Trade Agreements: Impact on the U.S. Economy

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Summary

The United States is considering a number of trade agreements, including the Trans-Pacific Partnership Trade Agreement (TPP) and the U.S.-European Union Trade and Investment Partnership. The Congress also may address the issue of trade promotion authority (TPA), which expired on July 1, 2007. In contrast with trade agreements with smaller economies, these two recently proposed agreements could have a significant impact on some aspects of U.S. trade and investment activities that could affect numerous U.S. workers and businesses. During this process, Congress likely will be presented with an array of data estimating the impact of trade agreements on the economy, or on a particular segment of the economy.

Sophisticated models of the economy that are capable of simulating changes in economic conditions often are used to assist Congress in assessing the value and the impact of trade agreements. These models are particularly helpful in estimating the effects of trade liberalization in such sectors as agriculture and manufacturing where the barriers to trade are identifiable and subject to some quantifiable estimation. Barriers to trade in services and investment, however, are proving to be more difficult to identify and, therefore, to quantify in an economic model. All economic models incorporate various assumptions that are necessary in order for the models to generate results. Invariably, these assumptions determine to some extent the results that are generated and limit their usefulness. In addition, the models are highly sensitive to the assumptions that are used to establish the parameters of the model and they are hampered by a serious lack of comprehensive data in the services sector. Nevertheless, the models often provide basic insights into the magnitude of the economic effects that may occur across economic sectors as a result of trade liberalization. These insights are especially helpful in identifying those sectors that are expected to experience the greatest disruptions and adjustment costs and, therefore, where opposition to trade agreements is likely to occur.

This report examines the major features of economic models being used to estimate the effects of trade agreements. It assesses the strengths and weaknesses of the models as an aid in helping Congress evaluate the economic impact of trade agreements on the U.S. economy. In addition, this report identifies and assesses some of the assumptions used in the economic models and how these assumptions affect the data generated by the models. Finally, this report evaluates the implications for Congress of various options it may consider as it assesses trade agreements.

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Background

Congress plays a direct role in formulating and implementing U.S. international trade policies. During the 108th, -112th Congresses, this role gained increased importance as the United States negotiated an unprecedented number of trade agreements. The 113th Congress may also address two of the largest regional trade agreements proposed to date and the issue of trade promotion authority (TPA), which expired on July 1, 2007. Under this authority, Congress grants the President the authority to enter into certain reciprocal trade agreements.[1] Currently, the United States is involved in multilateral negotiations in the Doha Development Agenda under the auspices of the World Trade Organization (WTO). On a regional level, the United States signed the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR), and is pursuing bilateral trade agreements with Malaysia, the United Arab Emirates, and Thailand. It has concluded agreements with Australia, Bahrain, Canada, Chile, Dominican Republic, Israel, Jordan, Mexico, Morocco, Oman, Peru, and Singapore, and the five countries of the Central American Common Market (Guatemala, Honduras, Nicaragua, El Salvador, and Costa Rica).[2] The United States also concluded free trade agreements with South Korea, Columbia, and Panama. The Obama Administration has initiated trade agreements with a broad collection of countries through the Trans-Pacific Partnership and with the Europe through the EU-U.S. Transatlantic Trade and Investment Partnership.

Building a broad-based public consensus on international trade issues often has proven to be difficult, especially as certain industries and labor groups within the economy have been adversely affected by international competition. Based on previous experiences with international trade agreements, members of Congress and the public may view proposed agreements with varying degrees of support and opposition. While few critics are likely to oppose outright all of the trade agreements being negotiated, critics are likely to oppose some aspects of the agreements, because certain groups within the economy will incur a disproportionate share of the adjustment costs associated with each trade agreement. Economists and others have developed economic models that utilize advanced techniques to assess the economic impact of trade agreements on the economy as a whole and on specific sectors within the economy. To help Congress evaluate the potential economic effects, this report examines a sampling of these studies and offers an assessment of the estimates they have generated.

An Overview of the Major Agreements

Multilateral Agreements

In November 2001, trade ministers from 142 member countries of the World Trade Organization met in Doha, Qatar to launch the 4th WTO ministerial. The Doha meeting succeeded primarily by agreeing to begin a new round of multilateral trade negotiations.[3] These negotiations are intended

[1] For additional information, see CRS Report RL33743, *Trade Promotion Authority (TPA) and the Role of Congress in Trade Policy*, by (name redacted) and (name redacted).

[2] For additional information and status of the current negotiations, see CRS Report RL33463, *Trade Negotiations During the 110th Congress*, by (name redacted).

[3] CRS Report RL32060, *World Trade Organization Negotiations: The Doha Development Agenda*, by Ian F. (continued...)

to build on agreements reached under the Uruguay Round of negotiations on trade in agriculture and trade in services, part of the WTO's already-established work program. For the United States, the chief goal of the negotiations is to improve market access in agricultural trade, primarily by eliminating agricultural export subsidies; easing tariffs and quotas; and reducing other forms of trade-distorting domestic support. In addition, the United States hopes to expand negotiations on trade in services and to reduce tariffs on industrial goods.

Selected CRS Products on Trade Issues

CRS Report RL30981, Panama: Political and Economic Conditions and U.S. Relations, by (name redacted).

CRS Report RL31356, Free Trade Agreements: Impact on U.S. Trade and Implications for U.S. Trade Policy, by (name redacted).

CRS Report RL31772, *U.S. Trade and Investment Relations with sub-Saharan Africa and the African Growth and Opportunity Act*, by (name redacted) and (name redacted).

CRS Report RL31932, *Trade Agreements: Impact on the U.S. Economy*, by (name redacted).

CRS Report RL32060, *World Trade Organization Negotiations: The Doha Development Agenda*, by (name redacted).

CRS Report RL34292, *Intellectual Property Rights and International Trade*, by (name redacted) and (name redacted).

CRS Report RL34330, *The U.S.-South Korea Free Trade Agreement (KORUS FTA): Provisions and Implications*, coordinated by (name redacted).

CRS Report R41306, *Trade Law: An Introduction to Selected International Agreements and U.S. Laws*, by (name reda cted).

CRS Report R42882, *International Trade and Finance: Key Policy Issues for the 113th Congress*, coordinated by (name re dacted) and (name redacted).

CRS Report R42468, *The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA DR): Developments in Trade and Investment*, by (name redacted).

CRS Report R42694, *The Trans-Pacific Partnership Negotiations and Issues for Congress*, coordinated by (name redacted).

A framework agreement on future negotiations was concluded in Geneva on August 1, 2004, but a new deadline for the completion of the talks was not set and the talks stalled in 2005. This framework was viewed hopefully, because it provides a blueprint for future negotiations on agriculture, non-agricultural market access, services and trade facilitation. The 6th Ministerial, which occurred in Hong Kong in December 2005, was seen by many as the last opportunity to settle key negotiating issues that could produce an agreement by 2007, the de facto deadline for the negotiations before the U.S. trade promotion authority expired. On April 21, 2006, WTO Director-General Pascal Lamy announced that WTO negotiators would not meet the April 30, 2006, deadline for reaching an agreement on a framework for further negotiations and that he had committed negotiators to six weeks of continuous talks to reach an agreement. Trade negotiators failed to reach an agreement during talks in Geneva from June 30-July 1, 2006, and the talks were indefinitely suspended. On January 1, 2007, however, Lamy announced that the talks were back in "full negotiating mode." Chairs of the agriculture and industrial market access negotiating groups offered draft modalities texts on July 17, 2007, that served to keep the differing parties to the negotiations engaged in the talks despite criticism from nearly all quarters over the texts. At the group of 20 (G-20) meetings of heads of state in South Korea in November 2010, the leaders

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agreed as part of the summit communiqué that they "recognize the importance of a prompt conclusion" of the Doha round of trade negotiations, but made no other firm commitments.

Regional Trade Agreements

U.S.-EU Transatlantic Trade and Investment Partnership

On February 13, 2013, President Obama and European Council President Van Rompoy would initiate negotiations on a Transatlantic Trade and Investment Partnership. The U.S.-EU trading relationship represents the largest economic relationship, accounting for half of global economic output. According to one study, the agreement potentially could result in increased trade and investment of over $270 billion a year divided between the United States and the European Union, as indicated in **Table 1**.[4] Since tariffs on trade between the U.S. and EU are already quite low, the increased gains are estimated to arise from reductions in non-tariff barriers (NTBs), primarily domestic regulations, depending on the extent to which such regulations would be eliminated. The report provides estimates of five potential agreements with varying levels of trade liberalization that range from improving EU gross domestic product (GDP) from $7 billion to $155 billion and U.S. GDP from $2 billion to $123 billion. The five scenarios include limited trade agreements that focus on eliminating remaining tariffs on goods, reducing barriers to services, and reducing restrictions to government procurement, and comprehensive agreements that focus on reducing non-tariff barriers by 10% and eliminating 90$ of all tariffs, and a comprehensive agreement that includes a 25% reduction in non-tariff barriers and the elimination of all tariffs. The report also includes projected estimates of improvements in bilateral trade between the EU and the U.S. under the five proposed scenarios and an increase in trade associated with a combination of greater bilateral and multilateral trade. According to the estimate, improvements in bilateral and multilateral trade associated with the agreement could boost EU GDP by $286 billion and U.S. GDP by $311 billion a year, or about an increase of 2% annually in U.S. GDP.

Table 1. Estimated Effects of U.S. Trade and Investment Agreement Under Different Levels of Liberalization

(in billions of dollars)

	Limited agreement: tariffs only	Limited agreement: services only	Limited agreement: procurement only	Comprehensive agreement: less ambitious	Comprehensive agreement: ambitious
Change in GDP					
European Union	$31	$7	$8	$89	$155
United States	12	10	2	64	123
Bilateral exports f.o.b.					
EU to US	57	6	9	140	243

[4] Francois, Joseph (project leader), Reducing Transatlantic Barriers to Trade and Investment: An Economic Assessment, Final Project Report, Centre for Economic Policy Research, London, March 2013.

US to EU	70	4	4	131	207
Total exports f.o.b.					
extra-EU	57	8	9	163	286
extra-US	75	7	8	185	311

Source: Francois, Joseph (project leader), Reducing Transatlantic Barriers to Trade and Investment: An Economic Assessment, Final Project Report, Centre for Economic Policy Research, London, March 2013.

Trans-Pacific Partnership Agreement (TPP)

On December 14, 2009, President Obama announced that his administration would enter into negotiations to pursue a free trade agreement with seven nations. The original seven nations included Australia, Brunei Darussalam, Chile, New Zealand, Peru, Singapore, and Vietnam. Canada, Malaysia, and Mexico have since joined in the negotiations. Japan is also considering joining the negotiations. With the addition of Canada and Mexico, but not Japan, the TPP countries represent the largest export market for U.S. goods and services, with exports totaling $895 billion in 2011, representing 60% of total U.S. goods exports. U.S. exports of agricultural products to the region totaled $98 billion in 2011, 72% of total U.S. agricultural exports. At this stage, it is too early to assess the impact of a potential agreement on U.S. trade or on the U.S. economy. The 17th round of negotiations is scheduled for May 15-24, 2013 in Lima, Peru.

Free Trade Area of the Americas (FTAA)

At the second Summit of the Americas in April 1998, 34 nations of the Western Hemisphere agreed to initiate formal negotiations to create a Free Trade Area of the Americas by 2005.[5] The negotiations initiated efforts in five areas (market access, agriculture, services, investment, and government procurement), but the negotiations stalled. The United States and Brazil attempted to broker a compromise by moving the negotiations away from a comprehensive, single undertaking toward a two-tier framework comprising a set of "common rights and obligations" for all countries, combined with voluntary plurilateral arrangements with country benefits related to commitments. This approach, however has proved elusive and five of the participants—Brazil, Argentina, Uruguay, Paraguay, and Venezuela—have blocked an effort to restart the negotiations.

U.S.-Southern African Customs Union Free Trade Agreement

In November 2002, the Bush Administration announced that it was pursuing negotiations for a free trade agreement with the Southern African Customs Union (SACU), comprised of Botswana, Namibia, Lesotho, South Africa, and Swaziland.[6] These negotiations reflect congressional interest in strengthening U.S. trade with Africa as expressed in the African Growth and Opportunity Act (P.L. 106-200). U.S. negotiators hope to gain reductions in tariffs and in non-tariff barriers in such areas as telecommunications, financial services, legal services, and the movement of personnel. The Southern African members had pressed for increased market access for goods not already covered by the Africa Growth and Opportunity Act, especially for textiles and apparel, footwear,

[5] CRS Report RS20864, *A Free Trade Area of the Americas: Major Policy Issues and Status of Negotiations*, by (name redacted).

[6] CRS Report RS21387, *United States-Southern African Customs Union (SACU) Free Trade Agreement Negotiations: Background and Potential Issues*, by (name redacted).

and agricultural products. After six rounds of talks, negotiations stalled and the December 2004 deadline for concluding the talks passed. The talks were deadlocked over differing views over the objectives of the talks and what sectors should be included for negotiation. Currently, the United States and SACU are continuing talks for a Trade, Investment, and Development Cooperation Agreement, which may lead to an eventual FTA. The United States has signed Trade and Investment Framework Agreements with Ghana, Liberia, Mauritius, Mozambique, Nigeria, Rwanda, and South Africa, as well as several regional groups. Also, the United States has signed Bilateral Investment Treaties with several Sub-Saharan African countries, including: Cameroon, Republic of the Congo (Brazzaville), Democratic Republic of the Congo (Kinshasa), Mozambique, and Senegal.

The Enterprise for ASEAN Initiative

On October 26, 2002, President Bush announced that the United States had begun negotiations with the Association of Southeast Asian Nations (ASEAN) under the Enterprise for ASEAN Initiative (EAI).[7] The initiative offered the prospect of bilateral trade agreements with the 10 ASEAN members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), Philippines, Singapore, Thailand, and Vietnam). Since the EAI was announced, the United States concluded FTAs with Singapore and initiated agreements with Thailand and Malaysia. The United States concluded a Trade and Investment Framework Agreement (TIFA) with ASEAN in August 2006. In addition, the United States has expressed interest in joining the Trans-Pacific Strategic Partnership Agreement (TPP), which currently includes Brunei, Chile, New Zealand, and Singapore. Australia, Peru, and Vietnam have also expressed interest in joining the agreement. Two-way trade between the United States and ASEAN reached $182 billion in 2008.

U.S.-Andean Free Trade Agreement

The Bush Administration initiated talks with the four Andean countries—Colombia, Peru, Ecuador, and Bolivia—in November 2003 to reduce and eliminate barriers to trade and investment.[8] Negotiations began in May 2004, but the talks failed to reach a conclusion. As a result, Peru decided to continue negotiating with the United States without Colombia or Ecuador, and concluded a bilateral agreement in December 2005, referred to as the U.S.-Peru Trade Promotion Agreement. Separate talks continued with Colombia and concluded successfully on February 27, 2006. Prospects for FTAs with Brazil, Argentina, Ecuador, Bolivia, and Venezuela appear unlikely.

Central American Free Trade Agreement—Dominican Republic

The Bush Administration signed an agreement with the five Central American Common Market nations—Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua—on August 5, 2004.[9] President Bush signed the agreement into law on August 2, 2005 (P.L. 109-53). All countries except Costa Rica and the Dominican Republic had ratified the agreement by that time. The

[7] See http://www.whitehouse.gov/news/releases/2002/10/20021026-7.html

[8] CRS Report RL32770, *Andean-U.S. Free-Trade Agreement Negotiations*, by (name redacted).

[9] CRS Report RL31870, *The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR)*, by (name redacted).

agreement later went into effect with the Dominican Republic on March 1, 2007 and with Costa Rica on January 1, 2009, after it had adopted the necessary regulatory and legal framework.

Many supporters have viewed the Dominican Republic-Central American Free Trade Agreement (CAFTA) as a stepping stone toward completing a Free Trade Area of the Americas. U.S. negotiators hope to assist U.S. firms and workers by reducing tariffs on U.S. merchandise exports, and by reducing barriers to e-commerce, services, and intellectual property trade. The U.S. also hopes to use the agreement to improve the participants' commitment to the World Trade Organization's General Agreement on Trade in Services (GATS) and to define better the rules on transparency. The Central American participants are aiming to deepen their already strong trade relationship with the United States and to improve access for their textile and apparel products to the U.S. market.

Completed Bilateral Trade Agreements

U.S.-Australian Free Trade Agreement

The United States and Australia concluded a bilateral free trade agreement on February 8, 2004. The agreement was signed by the President on August 3, 2004 (P.L. 108-286) and took effect January 1, 2005. For the United States, the agreement lowered Australian tariffs on most U.S. exports of manufactured goods and agricultural products and will ensure nondiscriminatory treatment in most areas of bilateral trade in services, government procurement, foreign investment, and improved protection for intellectual property rights. For Australia, the agreement lowers tariffs on U.S. imports of Australian beef, dairy, cotton, and peanuts, but provides no change in access to sugar producers. Various U.S. agricultural interests, including beef, dairy, and sugar producers, opposed the negotiations, because of Australia's large, and competitive, agricultural sector. At $14 billion in 2004, Australia is the 15th-largest market for U.S. exports and, at $7 billion, Australia is the 30th-largest importer to the United States.

U.S.-Bahrain Free Trade Agreement

On September 14, 2004, the United States and Bahrain concluded negotiations for a free trade agreement.[10] The President signed the agreement into law on January 11, 2006 (P.L. 109-169). The Administration views the agreement as a first step toward an eventual Middle East Free Trade Area by 2013. Bahrain has a Bilateral Investment Treaty with the United States and a Trade and Investment Framework Agreement. The agreement will eliminate tariffs on all consumer and industrial product exports to Bahrain and eliminate tariffs on 98% of all U.S. agricultural products with a 10-year phase out for the remaining items. Textiles and apparel trade will be duty free if the product contains either U.S. or Bahrainian yarn. U.S. services providers will have among the highest degree of access to service markets in Bahrain of any U.S. FTA to date in such areas as audiovisual, express delivery, telecommunications, computer and related services, distribution, healthcare, and services incidental to mining, construction, architecture, and engineering. U.S. financial services and life and medical insurance providers will also have access to Bahrain's economy.

[10] CRS Report RS21846, *U.S.-Bahrain Free Trade Agreement*, by (name redacted).

U.S.-Chile Free Trade Agreement

On June 6, 2003, the United States and Chile signed a bilateral free trade agreement.[11] The agreement was signed by the President on September 3, 2003 (P.L. 108-77), and became effective on January 1, 2004. For the United States, trade with Chile accounts for less than one percent of U.S. overall trade, but the agreement is significant because it is the first such agreement with a South American country. The main U.S. objectives were accomplished by gaining market access and reduced tariff rates for U.S.-made goods. In time, all goods traded between the two countries will receive duty-free access. Under the agreement, 85% of bilateral trade in consumer and industrial products is eligible for duty-free treatment, with other product tariff rates being reduced over time. About 75% of U.S. agricultural exports will enter Chile duty-free within four years and all duties will be fully phased out within 12 years after implementation of the agreement. For Chile, 95% of its exports gain duty-free status immediately and only 1.2% fall into the longest 12 year phase out period. Other critical issues that were resolved include environment and labor provisions, more open government procurement rules, increased access for services trade, greater protection of U.S. investment and intellectual property.

U.S.-Moroccan Free Trade Agreement

President Bush signed the United States-Morocco Free Trade Agreement (P.L. 108-302) on August 3, 2004. The agreement entered into force on January 1, 2006, after the Moroccan parliament ratified the agreement and King Mohammed VI signed it.[12] The agreement is intended to strengthen economic ties between the United States and Morocco and to show support for Morocco's position as a moderate Arab state. Morocco's agriculture sector is highly protected and should offer opportunities for U.S. business investment and U.S. exports. In particular, U.S. trade officials expect that reductions in Morocco's 20% tariff rate called for by the agreement should increase U.S. exports to the country, especially exports of such items as wheat, soybeans, feed grains, beef, and poultry. Business leaders also expect that the agreement will increase U.S. investment in Moroccan telecommunications and tourism as well as in the fields of energy, entertainment, transport, finance, and insurance. U.S. exports of information technology products, construction equipment, and chemicals are expected to benefit. Morocco is looking for increased access to the U.S. market, especially for Morocco's citrus products, textiles, and apparel goods.

U.S.-Oman Free Trade Agreement

The Bush Administration notified Congress in November 2004 that it would begin negotiations on a free trade agreement with the United Arab Emirates (UAE) and Oman. Talks began on March 8, 2005, with the UAE and on March 12, 2005, with Oman. The President signed an agreement with Oman on January 19, 2006. The Senate passed implementing legislation on June 29, 2006 (S. 3569), and the House passed the legislation (H.R. 5684) on July 20, 2006. Following the House action, the Senate re-passed the implementing legislation under the House number on September 19, 2006, and it became P.L. 109-283, when President Bush signed the law on September 26, 2006.

[11] CRS Report RL31144, *The U.S.-Chile Free Trade Agreement: Economic and Trade Policy Issues*, by (name redacted).

[12] CRS Report RS21464, *Morocco-U.S. Free Trade Agreement*, by (name redacted).

U.S.-Peru Trade Promotion Agreement (PTPA)

On January 16, 2009, President Bush signed a proclamation to implement the U.S.-Peru Trade Promotion Agreement as of February 1, 2009.[13] The Agreement eliminates duties on 80% of U.S. exports of consumer and industrial products to Peru. An additional 7% of U.S. exports will receive duty-free treatment within five years of implementation. Remaining tariffs will be eliminated ten years after implementation. The United States has extended duty-free treatment to imports from Peru under the Andean Trade Preference Act, which is set to expire on December 31, 2009. The PTPA is expected to have a small effect on the U.S. economy, because U.S. trade with Peru accounts for a small percent of total U.S. trade. The dominant import from Peru is copper, followed by petroleum and other oils and related products. The leading U.S. export item to Peru is petroleum oils and related products, followed by wheat and meslin.

U.S.-Singapore Free Trade Agreement

On September 4, 2003, President Bush signed the U.S.-Singapore Free Trade Agreement (P.L. 108-78) into law.[14] This agreement is the first of its kind for the United States with an Asian country and sparked a debate over whether the United States should pursue such bilateral agreements or pursue greater liberalization of trade relations through regional or multilateral forums. Both Singapore and the United States had few remaining restrictions on their overall trade activities, so the economic impact of this particular FTA is expected to be small for the United States. Nevertheless, the agreement eliminates, with a phase-in period, tariffs on all goods traded between the two countries, covers trade in services, and protects intellectual property rights.

The areas that are affected the most are U.S. exports of chewing gum and distilled spirits and imports of textiles and apparel. Industry analysts expect that U.S. textile and apparel producers will experience few direct economic effects from this agreement, but there has been a sharp division of views among industry representatives regarding the agreement's rules of origin governing trade in apparel goods. Apparel producers argue that the rules of origin on apparel are restrictive and have been made worse through the agreement by additional complications and burdens that discourage trade in apparel. The AFL-CIO opposed the agreement, because it argued that the agreement would not sufficiently protect core worker rights.

In the area of services, the agreement should improve U.S. market access across a broad range of sectors. U.S. banks, insurance companies, and securities and financial services companies are looking to expand in Singapore's market. The agreement also liberalizes controls over express delivery service and such professional service providers as lawyers, engineers, and architects. In addition, the agreement eases restrictions on telecommunications services, e-commerce, foreign investment, intellectual property rights, and government procurement.

[13] CRS Report RL34108, *U.S.-Peru Economic Relations and the U.S.-Peru Trade Promotion Agreement*, by (name redacted).

[14] CRS Report RL31789, *The U.S.-Singapore Free Trade Agreement*, by (name redacted).

U.S.-Colombia Free Trade Agreement

On February 6, 2006, the United States and Colombia announced that they had concluded negotiation of a free trade agreement. The agreement is comprehensive and would eliminate tariffs and other barriers in goods and services trade between the two countries. Similar to the U.S.-Peru FTA, the U.S.-Colombia agreement would eliminate duties on 80% of U.S. exports of consumer and industrial products to Colombia immediately upon implementation. An additional 7% of U.S. exports would receive duty-free treatment within five years and all remaining tariffs would be eliminated within ten years of implementation. Implementing legislation was adopted by Congress on October 12, 2011.

U.S.-South Korea Free Trade Agreement

The Bush Administration notified Congress on February 3, 2006, of its intent to begin formal negotiations on a free trade agreement with South Korea. On February 12, 2007, the negotiators had completed the seventh round of talks. For U.S. negotiators, the most difficult part of the talks is in contending with South Korea's well-protected agricultural sector, non-tariff barriers in the automotive and other manufacturing sectors, and status of products made at the Kaesong industrial complex, an industrial zone in North Korea set up by South Korean manufacturers. For the South Koreans, major sticking points are U.S. protection of textiles and apparel producers. The Obama Administration did not submit the proposed agreement for approval in the 111th Congress due to opposition from U.S. automakers and beef producers. In early December 2010, U.S. trade negotiators won further concessions on autos from the South Korean government. Implementing legislation was adopted by Congress on October 12, 2011.

U.S.-Panama Free Trade Agreement

The Bush Administration began formal negotiations with Panama on April 25, 2004, in Panama City, Panama.[15] The negotiations progressed quickly and an agreement was signed on June 28, 2007. The United States sought reductions in tariffs and other barriers to U.S. industrial, agricultural, and consumer goods, and wanted to define rules for services trade, investment, government procurement, intellectual property rights, and dispute resolution mechanisms. U.S. labor groups have challenged Panama's labor conditions, laws, enforcement efforts, and the language of the FTA. Panama is seeking to solidify its access to U.S. markets for agricultural goods, textiles and apparel, but already receives considerable benefits from the Caribbean Basin initiative's (CBI) unilateral trade preferences of the United States and is among the largest recipients of U.S. foreign direct investment in Latin America. Implementing legislation was adopted by Congress on October 12, 2011.

[15] CRS Report RL32540, *The U.S.-Panama Free Trade Agreement*, by (name redacted)*The Proposed U.S.-Panama Free Trade Agreement*, by (name redacted).

Pending Bilateral Trade Agreements

U.S.-Malaysia Free Trade Agreement

Negotiations with Malaysia began on March 8, 2006; the fifth round of the talks occurred during the week of February 5, 2007.[16] In October 2010, Malaysia joined the negotiations over the Trans-Pacific Partnership to become the ninth member (including the United States) in the negotiations. The United States is seeking the removal of import licensing restrictions on motor vehicles, removal of government procurement restrictions, increased protection for intellectual property rights (IPR), liberalized financial services, and negotiations on a broad range of services.

U.S.-Thailand Free Trade Agreement

The United States and Thailand began formal negotiations on a free trade agreement on June 28, 2004, in Hawaii. Negotiations with Thailand were suspended in 2006 following the dissolution of the Thai Parliament and the subsequent military-led coup. The Bush Administration argued that the agreement was meant to be comprehensive and seek to liberalize trade in goods, agriculture, services, investment, and intellectual property rights. In particular, the Administration said that the agreement was meant to promote U.S. exports, primarily benefitting U.S. farmers and the auto and auto parts industries, would protect U.S. investment, and would advance the Enterprise for ASEAN Initiative. Other issues that likely could be negotiated include government procurement, competition policy, environment and labor standards, and customs procedures. The United States is Thailand's largest market, which accounts for 20% of Thailand's exports.

U.S.-United Arab Emirates Free Trade Agreement

The Bush Administration notified Congress in November 2004 that it would begin negotiations on a free trade agreement with the United Arab Emirates (UAE) and Oman. Talks began on March 8, 2005, with the UAE and on March 12, 2005, with Oman. Worker protection issues have presented a major hurdle, because the UAE relies heavily on guest workers and it places restrictions on the right to strike or organize. The Administration hopes that an agreement will build on agreements that have been signed with other nations in the area (Israel, Jordan, Morocco, Bahrain, and Oman) and will encourage a movement toward more open trade and more investment.

Trade Liberalization and the Gains From Trade

In the current highly globalized economy, international trade has come to represent a complex set of transactions. Nations not only trade goods and services, but they also trade a broad range of financial products. In addition, liberalized capital flows and floating exchange rates have greatly expanded the amount of capital that flows between countries. Basically, trade represents an exchange of goods or services between two or more willing parties. Such trade allows nations to use their resources more efficiently in order to maximize the total amount of goods and services that are available to their citizens, a common definition of a nation's standard of living. As a

[16] CRS Report RL33445, *The Proposed U.S.-Malaysia Free Trade Agreement*, by (name redacted).

result of this maximization process, nations trade because it serves their national interests. In the same way that individuals gain by specializing in activities that use their strongest skills and then trade with others, nations specialize in the production of certain goods and then trade with other nations for the goods they do not produce. Essentially, nations export in order to import goods and services they do not produce, or cannot produce efficiently. While it is not always possible to measure the effects of international trade precisely, most economists believe that the net effect of international trade on the national economy as a whole is positive, i.e., that the total gains exceed the total costs.

Production Gains

International trade is one among a number of forces that determine the complex makeup of jobs, industries, wages, and products in the economy. For the United States, international trade alone does not determine economic expansions or contractions, the level of income, the level of national output, the overall wage rate, or even have much of an impact on the distribution of income.[17] **Table 2** shows the major components of U.S. Gross Domestic Product (GDP), the broadest measure of the output of goods and services during a year and averages over recent periods. By convention, these components are comprised of the household sector, or personal consumption, business investment, or gross private domestic investment, changes in inventories, the government sector, and the net export sector, or the net of U.S. exports of goods and services and the imports of goods and services. During the recent economic recession and financial market crisis, personal consumption has remained relatively stable at about 70% of GDP, while business investment decreased as a share of annual economic activity to 11.8% compared with previous periods during which such investment accounted for about 16.0% of GDP and had not recovered its share of economic activity by the end of 2012. The share of GDP attributed to federal and state governments increased slightly during the 2009-2011 period, but declined overall as a share of GDP by the end of 2012.

As the data indicate, U.S. exports of goods have increased as a share of domestic economic activity from about 8% of total U.S. GDP over the past 10 years to nearly 14% during 2012. In addition, exports in 2012 accounted for $2.2 trillion, compared with the size of the overall economy of $15.9 trillion. Trade liberalization, however, by reducing foreign barriers to U.S. exports and by removing U.S. barriers to foreign goods and services, strengthens those industries that are the most competitive and productive and to reinforce the shifting of labor and capital from less productive endeavors to more productive economic activities.

[17] Gottschalk, Peter, and Timothy M. Smeeding, Cross-National Comparisons of Earnings and Income Inequality. *Journal of Economic Literature*, June 1997. p. 645.

Table 2. Major Components of U.S. Gross Domestic Product

(Expressed as percent share of total GDP)

	2000-2004	2005-2008	2009-2011	2012	2012-I	2012-II	2012-III	2012-IV
Gross domestic product	100.0%	100.0%	100.0%	100.0	100.0	100.0	100.0	100.0
Personal consumption	69.6	69.8	70.7	70.9	71.1	71.0	70.5	70.9
Gross private domestic investment	16.3	16.4	11.8	13.1	13.1	13.1	13.2	13.2
Change in private inventories	0.2	0.2	0.2	0.4	0.5	0.4	0.5	0.1
Net exports of goods and services	-4.3	-5.3	-3.4	-3.6	-4.0	-3.7	-3.3	-3.3
Exports	10.0	11.0	12.6	13.9	13.9	14.0	13.9	13.8
Goods	7.0	8.0	8.7	9.8	9.9	9.9	9.8	9.7
Services	3.0	3.0	3.9	4.1	4.1	4.1	4.1	4.1
Imports	14.2	16.8	16.0	17.5	17.9	17.7	17.2	17.2
Goods	11.9	14.1	13.2	14.6	15.0	14.8	14.3	14.3
Services	2.3	2.7	2.8	2.9	2.9	2.9	2.9	2.8
Government consumption	18.4	19.2	20.9	19.5	19.7	19.6	19.6	19.2
Federal	6.4	7.1	8.2	7.7	7.8	7.8	7.9	7.5
State and local	12.0	12.1	12.6	11.8	11.9	11.8	11.7	11.7

Source: Department of Commerce, Bureau of Economic Analysis.

Adjustment Costs

Economists have long recognized that the long-term production gains associated with greater specialization in the economy create a wide range of short-term adjustment costs as labor and capital are shifted from less efficient industries and activities into more efficient industries and activities. These adjustment costs are difficult to measure, but they are potentially large over the short run and can entail significant dislocations for some segments of the labor force, for some companies, and for some communities. In negotiating trade agreements, governments are most mindful of the adjustment costs involved and, at times, are constrained in their ability to fashion such agreements because of opposition by groups within the economy that will bear heavy costs from trade liberalization. These costs are especially acute for labor groups within the economy that lack advanced education and training skills that provide them with the means necessary to be redeployed in other sectors of the economy.

Consumption Gains

Economists generally agree that consumption gains for consumers comprise the largest long-term gains for an economy that arise from international trade and, therefore, from any reduction of trade barriers. Trade models attempt to estimate these effects indirectly. A change in trade policies should lead to changes in prices for traded goods and, therefore, in consumers' real incomes, as well as to changes in the efficiency of production, which will also improve a nation's overall economic welfare. Consumption gains mean that consumers benefit from international trade by having a broader selection of goods and services available to them at lower prices than are available from purely domestic production. Also, the wider array of product selection likely enhances consumer well-being, because the competition that arises from international trade also affects the quality of the goods and services that are available. In some cases, this means that consumers have a choice of different levels of quality and that they can acquire not only the particular type of good they desire, but also the level of quality they desire. Since international trade encourages specialization, the production gains from trade also mean that consumers are offered a greater selection of prices for the goods they consume. If consumers choose lower-priced goods, their real incomes rise, which allows them to consume an even broader assortment of goods and services, and it expands national incomes.

Economic Growth

In addition to the "static" gains from trade described above, a growing body of research suggests that trade potentially plays a dynamic role in the economy. The full range of these effects are difficult for trade models to capture because they extend beyond the estimation time-frame of the models. Research into dynamic trade models concludes that there are important feedback effects and channels through which trade can alter the structure of markets and the rate of economic growth over the long run. By stimulating trade and investment, trade liberalization could add to these feedback effects. The literature on dynamic trade models concludes that free trade, or trade liberalization, alters all participants' rate of economic growth through a number of channels, including improved access to specialized capital goods; human capital accumulation, learning-by-doing, and the transfer of skills; and the introduction of new products.[18] These activities alter the rate of economic growth by changing the incentives for firms to invest in research and development—technical change—which, in turn, leads to permanent changes in the rate of economic growth. In assessing this body of research, a U.S. International Trade Commission study asserted that, "formal empirical application of the new growth theory in a trade context has barely started," but that "the dynamic effects of trade policy changes can yield substantially larger estimates than those based on static models."[19]

[18] Krugman, Paul R. *Rethinking International Trade*. Cambridge, The MIT Press, 1990; Romer, Paul M. Capital, Labor, and Productivity. *Brookings Papers on Economic Activity: Microeconomics 1990*. Washington, the Brookings Institution. p. 337-367; Romer, Paul M. Increasing Returns and Long-Run Growth. *Journal of Political Economy*, October 1986. p. 1002-1037; Grossman, Gene M., and Elhanan Helpman. *Endogenous Product Cycles*. Cambridge, National Bureau of Economic Research, March 1989. (Working Paper No. 2913).

[19] *The Dynamic Effects of Trade Liberalization: A Survey*. Washington, United States International Trade Commission. (USITC Publication 2608). February, 1993. p. 11.

Estimating the Economic Impact of Trade Agreements

Overview

The stakes involved in liberalizing trade are potentially very large for some groups and for some countries. As a result, economists have attempted to analyze the economic effects of removing barriers to trade in goods and services and to derive monetary values for those effects. Nevertheless, estimating the economic impact of trade agreements is a daunting task, due to a lack of data and important theoretical and practical matters associated with generating results from economic models. In addition, such estimates provide an incomplete accounting of the total economic effects of trade agreements. In a dynamic economy such as the United States, jobs are constantly being created and replaced as some economic activities expand, while others contract, reflecting broad macroeconomic developments. In this process, various industries and sectors evolve over time at different speeds, reflecting differences in technological advancement, productivity, and efficiency. Those sectors that are the most successful in developing or incorporating new technological advancements generate greater economic rewards and are capable of attracting greater amounts of capital and labor. In contrast, those sectors or individual firms that lag behind are less capable of attracting capital and labor and confront ever-increasing competitive challenges. Indeed, depending on the overall state of the economy, some sectors may need to relinquish some capital and labor in order for others sectors to grow to avoid economic stagnation. Also, advances in communications and technology have facilitated a global transformation of economic production into sophisticated supply chains that span national borders and defy traditional concepts of trade that potentially could involve a greater share of the labor force in trade-related activities.[20] How firms respond to these challenges likely will determine their long-term viability in the market place.

Although discussions of trade agreements often focus on potential employment gains or losses, most economists argue that such employment estimates represent a partial accounting of the total economic effects of trade agreements and, therefore, do not perform well as an indicator of the overall impact of the agreement on the economy. Estimating such employment effects is imprecise and highly sensitive to the assumptions that are used.[21] In addition, while trade agreements generally are comprehensive in nature and cover goods, services, and investment, most employment estimates focus narrowly on the goods sector and do not adequately represent the total impact of the agreements. It is difficult to estimate precisely the employment effects associated with liberalizing trade in services and reducing or eliminating barriers to investment flows. Trade in services, in particular, is characterized by a broad array of formal and informal barriers that challenge efforts to translate the barriers into tariff-equivalent values. Negotiations to reduce barriers to trade in services, however, potentially could have a very large and positive effect on the U.S. economy, since the United States is highly competitive in a number of services sectors and U.S. direct investment abroad often spurs exports.

[20] See CRS Report R40167, *Globalized Supply Chains and U.S. Policy*, by (name redacted).

[21] Hertel, Thomas, David Hummels, Maros Ivanic, and Roman Keeney, *How Confident Can We Be in CGE-Based Assessments of Free Trade Agreements?*, GTAP Working Paper No. 26, March 2004; Brockmeier, Martina, A *Graphical Exposition of the GTAP Model*, GTAP Technical Paper No. 8, March 2001.

Finally, estimates of employment arising from FTAs, by themselves, do not account for a broad range of benefits for the economy as a whole. For example, FTAs may provide individual consumers and firms with broader economic benefits and yield broad productivity and efficiency gains for the economy over the long run that may enhance employment. While most economic trade models attempt to model consumer and corporate behavior associated with changes in incomes and prices, the results of the models depend on a number of factors, including the way changes in prices are passed along to consumers. Most estimates generally assume that the changes in tariffs and, therefore, changes in the prices of goods, will be adopted at the time the agreement is signed and then the annual changes in traded goods are aggregated over ten years. In fact, in most trade agreement, some tariffs will drop to zero immediately, while others will be implemented in tariff reduction stages over ten years, with the impact on prices accruing over time. In the models, expected changes in the trade in services generally are treated as exogenous factors and must be specified outside the model itself.

Trade models of the type used in analyzing free trade agreements are part of a class of economic models referred to as computable general equilibrium models (CGE) that incorporate data on trade and a range of domestic economic variables on nearly 100 countries. As a result of this large number of countries, and the vast amounts of data that are a part of the model, the models can provide important insights into the mechanisms by which changes in tariffs or other parameters can affect a range of countries. For practical reasons, however, the data in the models must be limited, so the models necessarily must sacrifice some level of precision in their estimating abilities. Since such trade models originally were developed with the intent of analyzing the economic effects of multi-country trade agreements such as the Uruguay Round, this lack of precision was not considered to be an important drawback. However, this lack of precision may be an issue when the models are used to estimate the effects of bilateral trade agreements where the overall amount of trade and, therefore, the impact of the agreement, is expected to be less than that of a comprehensive multilateral agreement. In addition, such models do not account explicitly for changes in exchange rates, since such effects were considered to be neutral in a large multi-country trade agreement. Movements in exchange rates could also have an important impact on trade patterns that involve countries that are parties to a bilateral trade agreement.

The most common approach to estimating these effects generally involves some basic economic concepts and involves making a number of assumptions. Trade agreements, it is assumed, lower the rate of tariffs either across the board on all goods, or on a particular set of goods. As a result of the lower tariffs, it is assumed that the prices of goods will fall, which will then result in consumer demand shifting in favor of the lower-priced goods. This shifting of demand is termed trade diversion and results from the assumption that consumers are entirely indifferent among similar types of goods, so that goods from countries that are a part of the trade agreement are perfectly substitutable for similar goods from other countries. In fact, the way consumers choose among competing goods is highly complex and may well involve more factors than simply the prices of goods. In addition, changes in tariffs that give rise to changes in the prices of goods can also affect the real incomes of consumers and result in an increase in consumption of all goods, generally termed trade creation. The secondary and other effects of trade agreements may well involve a broader array of goods and suppliers from countries other than those that are a party to the trade agreement. These effects of trade agreements often are overlooked in estimating the impact of trade agreements due to the complexity involved.

Quantifying the relationship between international trade and the composition of employment in the economy is especially problematical and complex. For the United States, international trade is not the primary force creating employment in the economy. While trade agreements with specific

countries may well benefit certain sectors of the economy, their effect is dubious as an employment program for the economy as a whole. In addition, changes in exchange rates and in the business cycle can affect the overall state of the economy in ways that can outweigh the effects of trade agreements, given the already highly open state of the U.S. economy. Also, significant gaps in data, particularly relative to the services sector, hinder the ability to model the effects of trade agreements that lower barriers to trade in services. These gaps are important, because the services sector accounts for 69% of output and 68% of full- and part-time employment in the U.S. economy and increased trade in services offer potentially large gains for the U.S. economy.

In addition, concerns over the impact of a trade agreement on employment often focus on a comparison of labor compensation rates between countries. For instance, some groups in the United States are concerned that U.S. employment could be negatively affected because labor compensation rates, in general, are lower in many developing economies. Measures of competitiveness, however, reflect not only the rate of labor compensation, but the rate of compensation relative to the level of productivity. Rates of labor compensation in the United States could be many multiples of that of another country, but as long as U.S. workers remain more productive than workers elsewhere, U.S. goods would continue to be competitive in the global marketplace. In general, most estimates of employment effects do not incorporate measures of productivity in their analysis.

The Michigan Model and Estimates

One well-known and often-referenced general equilibrium model used frequently to analyze the economic effects of changes in trade policy is the model maintained by economists Drusilla Brown, Robert M. Stern, and Alan V. Deardorff at the University of Michigan.[22] In a recent study, Brown, Stern, and Deardorff used the model to estimate the economic effects on the United States of trade negotiations in the multi-country Doha Development Round and various proposed regional and bilateral trade agreements. In each scenario, the trio begin by using available data to develop a base estimate of the present level of trade. Next, they adjust the model to reflect some basic assumptions about how trade negotiations will reduce barriers to trade and then use these estimates to make an adjusted projection of major macroeconomic data. The difference between the initial set of data on the economy and the projected macroeconomic data that reflects anticipated changes in the economy as a result of trade negotiations gives rise to the numerical estimates of the effects of trade negotiations on trade, employment, industrial composition, and other macroeconomic data. One important drawback to the estimates derived by Brown, Deardorff, and Stern, and others is that the general equilibrium models used to derive most of the estimates of trade liberalization do not capture the adjustment costs that inevitably arise from trade liberalization. As a result, the data generated by the models represent the positive effects of changes in trade rules, but not the overall net effects—positive and negative—of trade liberalization.

[22] Now known as the Michigan Brown-Deardorff-Stern Model, the Michigan Model of World Production and Trade includes data on 29 industrial sectors for 18 industrialized countries and 16 newly industrialized and developing countries.

Using the technique described above, Brown, Stern, and Deardorff developed estimates of the impact on the U.S. economy of reaching an agreement on the various components of the Doha Development round. They adopted a number of key assumptions, including an assumption that the negotiations will result in a 33% reduction in the barriers to trade in agriculture, manufactures, and services, which is projected to give rise to a combined increase in economic activity of $164 billion in the U.S. economy, as indicated in **Table 3**.[23] This and the other estimates used in this report that were derived by the Michigan model estimated a permanent change in economic activity between the "before" and "after" states of the economy and should not be considered either as an annual change in economic welfare or as an annual amount that can be accumulated over time. Brown, Stern, and Deardorff also projected the impact on the United States if all barriers to trade worldwide were removed unilaterally, which they estimate at $497 billion. With current U.S. gross domestic product (GDP) of over $13 trillion, the monetary gains for the U.S. economy associated with the above estimates of trade liberalization would be less than 1.5% and 4.5% of GDP, respectively.

A small decline in U.S. welfare in the agricultural sector reflects reductions in agricultural import tariffs, export subsidies, and production subsidies. In this formulation, these reductions produce offsetting effects in the agricultural sector itself,[24] but they induce slightly negative effects on other sectors in the economy as a result of changes in prices for agricultural goods and for the U.S. terms of trade (prices of exports relative to prices of imports). Gains in the manufacturing sector arise from reduced foreign tariffs on U.S. manufactured goods exports, which increases U.S. exports and domestic manufacturing output and improves production efficiency. These gains also represent a shift of capital within the economy from less productive activities into manufacturing areas that are more productive and capital flows from abroad in the form of foreign direct investment. The large gains indicated in the services sector reflect the relatively high level of foreign barriers U.S. exporters presently face in this sector and the high level of U.S. competitiveness in this sector.

Table 3. Estimated Economic Effects on the United States of a 33% Reduction in Barriers to Trade in Agriculture, Manufactures, and Services at the Doha Development Round

(in $ U.S. billions)

Agricultural Protection	Manufactures Tariffs	Services Barriers	Combined
$-7.23	$36.52	$134.75	$164.04

[23] Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Multilateral, Regional, and Bilateral Trade-Policy Options for the United States and Japan*. Research Seminar in International Economics, Discussion Paper No. 490, The University of Michigan, December 16, 2002. Table 1; and Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Computational Analysis of Multilateral Trade Liberalization in the Uruguay Round and Doha Development Round*. Research Seminar in International Economics, Discussion Paper No. 489, The University of Michigan, December 8, 2002.

[24] Reducing agricultural import tariffs lowers import prices and spurs the substitution of imports for domestic production, causing the domestic industry to contract. The extent of this contraction would depend on whether the tariff reduction in the U.S. sector was more or less than in other countries. Reducing export subsidies lowers world prices; similarly, reducing production subsidies raises prices. The net of these effects depends on the extent of tariffs and subsidies in the domestic economy prior to reduction and on reductions in domestic tariffs and subsidies relative to similar reductions abroad.

Source: Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Multilateral, Regional, and Bilateral Trade-Policy Options for the United States and Japan*. Research Seminar in International Economics, Discussion Paper No. 490, The University of Michigan, December 16, 2002. Table 1.

In a process similar to that described above, Brown, Stern, and Deardorff estimate the impact on the U.S. economy of various regional and bilateral trade agreements, as indicated in **Table 4**. As expected, bilateral trade arrangements would produce modest gains for the U.S. economy as a whole, given the smaller value of a bilateral trade relationship for the U.S. economy. These arrangements are expected to be of greater importance to the trading partners because of the size of their trade with the United States relative to the size of their overall level of trade and the size of their respective economies. Trade agreements with Chile, Singapore, Australia, Morocco, and South Korea, for instance, are estimated to result in trade benefits for the U.S. economy of $4 billion, $17 billion, $19 billion, $6 billion and $30 billion, respectively. A free trade agreement with the 21 nations that comprise the Asia-Pacific Economic Association Cooperation is projected to offer economic benefits of $244 billion for the United States and surpass those of the Doha round, most likely because free trade agreements tend to be more comprehensive in terms of the number of industrial and services sectors that are involved compared with the WTO negotiations. An agreement with ASEAN is projected to yield benefits of $13 billion, while a Free Trade Agreement of the Americas (FTAA) would give rise to an estimated $68 billion in economic benefits.[25] An agreement with the Southern African Customs union would be expected to yield $12.6 billion in trade benefits to the United States.[26]

Table 4. Estimated Economic Effects on the United States of Free Trade Agreements with Various Trading Partners

(in $ U.S. billions)

APEC FTA	ASEAN FTA	Free Trade Agreement of the Americas (FTAA)	Chile FTA	Singapore FTA	Korea FTA
$244.25	$12.98	$67.59	$4.41	$17.5	$30.1

SACU FTA	CAFTA	Australia FTA	Morocco FTA
$12.61	$17.26	$19.39	$5.97

Source: Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Multilateral, Regional, and Bilateral Trade-Policy Options for the United States and Japan*. Research Seminar in International Economics, Discussion Paper No. 490, The University of Michigan, December 16, 2002. Table 3. Updated estimates are from: Brown, Drusilla K, Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the Free Trade Area of the Americas (FTAA)*. Research Seminar in International Economics, Discussion Paper No. 508, the University of Michigan, revised February 5, 2005. Brown, Drusilla K, and Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the U.S. FTAs With Central America, Australia, and Morocco.* Research Seminar in International Economics, Discussion Paper No. 507, Revised January 31, 2005. Brown, Drusilla K., Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the U.S.*

[25] According to authors of the study, the estimated economic effects of the FTAA should be considered as the most positive effects that are possible under the proposed terms of the agreement. These effects are expected to accrue over a considerable period of time and that the process of negotiations could be hampered by less than full compliance on the part of some of the members of the FTAA.

[26] Brown, Drusilla K., Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the U.S. FTA With the Southern African Customs Union (SACU)*. Research Seminar in International Economics, Discussion Paper No. 545, May 31, 2006.

FTA With the Southern African Customs Union (SACU). Research Seminar in International Economics, Discussion Paper No. 545, May 31, 2006.

The Michigan model incorporates an input-output model for each economy in the model. Input-output accounts trace the flow of input commodities into the production processes of industries, the flow of intermediate goods between industries, and the flow of output from industries to final uses in the economy. This approach provides an estimate of the magnitude of employment effects that might be expected and a view of the possible job gains and losses across industrial sectors in the economy, as indicated in **Table 5** and **Table 6**. In the approach used by Brown, Stern, and Deardorff, it is assumed that job losses will be perfectly offset by job gains, so that the data in **Table 5** and **Table 6** are not projections of the job losses and job gains for each sector. Instead, the model provides an estimate of the relative magnitude of employment effects that might be experienced in various industries, thereby identifying those industries that are most vulnerable to increased competition as a result of trade liberalization.

According to this approach, global free trade, or trade without restrictions, would add jobs to the U.S. agricultural sector, but reduce jobs in textiles, apparel, retail trade, and services.[27] Similarly, completing the liberalization schedule of the Uruguay round of trade talks was shown to result in the largest gains in jobs in agriculture, with losses in textiles and apparel, although there would be job gains in services due to the more limited schedule of liberalization. The Doha Round, with its focus on agriculture and services, would generate gains in the agricultural sector, but employment losses in textiles and apparel, retail trade, and services, although these losses would be one-third of those that might be experienced under global free trade. As expected, free trade agreements with APEC, ASEAN, and a Free Trade Agreement of the Americas yield smaller changes in employment than either global free trade, or the Doha round of trade talks. Furthermore, the model simulation indicates that each bilateral trade agreement the United States has negotiated can be expected to have a small impact on the U.S. economy.

Investment and Capital Flows

One drawback to the present state of development of general equilibrium models is that they still do not compare in complexity with the real economy, nor do they capture all of the potential economic effects that could arise from trade agreements. For instance, the Michigan model incorporates investment flows that reflect a shift of resources within the economy from less productive to more productive economic activities and a shift of resources across national borders in the form of foreign investment in the economy.[28] As a result of trade liberalization, inflows of foreign capital would be expected to increase as U.S. industries become more productive and, therefore, more profitable and attractive to foreign investors. By the same token, U.S. direct investment abroad would increase as trade liberalization improved the prospects of foreign economies. In some estimates, the flows of foreign capital comprise a large part of the overall economic gains that are derived within the models. The models, however, do not reflect the corresponding appreciation or depreciation of the dollar's exchange rate that would accompany

[27] The estimates for job losses in services are surprising and are a product of the particular estimating method used in the model. For a more complete explanation see page 13 of this report.

[28] Brown, and Stern, Measurement and Modeling of the Economic Effects of Trade and Investment Barriers in Services, p. 280.

such flows. These corresponding changes in the dollar's value could blunt or reinforce the positive trade effects the model associates with trade liberalization policies.

Table 5. Projected Sectoral Employment Effects (Job Gains and Losses) in the United States of Various Multilateral Trade Agreements

(number of workers)

	Global free trade	Doha (one-third cut)	APEC FTA	ASEAN
Agriculture	278,658	91,966	394,420	27,259
Mining	5,794	1,912	-236	-68
Food	61,966	20,451	34,811	3,401
Textiles	-66,265	-21,870	-50,099	-19,570
Apparel	-157,229	-51,891	-107,610	-38,570
Leather	-28,829	-9,515	-24,769	-10,068
Wood	46,941	15,502	4,264	4,459
Chemicals	27,828	9,184	-545	-1,410
Mineral Prod.	-1,146	-378	-1,906	643
Metal	22,174	7,318	-1,483	5,261
Transp.	15,209	5,020	-1,587	1,518
Mach.	68,028	22,451	-10,699	-870
Other Manuf	30,096	9,933	-40,992	-23,864
Elec.	7,566	2,497	-419	846
Constr.	2,814	929	-11,377	2,876
Trade	-91,056	-30,051	-129,833	13,330
Services	-300,997	-99,339	105	18,333
Gov. Services	78,418	25,881	-52,047	16,495

Source: Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Multilateral, Regional, and Bilateral Trade-Policy Options for the United States and Japan*. Research Seminar in International Economics, Discussion Paper No. 490, The University of Michigan, December 16, 2002. Tables 2 and 4. Brown, Drusilla K., Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the Free Trade Area of the Americas (FTAA)*. Research Seminar in International Economics, Discussion Paper No. 508, the University of Michigan, Revised February 5, 2005. Tables 2 and 4.

Table 6. Projected Sectoral Employment Effects (Job Gains and Losses) in the United States of Various Regional and Bilateral Trade Agreements

(number of workers)

	FTAA	SACU	Australia	Morocco
Agriculture	-12,460	973	94	1,314
Mining	-3,251	27	504	-44
Food	-3,452	353	-756	542

	FTAA	SACU	Australia	Morocco
Textiles	-6,028	-109	810	-32
Apparel	-16,804	-211	619	-129
Leather	620	202	207	-8
Wood	2,502	163	394	-10
Chemicals	2,883	127	1,555	-88
Mineral Prod.	957	76	539	29
Metal	2,024	33	1,957	-138
Transp.	2,970	369	1,741	-50
Mach.	21,830	1,230	6,229	-367
Other Manuf	2,148	77	653	-52
Elec.	-228	14	15	2
Constr.	-88	-13	-257	-57
Trade	1,991	-2101	-11,716	-1,140
Services	2,788	11	-2,188	-194
Gov. Services	1,597	-1221	-398	389

Source: Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern, *Multilateral, Regional, and Bilateral Trade-Policy Options for the United States and Japan*. Research Seminar in International Economics, Discussion Paper No. 490, The University of Michigan, December 16, 2002. Table 2 and 43. Brown, Drusilla K., Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the Free Trade Area of the Americas (FTAA)*. Research Seminar in International Economics, Discussion Paper No. 508, the University of Michigan, Revised February 5, 2005. Tables 2 and 4 Updated estimates are from: Brown, Drusilla K, Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the Free Trade Area of the Americas (FTAA)*. Research Seminar in International Economics, Discussion Paper No. 508, the University of Michigan, Revised February 5, 2005. Table 2. Brown, Drusilla K, and Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the U.S. FTAs With Central America, Australia, and Morocco.* Research Seminar in International Economics, Discussion Paper No. 507, Revised January 31, 2005. Tables 7b and 8b. Brown, Drusilla K., Kozo Kiyota, and Robert M. Stern, *Computational Analysis of the U.S. FTA With the Southern African Customs Union (SACU)*. Research Seminar in International Economics, Discussion paper No. 509, July 6, 2004. Table 3b.

Data on Barriers to Trade in Services

Another inherent problem associated with estimating the effects of trade liberalization is the dearth of information on barriers to trade in services. As **Table 6** shows, the Michigan model and other general equilibrium models estimate that the largest gains from trade liberalization likely would arise from the liberalization of trade in services. This result conforms well with most notions of where additional benefits from trade liberalization may reside and from the dominating role of services in the U.S. economy. In developing their estimates of the benefits of liberalizing trade in services, Brown, Deardorff, and Stern use estimates developed by Bernard Hoekman[29] on the average gross operating margins of firms listed on national stock exchanges in 18 countries as a proxy for estimating barriers to services trade. Hoekman bases his estimates on a standard economic assumption that the prices firms charge should reflect their marginal costs.

[29] Hoekman, Bernard, The Next Round of Services Negotiations: Identifying Priorities and Options. *Review*, the Federal Reserve Bank of St. Louis, July/August 2000. p. 38.

Market restrictions, or barriers to entry by foreign firms, however, drive a wedge between market price and marginal cost so that firms operating in protected markets will generate higher than expected profits, or experience higher than average rates of return. Hoekman considers this wedge to be indicative of the magnitude of domestic barriers in services sectors. According to Hoekman's data, all U.S. service sectors except construction had profit margins above average, which would imply that all U.S. service sectors except construction have erected relatively high barriers to entry by foreign firms. As a result, the model simulation estimates large employment losses in this sector under global free trade and the Doha development round of trade negotiations.

This conclusion, however, does not conform well with the estimates of most studies on market openness. For instance, the Organization for Economic Cooperation and Development (OECD) concluded after analyzing the services sectors of the 30 member countries of the OECD that the U.S. services sector was among the very least restrictive.[30] Hoekman also offered a caution in using the estimates because, "In general, a large number of factors will determine the ability of firms to generate high (gross operating) margins, including market size (number of firms), the business cycle, the state of competition policy enforcement, the substitutability of products, fixed costs, etc."[31] In addition, Hoekman's estimates do not differentiate between industries that have high profit margins as a result of barriers and those that have high profit margins because they possess some sort of economic competitive advantage. Without better data on the extent and nature of barriers to trade in the services sectors, it will continue to be difficult to develop monetary estimates of the costs of those barriers and, therefore, estimates of the economic benefits that could accrue as a result of market liberalization. After reviewing various studies that have attempted to assign values to national barriers to services trade, Hoekman concluded,

> Summing up, although the data situation is not very good, quite a bit can be done by analysts to quantify the relative magnitude and distribution of the gains of increasing competition on services markets...The research clearly suggests that potential gains from liberalization may be very large. While this work is important and useful, the state of the data on barriers is such that, in the near term, policymakers will have to continue to rely primarily on rules of thumb in determining negotiating priorities.[32]

Brown, Deardorff, and Stern make an assumption that the Doha Round of negotiations will result in a 33% reduction in barriers to trade in services, agriculture, and manufactured goods. While such an assumption is essential in order to run the economic model, it may not reflect realistically the outcome of the negotiations. In addition, it is not clear what a 33% reduction in the barriers to trade in services would look like, since the nature of this sector and the barriers it faces are substantially different from those that exist in the manufacturing and agricultural sectors and the barriers in the services sector do not lend themselves to a similar process of reciprocal exchange of market access.

Economic activities that comprise the services sector range from such business services as accounting, financial, and architectural activities to a broad range of consumer services that are not easily defined and categorized.[33] Anticipating the effects of liberalizing trade in these areas is

[30] Nicoletti, Giuseppe, *The Economy-Wide Effects of Product Market Policies*. Paris, Organization for Economic Cooperation and Development, 4-5 March 2002.

[31] Hoekman, The Next Round of Services Negotiations: Identifying Priorities and Options, p. 37.

[32] *Ibid*., p. 41.

[33] For instance, see the scope of the U.S. services offer at the Doha round: CRS Report RS21492, *Services Negotiations* (continued...)

difficult for most nations because they do not know the full extent of the barriers their exports face. In addition, nations are grappling with a subtle, but important, distinction in the services sector between liberalizing barriers to market access that involve eliminating discrimination in the treatment of foreign and domestic services providers and governmental activities that involve a range of regulatory and supervisory activities, especially in the areas of public health and safety, the environment, and clean water and air standards. Such issues become even more complicated in countries like the United States where regulatory responsibilities are shared by the federal, state, and local governments, and professional governing bodies.

Implications for Congress

The United States currently is involved in negotiating an assortment of trade agreements. These agreements range from bilateral agreements with trading partners that account for very small shares of total U.S. trade to regional and multinational trade agreements that could have a significant effect on certain U.S. workers, industries, and businesses. At some point, Congress may well be asked to consider legislation that implements these agreements. In doing so, it may consider a number of different, and perhaps conflicting, objectives and it will be presented with data and information that emphasize differing viewpoints on how the agreements will affect the economy and the nation.

Econometric modeling, aided by recent advances, can assist policymakers in analyzing the economic effects of trade agreements. These models are particularly helpful in exploring the effects of trade liberalization in such sectors as agriculture and manufacturing where the barriers to trade are identifiable and subject to some quantifiable estimates. In most cases, these barriers are represented by tariffs or quotas that can be adjusted on a reciprocal basis. Barriers to trade in the services sector, however, are proving to be more difficult to identify and, therefore, to quantify in an econometric model. Although progress is being made, it likely will be some time before the models can provide realistic estimates of the effects of trade liberalization in this sector. The models, however, do provide a sense of the magnitude of economic effects that can be expected to occur across sectors in the economy. This is especially helpful in identifying which sectors likely will experience the greatest adjustment costs.

There are drawbacks to using the econometric models. Such modeling is highly sensitive to the assumptions that are used to establish the parameters of the model and are hampered by a serious lack of comprehensive data in the services sector. Such shortcomings likely will not be as apparent in analysis of bilateral trade agreements between the United States and another trading partner, but they likely will become important when the analysis involves a large number of countries, such as in a regional or multilateral trade agreement. In addition, these models likely understate the adjustment costs that are inevitably involved in liberalizing trade and they may well understate the positive effects of trade liberalization over the long run, because such effects are beyond the time-frame of the estimates. As a result, it is possible that trade liberalization may have a larger positive impact on the U.S. economy over the long term than most economic models indicate. Nevertheless, even if the derived benefits from multilateral negotiations were twice as great as the most optimistic estimates indicate, except for unilateral reductions in trade barriers in all countries, the overall impact on the U.S. economy is expected to be modest, at best, relative to

(...continued)

in the WTO: An Overview of the U.S. Offer, by (name redacted).

the size of the U.S. economy. The effects on the economy from liberalizing trade on a regional basis through proposed trade and investment arrangements may well yield numerous gains for the U.S. economy as a whole.

Congress may choose to reject any trade agreement in favor of maintaining the status quo, or it may choose to circumvent the arduous task of negotiating multilateral trade agreements and unilaterally remove all barriers to U.S. trade. While unilaterally removing all trade barriers would please economic purists, it is unlikely given the issues it would raise and the prospects that it would leave U.S. negotiators with few bargaining chips during trade negotiations. Such an action likely would engender a public backlash, particularly from those labor and trade groups that would be most directly affected by such a policy. In addition, the task of demonstrating the benefits of liberalizing trade is complicated by the fact that the short term adjustment costs associated with trade liberalization are difficult to equate clearly with the benefits that accrue slowly over time. This means that it is difficult to demonstrate conclusively at the early stages of negotiations that the long-term benefits of trade liberalization will outweigh the short-term adjustment costs.

Given these prospects, it seems likely to assume that policymakers will weigh the benefits of greater trade liberalization against the anticipated dislocations for workers and industries and determine whether to accept or reject each agreement on the basis of a broad set of factors. While such analyses cannot forecast every outcome, they can aid policymakers in assessing which industries and sectors likely will experience the highest adjustment costs and, therefore, which industries and groups may need assistance in receiving training or other assistance. Often, Congress has addressed trade-induced changes through trade adjustment assistance for workers and firms displaced as a result of trade agreements and trade liberalization. Such assistance has often been promoted as a principle of fairness by spreading out the adjustment costs beyond those most directly affected, and as a method for persuading those who are affected to buy into the changes by reallocating some of the gains from those who benefit to those who bare the greatest share of the adjustment costs. These adjustment costs likely will rise if the scope of trade agreements expands beyond single trading partner to incorporate large numbers of trading partners.

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