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# Trade Agreements: Impact on the U.S. Economy

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*Congressional Research Service*

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# Trade Agreements: Impact on the U.S. Economy

**Abstract**
[Excerpt] The United States is in the process of considering a number of trade agreements. In addition, the 111th Congress may address the issue of trade promotion authority (TPA), which expired on July 1, 2007. These agreements range from bilateral trade agreements with countries that account for meager shares of U.S. trade to multilateral negotiations that could affect large numbers of 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.

An important policy tool that can assist Congress in assessing the value and the impact of trade agreements is represented by sophisticated models of the economy that are capable of simulating changes in economic conditions. 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, however, are proving to be more difficult to identify and, therefore, to quantify in an economic model. 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 do provide insight 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 sectors expected to experience the greatest 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.

**Keywords**
trade, trade promotion authority, TPA, Congress, economy, growth, agriculture, manufacturing, public policy

**Comments**

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Congressional Research Service

# Trade Agreements: Impact on the U.S. Economy

**James K. Jackson**
Specialist in International Trade and Finance

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**CRS Report for Congress**
*Prepared for Members and Committees of Congress*

# Summary

The United States is in the process of considering a number of trade agreements. In addition, the 111th Congress may address the issue of trade promotion authority (TPA), which expired on July 1, 2007. These agreements range from bilateral trade agreements with countries that account for meager shares of U.S. trade to multilateral negotiations that could affect large numbers of 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.

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## Background

Congress plays a direct role in formulating and implementing U.S. international trade policies. During the 108th, 109th, and 110th Congresses, this role gained increased importance as the United States negotiated an unprecedented number of trade agreements. The 111th Congress may also address 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 an agreement on the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR), and has at times been involved with countries in southern Africa. In addition, the United States has pursued 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 has signed free trade agreements with South Korea, Columbia, and Panama, but Congress has not enacted legislation to approve and implement these agreements. The Bush Administration concluded agreements with Panama, Peru and Colombia, separately from Ecuador and Bolivia, the other members of the proposed Andean-U.S. Free Trade Agreement.

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 these agreements with varying degrees of support and opposition. While few critics are likely to oppose outright all of the trade agreements being negotiated, critics will 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): Issues, Options, and Prospects for Renewal*, by J. F. Hornbeck and William H. Cooper.

[2] For additional information and status of the current negotiations, see CRS Report RL33463, *Trade Negotiations During the 110th Congress*, by Ian F. Fergusson.

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

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 98-840, U.S.-Latin America Trade: Recent Trends and Policy Issues, by J. F. Hornbeck.

CRS Report RL30981, Panama: Political and Economic Conditions and U.S. Relations, by Mark P. Sullivan.

CRS Report RL31356, Free Trade Agreements: Impact on U.S. Trade and Implications for U.S. Trade Policy, by William H. Cooper.

CRS Report RL31772, U.S. Trade and Investment Relationship with Sub-Saharan Africa: The African Growth and Opportunity Act, by Vivian C. Jones.

CRS Report RL31870, The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR), by J. F. Hornbeck.

CRS Report RL32540, The Proposed U.S.-Panama Free Trade Agreement, by J. F. Hornbeck.

CRS Report RL32593, Thailand: Background and U.S. Relations, by Emma Chanlett-Avery.

CRS Report RL33445, The Proposed U.S.-Malaysia Free Trade Agreement, by Michael F. Martin.

CRS Report RL33653, East Asian Regional Architecture: New Economic and Security Arrangements and U.S. Policy, by Dick K. Nanto.

CRS Report RL33951, U.S. Trade Policy and the Caribbean: From Trade Preferences to Free Trade Agreements, by J. F. Hornbeck.

CRS Report RL34108, U.S.-Peru Economic Relations and the U.S.-Peru Trade Promotion Agreement, by M. Angeles Villarreal.

CRS Report RL34330, The Proposed U.S.-South Korea Free Trade Agreement (KORUS FTA): Provisions and Implications, coordinated by William H. Cooper.

CRS Report R40502, The Trans-Pacific Strategic Economic Partnership Agreement, by Ian F. Fergusson and Bruce Vaughn.

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 6$^{th}$ 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 are serving to keep the differing parties to the negotiations engaged in the talks despite criticism from nearly all quarters over the texts.

## Regional Trade Agreements

### *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.[4] The negotiations initiated efforts in five areas (market access, agriculture, services, investment, and government procurement), but the negotiations have 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.[5] 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, 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).[6] The initiative offered the prospect of bilateral trade agreements with the 10 ASEAN members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma),

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[4] CRS Report RS20864, *A Free Trade Area of the Americas: Major Policy Issues and Status of Negotiations*, by J. F. Hornbeck.

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

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

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.[7] 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.[8] President Bush signed the agreement into law on August 2, 2005 (P.L. 109-53). All countries except Costa Rica and the Dominican Republic have ratified the agreement. As of July 1, 2006, the United States had implemented the agreement for El Salvador, Honduras, Nicaragua and Guatemala will did so for Costa Rica 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.

[7] CRS Report RL32770, *Andean-U.S. Free-Trade Agreement Negotiations*, by M. Angeles Villarreal.

[8] CRS Report RL31870, *The Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR)*, by J. F. Hornbeck.

## 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 $14 billion in 2004, Australia is the 15$^{th}$-largest market for U.S. exports and, at $7 billion, Australia is the 30$^{th}$-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.[9] 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.

### *U.S.-Chile Free Trade Agreement*

On June 6, 2003, the United States and Chile signed a bilateral free trade agreement.[10] 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

[9] CRS Report RS21846, *U.S.-Bahrain Free Trade Agreement*, by Martin A. Weiss.

[10] CRS Report RL31144, *The U.S.-Chile Free Trade Agreement: Economic and Trade Policy Issues*, by J. F. Hornbeck.

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.[11] 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.

### *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.[12] 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.

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[11] CRS Report RS21464, *Morocco-U.S. Free Trade Agreement*, by Raymond J. Ahearn.

[12] CRS Report RL34108, *U.S.-Peru Economic Relations and the U.S.-Peru Trade Promotion Agreement*, by M. Angeles Villarreal.

### *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.[13] 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.

## Signed Bilateral Trade Agreements Requiring Congressional Approval

### *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 has not been introduced in the Congress.

### *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

[13] CRS Report RL31789, *The U.S.-Singapore Free Trade Agreement*, by Dick K. Nanto.

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.

### *U.S.-Panama Free Trade Agreement*

The Bush Administration began formal negotiations with Panama on April 25, 2004, in Panama City, Panama.[14] 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.

## 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.[15] 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. The Administration argues that the agreement will be comprehensive and seek to liberalize trade in goods, agriculture, services, investment, and intellectual property rights. In particular, the Administration said that the agreement will promote U.S. exports, primarily benefitting U.S. farmers and the auto and auto parts industries, will protect U.S. investment, and will advance the Enterprise for ASEAN Initiative. Other issues that likely will 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.

[14] CRS Report RL32540, *The Proposed U.S.-Panama Free Trade Agreement*, by J. F. Hornbeck, *The Proposed U.S.-Panama Free Trade Agreement*, by J.F. Hornbeck.

[15] CRS Report RL33445, *The Proposed U.S.-Malaysia Free Trade Agreement*, by Michael F. Martin.

### *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

Nations pursue trade liberalization to achieve a number of national objectives. Economists argue, however, that free trade, or the international trade of goods and services free from restrictions and barriers, provides nations with a broad group of economic benefits.[16] These benefits are categorized as one-time, or static, benefits, which include gains for consumers and gains for producers, and dynamic benefits that accrue over time and can positively affect the long-term rate of growth of a country. While it is not always possible to measure these effects 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 1** shows the major components of U.S. Gross Domestic Product (GDP), the broadest measure of the output of goods and services during a year averaged over five-year 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. As the data indicate, U.S. exports of goods have accounted for 7% to 8% of total U.S. GDP over the past 18 years. In 2008, such exports accounted for $1.3 trillion, or about 7% of U.S. GDP. Trade liberalization, however, by reducing foreign barriers to U.S. exports and by removing U.S. barriers to foreign goods and services, helps to strengthen

[16] Economic trade theory argues that natural resources, which serve as the building blocks of production within an economy, are limited at any one point in time, whereas demands for those resources are unlimited, creating a scarcity of resources. This scarcity of resources means that nations strive to use their resources in the most efficient way possible in order to maximize the goods and services that are available to their citizens, a common definition of a nation's standard of living. Nations then specialize in the production of certain goods and then trade with other nations for the goods they do not produce. These concepts of specialization and trade lead to the conclusion that a nation will find that it is in its economic self-interest to engage in trade with other nations even if it can produce all goods and services at a lower cost than any other nation. By specializing in the production of those goods and services in which it is most efficient, or in which it has a comparative advantage, a nation maximizes its total productive capability and national income.

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

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.

**Table 1. Major Components of U.S. Gross Domestic Product**

(Expressed as percent share of total GDP; billions of US dollars)

| | 1990-94 | 1995-99 | 2000-2004 | 2005-2008 | 2009-I | 2009-II | 2009-III | 2008 |
|---|---|---|---|---|---|---|---|---|
| **Gross domestic product** | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | $14,441.4 |
| **Personal consumption** | 66.76 | 67.32 | 69.60 | 69.83 | 70.45 | 70.66 | 70.98 | 10,129.9 |
| **Gross private domestic investment** | 14.36 | 16.59 | 16.29 | 16.36 | 11.92 | 11.03 | 11.04 | 2,136.1 |
| **Change in private inventories** | 0.36 | 0.62 | 0.20 | 0.17 | -0.90 | -1.25 | -1.03 | -34.8 |
| **Net exports of goods and services** | -0.92 | -1.71 | -4.27 | -5.34 | -2.67 | -2.40 | -2.71 | -707.8 |
| Exports | 9.91 | 10.97 | 9.92 | 11.48 | 10.65 | 10.56 | 10.93 | 1,831.1 |
| Goods | 7.02 | 7.83 | 6.98 | 7.95 | 6.98 | 6.91 | 7.26 | 1,266.9 |
| Services | 2.89 | 3.14 | 2.94 | 3.53 | 3.67 | 3.64 | 3.67 | 564.2 |
| Imports | 10.83 | 12.67 | 14.19 | 16.82 | 13.32 | 12.95 | 13.64 | 2,538.9 |
| Goods | 8.85 | 10.61 | 11.88 | 14.13 | 10.64 | 10.32 | 11.00 | 2,126.4 |
| Services | 1.98 | 2.06 | 2.31 | 2.69 | 2.68 | 2.63 | 2.64 | 412.4 |
| **Government consumption** | 19.81 | 17.80 | 18.38 | 19.15 | 20.31 | 20.70 | 20.68 | 2,883.2 |
| Federal | 8.19 | 6.38 | 6.40 | 7.09 | 7.81 | 8.04 | 8.14 | 1,082.6 |
| State and local | 11.62 | 11.42 | 11.98 | 12.06 | 12.50 | 12.66 | 12.54 | 1,800.60 |

**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]

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[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

Since the stakes involved in liberalizing trade are potentially very large for some groups and for some countries, 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. Several different approaches are used to estimate the cost and effect of reducing barriers to trade in goods and services.[20] The most common approach uses sophisticated mathematical models of the U.S. economy to simulate the effects of trade liberalization. The three models used most often are: gravity models, partial equilibrium models, and general equilibrium models. Gravity models are based on the theory that large economies have a greater pull on trade flows than do smaller economies.[21] As a result, the size of an economy and its distance from trading partners are important factors in estimating the monetary value of changes in trading rules. Partial equilibrium models are used to measure the effects of trade restraints on a specific sector, rather then on the economy as a whole. Both gravity models and partial equilibrium models provide aggregate estimates of the effects of changes in trading rules and barriers, but they offer limited detailed information on the labor and sectoral effects of trade liberalization.

General equilibrium models, or computable general equilibrium (CGE) models, attempt to encompass all economic activity within an economy and attempt to estimate the economy-wide effects of changes in trade or economic policy. These models can offer comprehensive assessments of cross- and inter-industry linkages both worldwide and between regions of the world.[22] Such models attempt to mimic as closely as possible the real world economy through the use of an abstract mathematical representation of the environment in which relevant economic agents operate and of the decision-making process by which they make choices of consumption of goods, capital accumulation, etc.[23] These models incorporate assumptions about consumer behavior, market structure and organization, production technology, investment, and capital flows in the form of foreign direct investment. General equilibrium models use large sets of data that represent numerous countries and attempt to estimate economy-wide feedback effects from a

[20] A compilation of studies can be found in: Brown, Drusilla K., and Robert M. Stern, Measurement and Modeling of the Economic Effects of Trade and Investment Barriers in Services. The *Review of International Economics*, May 2001; Hoekman, Bernard, the Next Round of Services Negotiations: Identifying Priorities and Options. *Review*, Federal Reserve Bank of St. Louis, July/August 2000; and Dihel, Nora, *Quantification of the Costs to National Welfare of Barriers to Trade in Services: Scoping Paper*. Paris, Organization for Economic Cooperation and Development, November 21, 2000.

[21] Gravity models have been used for 40 years to estimate trade flows between countries. They are based on the conclusion that the volume of exports between any two trading partners is an increasing function of their national incomes, and a decreasing function of the distance between them. Although the models have been criticized for lacking a strong theoretical basis, recent work has demonstrated that the model is consistent with the Ricardian and Heckscher-Ohlin models. An important drawback of the model is that it can estimate only the aggregate flows of goods, but it does not provide any information about the effects on labor or on individual sectors in the economy. See Wall, Howard, J., Using the Gravity Model to Estimate the Costs of Protection. *Review*, Federal Reserve Bank of St. Louis, January/February, 1999. p. 39.

[22] Rivera, Sandra A., Key Methods for Quantifying the Effects of Trade Liberalization. *International Economic Review*, January/February 2003. p. 2-5.

[23] Zarazaga, Carlos, E.J.M., Measuring the Benefits of Unilateral Trade Liberalization Part 1: Static Models. *Economic and Financial Review*, Federal Reserve Bank of Dallas, Third Quarter 1999. p. 15; also see Zarazaga, Carlos, E.J.M., Measuring the Benefits of Unilateral Trade Liberalization Part 2: Dynamic Models. *Economic and Financial Review*, Federal Reserve Bank of Dallas, First Quarter 2000.

change in trade policy in a given sector or industry and assess the impact of the change on employment, production, and economic welfare.

## 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.[24] 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.

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 2**.[25] 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.

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[24] 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.

[25] 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.

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,[26] 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 2. 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 |

**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 3**. 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

[26] 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.

benefits.[27] An agreement with the Southern African Customs union would be expected to yield $12.6 billion in trade benefits to the United States.[28]

**Table 3. 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. 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 4** and **Table 5**. 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 4** and **Table 5** 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.[29] Similarly,

[27] 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.

[28] 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.

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.[30] 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 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 4. 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 |

(...continued)

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

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

| | Global free trade | Doha (one-third cut) | APEC FTA | ASEAN |
|---|---|---|---|---|
| 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 5. 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 |
| 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 |

| | FTAA | SACU | Australia | Morocco |
|---|---|---|---|---|
| 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 5** 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[31] 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.

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

[31] 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.

U.S. services sector was among the very least restrictive.[32] 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."[33] 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.[34]

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.[35] Anticipating the effects of liberalizing trade in these areas is 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.

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

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

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

[35] For instance, see the scope of the U.S. services offer at the Doha round: CRS Report RS21492, *Services Negotiations in the WTO: An Overview of the U.S. Offer*, by James K. Jackson.

## 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 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 the size f the U.S. economy. The effects on the economy from liberalizing trade on a bilateral basis through the proposed bilateral free trade arrangements will yield especially minor 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 expand beyond single trading partner to incorporate large numbers of trading partners.

## Author Contact Information

James K. Jackson
Specialist in International Trade and Finance
jjackson@crs.loc.gov, 7-7751