COPYRIGHT NOTICE:

Edited by Kenneth A. Reinert & Ramkishen S. Rajan:

The Princeton Encyclopedia of the World Economy

is published by Princeton University Press and copyrighted, © 2008, by Princeton University Press. All rights reserved. No part of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from the publisher, except for reading and browsing via the World Wide Web. Users are not permitted to mount this file on any network servers.

Follow links Class Use and other Permissions. For more information, send email to: permissions@press.princeton.edu

model; intrafirm trade; intraindustry trade; outsourcing/offshoring; Ricardian model; technology spillovers

FURTHER READING

Arndt, Sven W. 1997. "Globalization and the Open Economy." *North American Journal of Economics and Finance* 8 (1): 71–79. Derivation of key results of fragmentation in terms of the Heckscher-Ohlin Model.

Arndt, Sven W., and Alexander Huemer. 2007. "Trade, Production Networks and the Exchange Rate." *Journal of Economic Asymmetries* 4 (1): 11–39. Examines the effect of global production networks on the sensitivity of trade flows to exchange rates.

Arndt, Sven W., and Henryk Kierzkowski, eds. 2001. *Fragmentation: New Production Patterns in the World Economy*. Oxford: Oxford University Press. A collection of papers dealing with various aspects of fragmentation.

Barba Navaretti, Giorgio, and Anthony J. Venables. 2004. *Multinational Firms in the World Economy*. Princeton, NJ: Princeton University Press. A comprehensive study of the FDI, multinationals, and trade.

Deardorff, Alan V. 2001. "Fragmentation in Simple Trade Models." *North American Journal of Economics and Finance* 12 (2): 121–37. Provides a more formal assessment of the effects of fragmentation.

Feenstra, Robert C. 1998. "Integration of Trade and Disintegration of Production in the Global Economy." *Journal of Economic Perspectives* 12 (4): 31–50. Overview of theoretical and empirical issues related to fragmentation.

Helpman, Elhanan. 2006. "Trade, FDI, and the Organization of Firms." NBER Working Paper No. 12091. Cambridge, MA: National Bureau of Economic Research. A comprehensive overview of modeling multinationals.

Jones, Ronald W., and Henryk Kierzkowski. 1990. "The Role of Services in Production and International Trade." In *The Political Economy of International Trade*, edited by R. W. Jones and Anne O. Krueger. Oxford: Basil Blackwell, 31–48. Discussion of the role of service links in production networks.

Kimura, Fukunari, and Mitsuyo Ando. 2003. "Fragmentation and Agglomeration Matter: Japanese Multinationals in Latin America and East Asia." *North American Journal of Economics and Finance* 14 (3): 287–317. An empirical study of Japanese MNCs operating in the two regions with a focus on behavioral differences.

SVEN W. ARNDT

■ free trade area

A free trade area (FTA) is created by an agreement among a group of countries to eliminate trade barriers on most (if not all) goods between them. FTAs can be, and often are, regional and dictated by geographical considerations, such as the North American Free Trade Area, composed of the United States, Canada, and Mexico. They can also occur between countries that are far apart, as with the U.S.-Israel or U.S.-Singapore FTAs. Countries can belong to more than one FTA. The number of FTAs has increased rapidly since the early 1990s. For example, as of October 2007, the World Trade Organization (WTO) reported that approximately 110 notified (that is, officially existing) FTAs (excluding accessions) were active at that time.

In contrast to a customs union (CU), which sets a common external tariff, FTAs do not necessarily equalize their members' tariffs on nonmembers. With differences in tariffs, rules of origin (ROOs) prevent trade in a product from going through the country with the lowest tariff on it and then being shipped within the FTA, since a good is eligible for zero tariffs in the FTA only if it originates there and ROOs specify the conditions required for origin to be granted.

There are large differences in the effects of an FTA with and without ROOs. In the absence of ROOs, an FTA results in large changes in trade flows as trade seeks the lowest tariff entry point into the FTA. Goods are then transshipped to their final destination in the FTA. Of course this results in large tariff revenue transfer effects as this trade deflection transfers tariff revenue to the country with the lowest tariff entry point. As pointed out by Richardson (1995), this can result in a race to the bottom in setting tariffs. Moreover, in the presence of transshipment costs, such arbitrage may waste valuable resources: if such waste outweighs the positive effects of lower tariffs,

an FTA without ROOs may even reduce welfare overall.

In the presence of ROOs, however, simple transshipment is not possible. Nevertheless, some trade deflection may still be possible. By shipping domestic production to its FTA partners and meeting domestic demand via imports, the low-tariff country can still attract trade to its ports.

The Legal Basis of FTAs Signatories to the General Agreement on Trade and Tariffs (GATT) accord most-favored-nation (MFN) status to one another. This means that they cannot offer anyone else a more favorable (lower) tariff. How then can FTAs, which are by their very nature discriminatory, be legal? The answer lies in Article XXIV of GATT, which explicitly allows FTAs and CUs as exceptions to this rule as long as substantially all trade is free among members, and trade barriers with nonmembers is not higher on average after the FTA or CU.

The Welfare Effects of FTAs Although one thinks of FTAs as liberalizing of trade, and trade liberalization as welfare improving, neither may be true. If one pictures an FTA as only reducing the tariff on each good to the lowest tariff set by any of the FTA members, one might be inclined to think that such an FTA is welfare improving. Even this is not necessarily so, however. The theory of the second best says that welfare could fall with liberalization if not all distortions are removed, and consequently, even in such a stylized setting, an FTA may reduce welfare.

The usual argument showing the possibility of welfare loss is Viner's (1950). If an FTA is formed with the high-cost supplier, what is called trade diversion occurs. The country imports from its higher-cost FTA partner rather than the lower-cost country outside the FTA, so the gain in consumer surplus or welfare from lower tariffs and resulting lower consumer prices could easily fall short of the loss in tariff revenue. Trade-diverting customs unions could reduce welfare, whereas trade-creating customs unions, those formed with the lowest-cost supplier, would raise welfare.

FTAs need not be liberalizing, since if ROOs are hard enough to meet, they will raise costs by enough that no firm will find it worthwhile to meet them in order to obtain zero tariffs. In this case, FTAs do nothing. It is even worse if ROOs are strict and raise costs a good deal, but are still worth meeting. In this case, even if prices fall a little, the loss from the cost increase due to ROOs, which wastes resources, and the tariff revenue forgone, could easily reduce welfare relative to that prior to an FTA.

Moreover, recent work in this area has shown that the goals of improved market access and welfare may well be in conflict. Ju and Krishna (2000) show that if the excess demand for exported goods does not respond to changes in the prices of imported goods, then any policy that increases imports must also reduce welfare. Anderson and Neary (2007) interpret these results in terms of the generalized mean and variance of tariffs. They show that welfare is negatively related and import volume is positively related to the generalized variance and this causes a tension in the two objectives.

Stepping Stones, Stumbling Blocks, or Building Blocks? Of significant policy relevance is whether FTAs help or hurt the chances of further liberalization along multilateral lines. Bhagwati (1991) has been a vocal opponent of FTAs, arguing that they dampen the enthusiasm of a country for nondiscriminatory reform such as the multilateral trade negotiations held under the auspices of GATT/WTO.

The first question to ask is why multilateral free trade should be seen as more desirable than bilateral free trade. After all, if an FTA is a microcosm of the whole world, then there is not much to gain from global free trade. This argument neglects two factors, however. First, increasing the size of the world does raise welfare when goods are differentiated (as larger economies have greater variety and therefore higher real income and welfare) or there are increasing returns to scale (as larger economies can better exploit economies of scale and therefore have lower prices and higher welfare). Second, bilateral arrangements are not usually of this form but tend to occur between similar countries first, extending to others later. This makes sense, as such FTAs are likely to face less resistance as they have little effect on factor prices and

bring gains from reaping economies of scale and greater product variety.

Levy (1997) argues persuasively that, for political economy reasons, bilateral free-trade agreements can undermine political support for further multilateral trade liberalization. He uses a median voter model where agents have different endowments of capital, and where bilateral free trade could occur before multilateral free trade. With perfect foresight, no proposal that makes the median voter worse off than under multilateral free trade can occur. Thus if multilateral free trade is not possible directly, it cannot become so after a bilateral agreement. As a result, a bilateral agreement cannot be a stepping stone to multilateral free trade. It can, however, be a stumbling block. A free trade area has two effects in his model. It reduces the earnings of the relatively scarce factor in a country via standard Heckshher-Ohlin channels (since via trade, the relatively scarce factor in a country becomes in effect less scarce and so its price falls), and it raises the real income and, hence, welfare of all agents via increased variety. When the latter effect dominates, as it does if the FTA was among similar countries, a bilateral trade agreement makes most agents better off. But by doing so, it raises the reservation utility (the welfare under the status quo) for future multilateral agreements. Multilateral free trade would raise the gains to those with the most capital but reduce the gains to those with little capital, and as a result the median voter could be worse off with multilateral free trade. Thus, even if total welfare is highest under multilateral free trade, bilateral arrangements such as an FTA can prevent it from occurring.

A classic argument by Johnson (1967) is that multilateral reform would dilute existing preferences and therefore would provoke resistance by those adversely affected. For example, Mexican suppliers who are at an advantage under the North American Free Trade Agreement (NAFTA) would lobby against a reduction in the U.S. MFN tariff. Under the EBA (Everything but Arms) agreement of the European Union (EU), the poorest countries are allowed to export all goods other than arms to the EU market free of tariffs. If the EU reduced its MFN tariff, however, these preferences would be diluted and these poorest counties would lose their EU market to more competitive suppliers and would lobby hard against such liberalization on the part of the EU.

Limão (2006) has shown that there is evidence that such concerns are important. Using data on U.S. tariff reductions during the Uruguay Round of WTO negotiations, he shows that tariffs tended to be higher on goods that were traded in NAFTA. Moreover, as a result, the reciprocating tariff cuts tended also to be smaller.

Baldwin (2006) takes the opposing viewpoint. He argues that FTAs are building blocks for multilateral liberalization. He argues for a domino effect: once a group of countries form an FTA, then even if some countries stayed out of the FTA to begin with, once it is large enough, they would find themselves with so few trading partners that they would want to join! As a result, maybe there would be waves of integration: first a regional trading arrangement forms with a core group, then the next tier of countries joins, and so on. What happens more often, however, is that countries belong to many FTAs, and free trade is not a transitive relation. If A has an FTA with B and B has an FTA with C, this is not the same as A having an FTA with B and C. Goods from A will not have origin in B and therefore will not get zero tariffs when exported to C. Some exports from A via B to C could occur, however, with B's production being exported to C and B consuming A's products.

What, then, is the role of FTAs today and what can we expect in the future? Clearly, FTAs are here to stay. We cannot expect overlapping FTAs to do what multilateral free trade would, and there is empirical evidence that they act as stumbling blocks to global free trade. For these reasons, their proliferation is cause for concern. On the plus side, however, it is likely that their formation results in economic gains, both static and dynamic. Since FTAs may be possible (as sensitive sectors can be isolated via the use of restrictive ROOs) when multilateral free trade is not, it is as yet far from obvious what their net welfare effects are.

See also common market; customs unions; Free Trade Area of the Americas (FTAA); multilaterialism; North American Free Trade Agreement (NAFTA); regionalism; rules of origin

FURTHER READING

Anderson, James E., and Peter Neary. 2007. "Welfare versus Market Access: The Implications of Tariff Structure for Tariff Reform." *Journal of International Economics* 71 (1): 187–205. Explains why the mean and the variance of tariffs matter in different ways for welfare and market access.

Baldwin, Richard E. 2006. "Multilateralizing Regionalism: Spaghetti Bowls as Building Blocs on the Path to Global Free Trade." *World Economy* 29 (11): 1451–1518. Discusses the possible positive effects of FTAs.

Bhagwati, Jagdish. 1991. *The World Trading System at Risk.* Princeton, NJ: Princeton University Press. A nontechnical introduction to the role of the WTO in the global economy.

Johnson, Harry G. 1967. *Economic Policies towards Less Developed Countries*. Washington DC: Brookings Institution. Outdated, but a classic.

Ju, Jiandong, and Kala Krishna. 2000. "Welfare and Market Access Effects of Piecemeal Tariff Reform." *Journal of International Economics* 51 (2): 305–16. Explores the trade-off between market access and welfare in the context of piecemeal policy reform.

Levy, Philip I. 1997. "A Political-Economic Analysis of Free-Trade Agreements." *American Economic Review* 87 (4): 506–19. An important early paper on the stepping stones versus stumbling blocks debate.

Limão, Nuno. 2006. "Preferential Trade Agreements as Stumbling Blocks for Multilateral Trade Liberalization: Evidence for the U.S." *American Economic Review* 96 (3): 896–914. Shows that the presence of an FTA seems to be correlated with reduced multilateral liberalization in goods traded in the FTA.

Richardson, Martin. 1995. "Tariff Revenue Competition in a Free Trade Area." *European Economic Review* 39: 1429–37. Looks at the incentives for tariff setting in an FTA.

Viner, Jacob. 1950. *The Customs Union Issue*. New York: Carnegie Endowment for International Peace. Old but still a classic.

KALA KRISHNA

■ Free Trade Area of the Americas (FTAA)

The United States and Latin America have long resisted what geography would seem to dictate: a special inter-American relationship built around open trade and investment flows. U.S. foreign policy has generally focused on other regions of the world—notably Europe and Asia—and eschewed regional favorites altogether in favor of a global reach. In Latin America, nationalists of the right and left have preferred to limit their dependence on U.S. power by diversifying their relations through stronger ties to Europe or other Latin American nations. Nevertheless, there have been periods in history when Latin America has reached out to the United States and the United States has responded affirmatively. The 1990s were one such period, and the centerpiece of such inter-American cooperation was the Free Trade Area of the Americas (FTAA).

The idea of a hemispheric free trade zone was not new when policymakers began to discuss it in earnest in the final decade of the 20th century. The goal can be traced back at least to Simón Bolívar (whose integrationist vision sometimes excluded but sometimes seemed to include North America), and it was discussed at the time of the founding of the Pan-American Union at the end of the 19th century. Presidents Ronald Reagan (1981–89) and George H. W. Bush (1989–93) made rhetorical references to the idea of a hemispheric free trade zone. However, this vague aspiration only became a concrete policy option when Latin American governments pressed a reluctant United States to take their free-trade agenda seriously. In 1990, it was Mexican president Carlos Salinas de Gortari who proposed a free trade accord to President Bush—the seed that became the North American Free Trade Agreement (NAFTA). It was the Chileans who pressed three successive U.S. administrations for a free trade agreement. It was the Latin Americans who proposed to the Bill Clinton White House that the United States convene a post-NAFTA meeting of hemispheric leaders to spread the spirit of NAFTA southward, and who insisted that the centerpiece of the subsequent 1994 Miami Summit be the Free Trade Area of the Americas (FTAA).