986). "Neighborhood Production Structures, with an Application to the Theory of International Trade," *Oxford Economic Papers* 38(1) (March), pp. 59–76. See *neighborhood production structure* (page 301).

Jones, Ronald W. and Henryk Kierzkowski (1990). "The Role of Services in Production and International Trade: A Theoretical Framework," in Ronald W. Jones and Anne O. Krueger (eds.), *The Political Economy of International Trade: Essays in Honor of Robert E. Baldwin*, Cambridge, MA: Blackwell, pp. 31–48. See *fragmentation* (page 175).

Jones, R.W. and J. Scheinkman (1977). "The Relevance of the Two-Sector Production Model in Trade Theory," *Journal of Political Economy* 85(5) (October), pp. 909–936. See *two-ness* (page 453).

Kaldor, Nicholas (1939). "Welfare Propositions of Economics and Interpersonal Comparisons of Utility," *Economic Journal* 49(195) (September), pp. 549–552. See *Kaldor-Hicks criterion* (page 245).

Katrak, Homi (1977). "Multinational Monopolies and Commercial Policy," *Oxford Economic Papers* 29(2) (July), pp. 283–291. See *strategic trade policy argument for a tariff* (page 412).

Kemp, Murray C. and Henry Wan, Jr. (1976). "An Elementary Proposition Concerning the Formation of Customs Unions," *Journal of International Economics* 6(1) (February), pp. 95–97. See *Kemp-Wan Theorem* (page 245).

Keynes, John Maynard (1929a). "The German Transfer Problem," *Economic Journal* 39(153) (March), pp. 1–7. See *transfer problem* (page 447).

Keynes, John Maynard (1929b). "The Reparations Problem: A Discussion II. A Rejoinder," *Economic Journal* 39(154) (June), pp. 179–182. See *transfer problem* (page 447).

Keynes, John Maynard (1929c). "Mr. Keynes' Views on the Transfer Problem III. A Reply," *Economic Journal* 39(155) (September), pp. 404–408. See *transfer problem* (page 447).

Keynes, John Maynard (1936). *The General Theory of Employment, Interest, and Money*, London: MacMillan. See *Keynesian* (page 246) and *liquidity trap* (page 261).

Kindleberger, Charles P. (1973). *The World in Depression*, Berkeley: Univerisity of California Press. See *Kindleberger spiral* (page 246).

Kondratieff, Nikolai Dmyitriyevich (1926). "The Long Waves in Economic Life"; translated into English and reprinted in *Review of Economics and Statistics* 17(6) (November), 1935, pp. 105–115. See *Kondratieff cycle* (page 247).

Kornai, Janos (1979). "Resource-Constrained versus Demand-Constrained Systems," *Econometrica* 47(4) (July), pp. 801–819. See *soft budget constraint* (page 397).

Krasker, William S. (1980). "The 'Peso Problem' in Testing the Efficiency of Forward Exchange Markets," *Journal of Monetary Economics* 6(2) (April), pp. 269–276. See *peso problem* (page 334).

Kravis, Irving B. (1956). "'Availability' and Other Influences on the Commodity Composition of Trade," *Journal of Political Economy* 64(2) (April), pp. 143–155. See *availability theory* (page 22).

Kravis, Irving B. (1970). "Trade as a Handmaiden of Growth: Similarities between the Nineteenth and Twentieth Centuries," *Economic Journal* 80(320) (December), pp. 850–872. See *handmaiden of growth* (page 196).

Kravis, Irving B. and Robert E. Lipsey (1983). "Toward an Explanation of National Price Levels," *Princeton Studies in International Finance* 52 (November). See *Kravis-Lipsey-Bhagwati Effect* (page 247).

Krueger, Anne O. (1974). "The Political Economy of the Rent Seeking Society," *American Economic Review* 64(3) (June), pp. 291–303. See *rent seeking* (page 371).

Krueger, Anne O. (2001). "Free Trade Agreements as Protectionist Devices: Rules of Origin," James R. Melvin, James Moore, and Raymond Riezman, editors, *Trade, Theory and Econometrics: Essays in Honor of John S. Chipman*, London: Routledge. See *exported protection* (page 153).

Krugman, Paul R. (1979a). "A Model of Balance-of-Payments Crises," *Journal of Money, Credit and Banking* 11(3) (August), pp. 311–325. See *canonical model of currency crises* (page 45).

Krugman, Paul R. (1979b). "Increasing Returns, Monopolistic Competition, and International Trade," *Journal of International Economics* 9(4) (November), pp. 469–479. See *new trade theory* (page 306).

Krugman, Paul R. (1980). "Scale Economies, Product Differentiation, and the Pattern of Trade," *American Economic Review* 70(5) (December) pp. 950–959. See *home market effect* (page 203).

Krugman, Paul R. (1986). "A 'Technology Gap' Model of International Trade," in K. Jungenfelt and D. Hague (eds.), *Structural Adjustment in Advanced Economies* London: Macmillan; reprinted in *Krugman (1990)*. See *technology gap model* (page 428).

Krugman, Paul R. (1987). "Pricing to Market When the Exchange Rate Changes," in Sven W. Arndt and J. David Richardson, *Real-Financial Linkages Among Open Economics*, Cambridge, MA: MIT Press, pp. 49–70. See *pricing to market* (page 346).

Krugman, Paul R. (1989). "Differences in Income Elasticities and Trends in Real Exchange Rates," *European Economic Review* 33(5) (May), pp. 1031–1046. See *45-degree rule* (page 476) and *Thirlwall's law* (page 431).

Krugman, Paul R. (1990). *Rethinking International Trade*, Cambridge, MA: MIT Press. See *Krugman (1986)* (see above).

Krugman, Paul R. (1991a). "The Move Toward Free Trade Zones," in *Policy Implications of Trade and Currency Zones*, symposium sponsored by The Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 22–24. See *GATT-Think* (page 183).

Krugman, Paul R. (1991b). *Geography and Trade*, Cambridge, MA: MIT Press. See *new economic geography* (page 305) and *Krugman specialization index* (page 247).

Krugman, Paul R. (1991c). "Target Zones and Exchange Rate Dynamics," *Quarterly Journal of Economics*, 106(3) (August), pp. 669–682. See *target zone* (page 421).

Krugman, Paul R. (1994). "Does Third World Growth Hurt First World Prosperity?" *Harvard Business Review* 72 (July), pp. 113–121. See *slicing up the value chain* (page 395).

Krugman, Paul R. and Maurice Obstfeld (1991). *International Economics*, New York: Addison Wesley. See *standard trade model* (page 407).

Kuznets, Simon (1955). "Economic Growth and Income Inequality," *American Economic Review* 45(1) (March), pp. 1–28. See *Kuznets curve* (page 247).

Lafay, Gerard (1992). "The Measurement of Revealed Comparative Advantages," in M.G. Dagenais and P.A. Muet (eds.), *International Trade Modeling*, London: Chapman and Hill, pp. 209–234. See *Lafay Index* (page 250).

Laursen, Svend and Lloyd A. Metzler (1950). "Flexible Exchange Rates and the Theory of Employment," *Review of Economics and*

Statistics 32(4) (November), pp. 281–299. See *Harberger-Laursen-Metzler Effect* (page 196).

Leamer, Edward E. (1987). "Paths of Development in the Three-Factor n-Good General Equilibrium Model," *Journal of Political Economy* 95(5) (October), pp. 961–999. See *Leamer triangle* (page 254).

Leamer, Edward E. (1996). "The Effects of Trade in Services, Technology Transfer and Delocalisation on Local and Global Income Inequality," *Asia-Pacific Economic Review* 2(1) (April), pp. 44–60. See *delocalization* (page 97).

Leibenstein, Harvey (1966). "Allocative Efficiency vs. 'X-Efficiency'," *American Economic Review* 56(3) (June), pp. 392–415. See *X-efficiency* (page 473).

Leontief, Wassily (1933). "The Use of Indifference Curves in the Analysis of Foreign Trade," *Quarterly Journal of Economics* 57(3) (May), pp. 493–503. See *community indifference curve* (page 64).

Leontief, Wassily (1954). "Domestic Production and Foreign Trade: The American Capital Position Reexamined," *Economia Internationale* 7, (February), pp. 3–32. See *input-output table* (page 223), *Leontief Paradox* (page 256).

Lerner, Abba P. (1936). "The Symmetry between Import and Export Taxes," *Economica* n.s. 3(11) (August), pp. 306–313. See *Lerner Symmetry Theorem* (page 257).

Lerner, Abba P. (1952). "Factor Prices and International Trade," *Economica* n.s. 19(73) (February). See *Lerner diagram* (page 256).

Linder, Staffan Burenstam (1961). *An Essay on Trade and Transformation*, New York: Wiley and Sons. See *Linder hypothesis* (page 259).

Lipsey, R.G. and Kelvin Lancaster (1956). "The General Theory of Second Best," *Review of Economic Studies* 24, pp. 11–32. See *second best* (page 385) and *second-best argument for protection* (page 385).

Lucas, Robert E. (1976). "Econometric Policy Evaluation: A Critique," *Carnegie-Rochester Conference Series on Public Policy* 1, pp. 19–46. See *Lucas critique* (page 264).

Machlup, Fritz (1950). "Elasticity Pessimism in International Trade," *Economia Internazionale* 3 (Feb), pp. 118–141. See *elasticity pessimism* (page 130).

Marshall, Alfred (1890). *Principles of Economics*, London: Macmillan and Co. See *terms of trade* (page 429).

Marshall, Alfred (1923). *Money, Credit and Commerce*, London: Macmillan and Co. See *terms of trade* (page 429).

Maskus, Keith E. and Mohan Penubarti (1995). "How Trade-Related are Intellectual Property Rights?" *Journal of International Economics* 39 (November), pp. 227–248. See *Maskus curve* (page 277).

Mayer, Wolfgang (1974). "Short-Run and Long-Run Equilibrium for a Small Open Economy," *Journal of Political Economy* 82(5) (Sep.–Oct.), pp. 955–967. See *Ricardo-Viner Model* (page 378).

McKenzie, Lionel W. (1955). "Equality of Factor Prices in World Trade," *Econometrica* 23(3) (July), pp. 239–257. See *diversification cone* (page 109).

Meade, James Edward (1952). *A Geometry of International Trade*, London: Allen and Unwin. See *Meade geometry* (page 278) and *trade indifference curve* (page 440).

Meade, James Edward (1955a). *The Theory of Customs Unions*, Amsterdam: North-Holland Publishing Co. See *Meade Index* (page 278).

Meade, James Edward (1955b). *Trade and Welfare* London: Oxford University Press. See *second-best argument for protection* (page 385).

Melitz, Marc J. (2003). "The Impact of Trade on Intra-industry Reallocations and Aggregate Industry Productivity," *Econometrica* 71(6) (November), pp. 1695–1725. See *Melitz model* (page 279).

Metzler, Lloyd (1948). *A Survey of Contemporary Economics* Homewood, IL: Richard D. Irwin. See *Bickerdike-Robinson-Metzler Condition* (page 32).

Metzler, Lloyd (1949). "Tariffs, International Demand, and Domestic Prices," *Journal of Political Economy* 57(4) (August), pp. 345–351. See *Metzler paradox* (page 280).

Metzler, Lloyd (1960). "The Process of International Adjustment under Conditions of Full Employment: A Keynesian View," paper read before the Econometric Society, December; reprinted in Richard E. Caves and Harry G. Johnson (eds.), *Readings in International Economics* Homewood, IL: Irwin, 1968. See *Metzler diagram* (page 280).

Mill, James (1821). *Elements of Political Economy*, London: Henry G. Bohn. See *immiserizing growth* (page 210).

Mill, John Stuart (1848). *Principles of Political Economy and Some of Their Applications to Social Philosophy.* See *vent for surplus* (page 464).

Minhas, Bagicha S. (1962). "The Homohypallagic Production Function, Factor-Intensity Reversals, and the Heckscher-Ohlin Theorem," *Journal of Political Economy* 70(2) (April), pp. 138–156. See *homohypallagic* (page 204).

Mundell, Robert A. (1960). "The Pure Theory of International Trade," *American Economic Review* 50(1) (March), pp. 67–110. See *Cournot's law* (page 80).

Mundell, Robert A. (1961). "A Theory of Optimum Currency Areas," *American Economic Review* 51(4) (September), pp. 657–665. See *currency area* (page 85) and *optimal currency area* (page 321).

Mundell, Robert A. (1962). "The Appropriate Use of Monetary and Fiscal Policy under Fixed Exchange Rates," *IMF Staff Papers* 9(1) (March), pp. 70–79. See *assignment problem* (page 18) and *Mundell-Fleming Model* (page 294).

Mundell, Robert A. (1963). "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates," *Canadian Journal of Economics and Political Science* 29(4) (November), pp. 475–485. See *Mundell-Fleming Model* (page 294).

Mussa, Michael (1974). "Tariffs and the Distribution of Income: The Importance of Factor Specificity, Substitutability, and Intensity in the Short and Long Run," *Journal of Political Economy* 82(6) (Nov.–Dec.), pp. 1191–1203. See *Ricardo-Viner Model* (page 378).

Mussa, Michael (1979). "The Two-Sector Model in Terms of Its Dual: A Geometric Exposition," *Journal of International Economics* 9(4) (November), pp. 513–526. See *Mussa diagram* (page 294).

Myint, Hla (1958). "The 'Classical Theory' of International Trade and the Underdeveloped Countries," *Economic Journal* 68(270) (June), pp. 317–337. See *vent for surplus* (page 464).

Neary, Peter (1978). "Short-Run Capital Specificity and the Pure Theory of International Trade," *Economic Journal* 88(351) (September), pp. 488–510. See *Ricardo-Viner Model* (page 378).

Obstfeld, Maurice (2012). "Does the Current Account Still Matter?," Richard T. Ely Lecture, *American Economic Review* 102(3) (May), pp. 1–23. See *balance of trade* (page 25).

Ohlin, Bertil (1929a). "The Reparations Problem: A Discussion; Transfer Difficulties, Real and Imagined," *Economic Journal* 39(154) (June), pp. 172–183. See *transfer problem* (page 447).

Ohlin, Bertil (1929b). "Mr. Keynes' Views on the Transfer Problem II. A Rejoinder from Professor Ohlin," *Economic Journal* 39, pp. 400–404. See *transfer problem* (page 447).

Ohlin, Bertil (1933). *Interregional and International Trade*, Cambridge, MA: Harvard University Press. See *Heckscher-Ohlin Model* (page 199), *Ohlin definition* (page 317) and *price definition* (page 344).

Ohyama, Michihiro (1972). "Trade and Welfare in General Equilibrium," *Keio Economic Studies* 9, pp. 37–73. See *revealed preference* (page 376).

O'Neill, Jim (2001). "Building Better Global Economic BRICs," Global Economics Paper No. 66, Goldman Sachs, 30 November. See *BRICs* (page 39).

Pareto, Vilfredo (1906). *Manual of Political Economy.* [Translated title from Italian source *Manuale di economia politica con una introduzione alla scienza sociale.* Milano: Società Editrice Libraria.] See *Edgeworth-Bowley box* (page 126).

Pearce, Ivor F. (1952). "The Factor Price Equalization Myth," *Review of Economic Studies* 19(2), pp. 111–120. See *Lerner-Pearce diagram* (page 256).

Phillips, A.W. (1958). "The Relationship between Unemployment and the Rate of Change of Money Wages in the United Kingdom 1861–1957," *Economica* 25(100) (November), pp. 283–299. See *Phillips curve* (page 335).

Pigou, Arthur Cecil (1920). *The Economics of Welfare*, London: Macmillan and Co. See *pigouvian* (page 335).

Porter, Michael E. (1990). *The Competitive Advantage of Nations*, New York: Free Press. See *Porter's Diamond* (page 338) and *value chain* (page 462).

Posner, M.P. (1961). "International Trade and Technical Change," *Oxford Economic Papers* 13(3) (October), pp. 323–341. See *technology gap model* (page 428).

Pöyhönen, Pentti (1963). "A Tentative Model for the Volume of Trade Between Countries," *Weltwirtschaftliches Archiv* 90(1), pp. 93–99. See *gravity model* (page 190).

Prebisch, Raúl (1950). "The Economic Development of Latin America and its Principal Problems". See *Prebisch-Singer hypothesis* (page 341).

Preston, Samuel H. (1975). "The Changing Relation between Mortality and Level of Economic Development," *Population Studies* 29(2) (July), pp. 231–248. See *Preston Curve* (page 343).

Price, W.H. (1905). "The Origin of the Phrase 'Balance of Trade'," *Quarterly Journal of Economics* 20(1) (November), pp. 157–167. See *balance of trade* (page 25).

Ricardo, David (1817). *On the Principles of Political Economy and Taxation*, London: J. Murray. See *law of comparative advantage* (page 252).

Ricardo, David (1951–1973). *The Works and Correspondence of David Ricardo*, edited by Piero Sraffa and M. Dobbs, Vols. I–XI, Cambridge, MA: Cambridge University Press. See *comparative advantage* (page 64).

Richardson, Martin (1995). "Tariff Revenue Competition in a Free Trade Area," *European Economic Review* 39(7) (August), pp. 1429–1437. See *internal trade deflection* (page 229).

Robertson, Dennis H. (1938). "The Future of International Trade," *Economic Journal* 48(189) (March), pp. 1–14. See *engine of growth* (page 132).

Robinson, Joan (1932). *The Economics of Imperfect Competition*, London: Macmillan. See *monopsony* (page 289).

Robinson, Joan (1947). *Essays in the Theory of Employment*, Oxford: Basil Blackwell. See *Bickerdike-Robinson-Metzler Condition* (page 32).

Rodrik, Dani (2007). "*The inescapable trilemma of the world economy*," *Dani Rodrik's weblog*, 27 June 2007. See *trilemma of the world economy* (page 451).

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi (2004). "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development," *Journal of Economic Growth* 9(2) (June). See *Washington Consensus Mark 2* (page 467).

Rogoff, Kenneth (1996). "The Purchasing Power Parity Puzzle," *Journal of Economic Literature* 34(2) (June), pp. 647–688. See *purchasing power parity puzzle* (page 356).

Ruffin, Roy J. (2002). "David Ricardo's Discovery of Comparative Advantage," *History of Political Economy* 34(4), pp. 727–748. See *comparative advantage* (page 64).

Rybczynski, T.M. (1955). "Factor Endowments and Relative Commodity Prices," *Economica* 22(88) (November), pp. 336–341. See *Rybczynski Theorem* (page 381).

Samuelson, Paul A. (1939). "The Gains from International Trade," *Canadian Journal of Economics and Political Science* 5, pp. 195–205. See *gains from trade theorem* (page 181) and *revealed preference* (page 376).

Samuelson, Paul A. (1948). "International Trade and the Equalisation of Factor Prices," *Economic Journal* 58(230) (June), pp. 163–184. See *factor price equalization* (page 158) and *Heckscher-Ohlin Model* (page 199).

Samuelson, Paul A. (1949). "International Factor-Price Equalisation Once Again," *Economic Journal* 59(234) (June), pp. 181–197. See *factor price equalization* (page 158) and *Heckscher-Ohlin Model* (page 199).

Samuelson, Paul A. (1953). "Prices of Factors and Goods in General Equilibrium," *Review of Economic Studies* 21(1) (October), pp. 1–20. See *Heckscher-Ohlin Model* (page 199) and *reciprocity conditions* (page 367).

Samuelson, Paul A. (1954). "The Transfer Problem and Transport Costs, II: Analysis of Effects of Trade Impediments," *Economic Journal* 64(254) (June), pp. 264–289. See *iceberg transport costs* (page 208).

Samuelson, Paul A. (1962). "The Gains from International Trade Once Again," *Economic Journal* 72(288) (December), pp. 820–829. See *gains from trade theorem* (page 181) and *utility possibility frontier* (page 462).

Samuelson, Paul A. (1964). "Theoretical Notes on Trade Problems," *Review of Economics and Statistics* 46(2) (May), pp. 145–154. See *Balassa-Samuelson Effect* (page 26).

Samuelson, Paul A. (1971). "Ohlin Was Right," *Swedish Journal of Economic* 73(4) (December), pp. 365–384. See *Ricardo-Viner Model* (page 378).

Samuelson, Paul A. (1981). "Bergsonian Welfare Economics," in S. Rosefielde (ed.), *Economic Welfare and the Economics of Soviet Socialism: Essays in Honor of Abram Bergson*, Cambridge, MA: Harvard University Press, pp. 223–266. See *Bergsonian social welfare function* (page 31).

Sanyal, Kalyan K. and Ronald W. Jones (1982). "The Theory of Trade in Middle Products," *American Economic Review* 72(1) (March), pp. 16–31. See *middle product* (page 281).

Scitovszky, Tibor de (1942). "A Reconsideration of the Theory of Tariffs," *Review of Economic Studies* 9(2) (Summer), pp. 89–110. See *Scitovszky indifference curve* (page 384).

Shibata, H. (1967). "The Theory of Economic Unions: A Comparative Analysis of Customs Unions, Free Trade Areas, and Tax Unions," in C.S. Shoup (ed.), *Fiscal Harmonization in Common Markets*, New York: Columbia University Press, pp. 145–264. See *trade deflection* (page 438).

Siegel, Jeremy J. (1972). "Risk, Interest Rates and the Forward Exchange," *Quarterly Journal of Economics* 86(2) (May), pp. 303–309. See *Siegel's paradox* (page 392).

Singer, H.W. (1950). "U.S. Foreign Investment in Underdeveloped Areas: The Distribution of Gains Between Investing and Borrowing Countries," *American Economic Review, Papers and Proceedings* 40 (May), pp. 473–485. See *Prebisch-Singer hypothesis* (page 341).

Smith, Adam (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations.* See *division of labor* (page 110) and *vent for surplus* (page 464).

Solow, Robert M. (1956). "A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics* 70(1) (February), pp. 65–94. See *neoclassical growth model* (page 302).

Solow, Robert M. (1957). "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics* 39(3) (August), pp. 312–320. See *Solow residual* (page 398).

Spence, Michael (1976). "Product Selection, Fixed Costs, and Monopolistic Competition," *Review of Economic Studies* 43(2) (June), pp. 217–235. See *Spence-Dixit-Stiglitz* (page 403).

Starrett, David (1978). "Market Allocations of Location Choice in a Model with Free Mobility," *Journal of Economic Theory* 17(1) (February), pp. 21–37. See *Starrett's impossibility theorem* (page 408).

Stolper, Wolfgang and Paul A. Samuelson (1941). "Protection and Real Wages," *Review of Economic Studies* 9(1) (November), pp. 58–73. See *Stolper-Samuelson Theorem* (page 411).

Suganami, H. (1978). "A Note on the Origin of the Word 'International'," *British Journal of International Studies* 4(3) (October), pp. 226–232. See *international* (page 229).

Swan, Trevor W. (1955). "Long-Run Problems of the Balance of Payments," written but unpublished in 1955, later published in Arndt

and Corden (eds.), *The Australian Economy* 1963. See *Swan diagram* (page 419).

Swan, Trevor W. (1956). "Economic Growth and Capital Accumulation," *Economic Record* 32(2) (November), pp. 334–361. See *neoclassical growth model* (page 302).

Tarascio, Vincent J. (1972). "A Correction: On the Geneology of the So-Called Edgeworth-Bowley Diagram," *Western Economic Journal* 10 (June), pp. 193–197. See *Edgeworth-Bowley box* (page 126).

Taussig, Frank William (1927). *International Trade*, New York: Macmillan Co. See *barter terms of trade* (page 28), *net barter terms of trade* (page 303), *gross barter terms of trade* (page 192), and their *origin* (page 324).

Thirlwall, A.P. (1979). "The Balance of Payments Constraint as an Explanation of International Growth Rate Differences," *Banca Nazionale del Lavoro Quarterly Review* 128 (March), pp. 45–53. See *Thirlwall's law* (page 431).

Tinbergen, Jan (1962). *Shaping the World Economy: Suggestions for an International Economic Policy*, New York: Twentieth Century Fund. See *gravity model* (page 190).

Tobin, James (1969). "A General Equilibrium Approach to Monetary Theory," *Journal of Money, Credit, and Banking* 1(1) (February), pp. 15–29. See *Tobin's Q* (page 433).

Tobin, James (1978). "A Proposal for International Monetary Reform," *Eastern Economic Journal* 4(3/4) (Jul.–Oct.), pp. 153–159. See *Tobin tax* (page 433).

Torrens, Robert (1815). *Essay on the External Corn Trade*, London: J. Hatchard. See *comparative advantage* (page 64).

Travis, William Penfield (1964). *The Theory of Trade and Protection*, Cambridge, MA: Harvard University Press. See *Integrated World Economy* (page 225).

Trefler, Daniel (1995). "The Case of the Missing Trade and Other Mysteries," *American Economic Review* 85(5) (December), pp. 1029–1046. See *mystery of the missing trade* (page 295) and *home bias* (page 202).

Tyszynski, H. (1951). "World Trade in Manufactured Commodities, 1899–1950," *Manchester School of Economic and Social Studies* 19(3) (September), pp. 272–304. See *constant market share analysis* (page 71).

United Nations Conference on Trade and Development (2004). *São Paulo Consensus*, TD/410, 25 June. See *policy space* (page 337).

Vanek, Jaroslav (1965). *General Equilibrium of International Discrimination: The Case of Customs Unions*, Cambridge, MA: Harvard University Press. See *Meade Index* (page 278).

Vanek, Jaroslav (1968). "The Factor Proportions Theory: The n-Factor Case," *Kyklos* 21(4) (October), pp. 749–756. See *Heckscher-Ohlin-Vanek Theorem* (page 200).

Venables, Anthony J. (1985). "Trade and Trade Policy with Imperfect Competition: The Case of Identical Products and Free Entry," *Journal of International Economics* 19(1/2) (August), pp. 1–19. See *delocation* (page 97).

Venables, Anthony J. (1987). "Trade and Trade Policy with Differentiated Products: A Chamberlinian-Ricardian Model," *Economic Journal* 97(387) (September), pp. 700–717. See *delocation* (page 97).

Vernon, Raymond (1966). "International Investment and International Trade in the Product Cycle," *Quarterly Journal of Economics* 80(2) (May), pp. 190–207. See *product cycle* (page 350).

Vernon, Raymond (1971). *Sovereignty at Bay: The Multinational Spread of US Enterprises*, New York: Basic Books. See *OBM* (page 315).

Viner, Jacob (1937). *Studies in the Theory of International Trade*, New York: Harper and Brothers Publishers. See *single factoral terms of trade* (page 393), *double factoral terms of trade* (page 113), and their *origins* (page 324); also *18th century rule* (page 476).

Viner, Jacob (1950). *The Customs Union Issue*, New York: Carnegie Endowment for International Peace. See *trade creation* (page 437) and *trade diversion* (page 439).

Watkins, Melville H. (1963). "A Staple Theory of Economic Growth," *Canadian Journal of Economics and Political Science*, 29(2) (May), pp. 141–158. See *staple theory of economic growth* (page 407).

Williams, John H. (1929). "The Theory of International Trade Reconsidered," *Economic Journal* 39(154) (June), pp. 195–209. See *vent for surplus* (page 464).

Williamson, John H. (1990). "What Washington Means by Policy Reform," in John Williamson (ed.), *Latin American Adjustment: How Much Has Happened?* Washington, DC: Institute for International Economics. See *Washington Consensus* (page 467).

Wilson, Charles (1980). "On the General Structure of Ricardian Models with a Continuum of Goods: Applications to Growth, Tariff Theory, and Technical Change," *Econometrica* 48(7) (November), pp. 1675–1702. See *continuum of goods* (page 74).

Wonnacott, P. and M. Lutz (1989). "Is There a Case for Free Trade Areas," in J. Schott (ed.), *Free Trade Areas and U.S. Trade Policy*, Washington, DC: Institute for International Economics. See *natural trading partners* (page 299).

Zipf, George K. (1949). *Human Behavior and the Principle of Least Effort*, Cambridge, MA: Addison-Wesley. See *Zipf's law* (page 475).