U. S. International Trade Commission Report to the GTAP Advisory Board

for

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The United States International Trade Commission (USITC) uses the GTAP database and model to analyze and evaluate the potential impacts of trade and investment policies, in response to requests from the United States Trade Representative (USTR) and Congress. In addition, GTAP has been used to provide trade-policy related technical assistance to the Congress and the USTR on a variety of topics.

In collaboration with Peter Dixon and Maureen Rimmer from the Center of Policy Studies (CoPS), Victoria University, the USITC continues work on the highly detailed dynamic USAGE-ITC model. Work on the USAGE-ITC model also influences the USITC's contribution of the U.S. data for the GTAP database. The USAGE-ITC model is currently fitted to the latest available input-output table for the United States. The USAGE-ITC model is easily linkable to the GTAP model, and offers interested parties a U.S. model with powerful capabilities. In May 2015, Peter Dixon and Maureen Rimmer gave a short course at the USITC on the use of the model.

In support of this and other USAGE developments, the USITC has established an informal consortium with other Federal Government users of the USAGE model, principally the International Trade Administration of the Commerce Department and the Economic Research Service of the Department of Agriculture. USAGE has also been used in studies for the Department of Homeland Security and the Federal Aviation Administration.

The following USITC public studies or papers by USITC economists completed since May 2014:

Commission Reports

Earned Import Allowance Program: Evaluation of the Effectiveness of the Program for Certain Apparel from the Dominican Republic, U.S. International Trade Commission, July 2014.
Abstract: This report contains the results of the Commission's fifth annual review of the Earned Import Allowance Program (EIAP) for the Dominican Republic. In its reviews the Commission is required to evaluate the effectiveness of the EIAP and make recommendations for improvements. Five years after the initial implementation of the EIAP, the government of the Dominican Republic and U.S. and Dominican apparel industry sources continue to indicate that the program, as currently structured, is not providing sufficient incentives to boost Dominican apparel exports to the U.S. market. In 2013, U.S. imports under the program declined for the third consecutive year. Based on information available to the Commission, the EIAP has not provided sufficient incentives to reverse the decline in exports of bottoms to the United States from the Dominican Republic. Although 12 companies are registered to use the EIAP, only 5 firms are currently using the program, down from 7 firms reported in the fourth annual review. In 2013, U.S. imports of woven cotton bottoms from the Dominican Republic declined by 76 percent, by both quantity and value,

compared to 2012. Also, U.S. exports to the Dominican Republic of cotton fabrics of a weight suitable for making bottoms fell for the second year in a row, declining by 25 percent by both quantity and value between 2012 and 2013. The Commission sought recommendations from industry and other sources concerning improvements to the EIAP. As in previous reviews, the recommendations offered were: (1) lowering the 2-for-1 ratio of U.S. to third-country fabric to a 1-for-1 ratio; (2) including other types of fabrics and apparel items in the EIAP; and (3) changing the requirement that dyeing, finishing, and printing of qualifying fabrics take place in the United States.

Digital Trade in the U.S. and Global Economies, Part 2, U.S. International Trade Commission, August 2014.
Abstract: At the request of the U.S. Senate Committee on Finance, the U.S. International Trade Commission undertook an investigation to better understand the role of digital trade—domestic commerce and international trade conducted via the Internet—in the U.S. and global economies, as well as the effects of barriers and impediments to digital trade that impede U.S. access to global markets. The Commission's analysis provides findings at three levels: at the firm level, through 10 case studies; at the industry level, through a survey of U.S. businesses; and at the economy-wide level, using computable general equilibrium and econometric models. This analysis shows that digital trade contributes to economic output by improving productivity and reducing trade costs. Digital trade also contributes to the economy as a whole as it facilitates communication, expedites business transactions, improves access to information, and improves market opportunities for small and medium-sized enterprises (SMEs). Digital trade's combined effects of increased productivity and lower trade costs are estimated to have increased U.S. real gross domestic product (GDP) by $517.1−$710.7 billion (3.4−4.8 percent), and increased U.S. aggregate employment by 0.0 to 2.4 million full-time equivalents (0.0 to 1.8 percent). These estimates of the effects of digital trade are not exhaustive, however, as other effects of digital trade were not captured in these findings. According to survey results, U.S. firms in digitally intensive industries sold $935.2 billion in products and services online in 2012, including $222.9 billion in exports; they purchased $471.4 billion in products and services online in 2012, including $106.2 billion in imports. Online sales by U.S. SMEs in digitally intensive industries totaled $227.1 billion in 2012. However, the Commission's analysis suggests that foreign trade barriers are having discernible effects on U.S. digital trade. According to the Commission's econometric estimates, removing these barriers would increase the U.S. real GDP by an estimated $16.7−$41.4 billion (0.1–0.3 percent).

Andean Trade Preference Act: Impact on U.S. Industries and Consumers and on Drug Crop Eradication and Crop Substitution, U.S. International Trade Commission, September 2014.
Abstract: The Andean Trade Preference Act (ATPA) was enacted in 1991 to promote the development of viable economic alternatives to coca cultivation and cocaine production by offering duty-free or other preferential treatment to imports of eligible goods from Bolivia, Colombia, Ecuador, and Peru. ATPA requires the U.S. International Trade Commission to submit biennial reports—currently, in even-numbered years—to the President and the Congress on the economic impact of the ATPA program on U.S. industries and consumers, and on the effectiveness of the program in promoting drug-related crop eradication and crop substitution efforts of the beneficiary countries. This report, the 16th in this series, covers the period 2012–13, and it focuses chiefly on Ecuador, the only remaining ATPA beneficiary country in 2013. Colombia was a beneficiary country at the start of the period, but ceased to be a beneficiary when the U.S.-Colombia Trade Promotion Agreement entered into force on May 15, 2012. The report primarily

assesses the actual and the probable future effects of imports from Ecuador under ATPA on the U.S. economy generally, on U.S. industries, and on U.S. consumers. It also assesses the estimated effect of ATPA on Ecuador's drug-related crop eradication and crop substitution efforts.

Rice: Global Competitiveness of the U.S. Industry, U.S. International Trade Commission, April 2015.

Abstract: The Committee on Ways and Means of the House of Representatives asked that the U.S. International Trade Commission (Commission) conduct an investigation and provide a report on factors affecting the global competitiveness of the U.S. rice industry. The Committee requested that the report focus primarily on the period 2009 through 2013. To the extent that information is publicly available, the Committee asked that the report include the following: (1) An overview of the rice industry in the United States and other major global producing and exporting countries (such as China, India, Indonesia, Thailand, Vietnam, Uruguay, and Brazil), including production of rice, processing volumes, processing capacity, carryover inventory, and consumption; (2) Information on recent trade trends and developments in the global market for rice, including U.S. and major foreign supplier imports and exports; (3) A comparison of the competitive strengths and weaknesses of rice production and exports in the United States and other major exporting countries, including such factors as producer revenue and costs of production, industry structure, input prices and availability, processing technology, product innovation, exchange rates, pricing, and marketing regimes, as well as government policies and programs that directly or indirectly affect rice production and exporting in these countries; (4) A qualitative and, to the extent possible, quantitative assessment of the impact of government policies and programs of major producing and exporting countries on their rice production, exports, consumption, and domestic prices, as well as on rice prices globally; and (5) An overview of the impact on the U.S. rice industry of exports from the highlighted countries of rice to the United States and to traditional markets of the United States such as, but not limited to, Mexico, Haiti, and West Africa. The quantitative analysis was based on a partial equilibrium model of global rice markets developed by academics at the University of Arkansas. The *RiceFlow* model includes a database describing trade, supply, and demand data for 73 countries or regions of the world, three types of rice, and three stages of milling. The model includes government policies geared toward increasing rice production, as well as policies (such as subsidies and taxes) influencing inputs, consumption, and trade.

Trade, Investment, and Industrial Policies in India: Effects on the U.S. Economy, U.S. International Trade Commission, January 2015.

Abstract: This report examines trade, investment, and industrial policies in India that restrict U.S. exports and investment, and estimates the effects these policies have on U.S. companies, U.S. workers, and the U.S. economy.

This report was prepared by the U.S. International Trade Commission at the request of the U.S. House Committee on Ways and Means and the U.S. Senate Committee on Finance. The Commission used three complementary approaches to study these issues: a survey of U.S. companies doing business in India; a quantitative analysis of the effects on the U.S. economy; and qualitative research, including a hearing and fieldwork, to produce case studies and examples that help illustrate effects of the policies on particular companies or industries. To capture the effects of identified Indian policies on U.S. exports to and investment in India, and on the broader U.S. economy, the Commission employed a computable general equilibrium (CGE) model. An innovation introduced in this report is the incorporation of FDI into the model. This permitted the Commission to model policies that apply only to companies with foreign ownership, and also

allows it to analyze the effect of more general policy changes on foreign affiliates. The Commission also extended the model by incorporating a flexible labor force, rather than assuming that the number of workers remains fixed. This assumption allowed the model to estimate the impact on aggregate employment in each country in response to important changes, so that, for example, workers may enter the labor force or work longer hours in response to improved wages.

Recent Trends in U.S. Services Trade: 2015 Annual Report. U.S. International Trade Commission, May 2015.
Abstract: This report focuses on U.S. exports and imports of distribution services, including logistics, maritime transport, and retail services. In 2013, the United States exported $46.6 billion in distribution services, and imported $60.2 billion, resulting in a trade deficit of $13.6 billion in distribution services. U.S. distribution services contributed $2.3 trillion to U.S. gross domestic product (GDP) in 2013, or 17 percent of total U.S. private sector GDP. Distribution services employed nearly 23 million full-time equivalent employees in 2013, representing 21 percent of total U.S. private sector employment. However, during that year, average wages in all but one of the distribution services industries covered in this report (maritime transport services) were lower than the U.S. private sector average. All three of the focus industries faced serious challenges as a result of the global economic recession of 2008–09. Since then, U.S. distribution services firms have had to adapt to a quickly evolving market that faces increased competition from new sources and growing domestic saturation. In addition, the spread of e-commerce has stimulated consumer demand for lower prices and faster, more flexible delivery, in turn affecting distribution services providers. Overall, as global economies become more integrated, U.S. distribution services industries will increasingly rely on burgeoning markets in developing countries to find new revenue streams.

Executive Briefings on Trade

China's Official Assistance and Corresponding Trade Flows to Africa, by Arona Butcher and Wen Jin Yuan, March 2015.
Abstract: Over the last decade, the scale of China's official assistance to African countries has increased sharply, driven mainly by China's desire to secure natural resources in Africa. From 2000 to 2012, China provided assistance mainly to the transport and storage, energy generation and supply, industrial, mining and construction, agriculture, forestry, and fishing sectors. During the same period, China's imports from Africa in several sectors—machinery, minerals and metals, and agricultural and food products—also increased dramatically. The role of China's official assistance in Africa is important for the United States, which is expanding its own official assistance to Africa.

China's Trade and Investment in Financial Services with Africa, by Wen Jin Yuan, October 2014.
Abstract: Chinese financial institutions are rapidly expanding in Africa. This trend responds to growing interest in using RMB to settle payments arising from cross-border trade, as well as the opportunity to serve the banking needs of an increasing number of Chinese firms and tourists on the continent. This briefing describes China's growing trade and investment in financial services with Africa, as well as nontariff measures that could limit Chinese penetration into the African market. Understanding China's role in Africa's financial services market is important for U.S. commercial banks and other financial institutions, as U.S. and foreign banks continue to seek growth opportunities in emerging markets, including Africa.

Working Papers

Office of Economics Working Papers are publicly available at: http://www.usitc.gov/research_and_analysis/staff_products.htm

"**Intellectual Property Rights and International Receipts of Royalties and Licensing Fees**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2014-08-C.
Abstract: This paper measures the strength of intellectual property rights in different countries using an econometric model of U.S. cross-border receipts of royalties and license fees. The econometric estimates are correlated with country indices of intellectual property rights in the literature, but they are more comprehensive, detailed, and up-to-date than alternative indices.

"**Estimates of the Impact of Restrictions on Cross-Border Trade in Services**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2014-08-A.
Abstract: I estimate the effect of import restrictions on cross-border trade in services using a sector-level gravity model. Then I use the model to simulate the expansion in U.S. services exports that would result from completely eliminating these restrictions in several major U.S. trade partners.

"**Internet Use and Openness to Trade**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2014-12-C.
Abstract: This paper presents an econometric model that links the number of broadband users in a country to its volume of international trade in goods and services. The model indicates that the growth in broadband use between 2000 and 2011 increased a country's openness to trade (measured by the ratio of their total trade to their GDP) by 4.21 percentage points on average, with much larger effects in high income countries (a 10.21 percentage point increase on average) than in developing countries (a 1.67 percentage point increase on average). We also use the econometric model to project how each country's openness to trade will be affected by expected future growth in broadband use: we project that the trade-to-GDP ratios will increase an additional 6.88 percentage points on average in the high income countries and an additional 1.67 percentage points on average in the developing countries due to further growth in broadband use over the next five years.

"**The Impact of Restrictions on Mode 3 International Supply of Services**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2015-1-A. Forthcoming in *Journal of International and Global Economic Studies*.
Abstract: We estimate an econometric model that links the value of U.S. foreign affiliate sales of services in 46 countries to World Bank measures of mode 3 services trade restrictions. The econometric analysis indicates that eliminating existing restrictions on mode 3 supply would increase foreign affiliate sales by 73.72 percent on average across the countries, while eliminating existing restrictions on mode 1 supply would reduce foreign affiliate sales of services by 24.19 percent on average, due to switching between the two modes of international supply.

"**Export-Intensive Industries Pay More on Average: An Update**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2015-4-A.
Abstract: This research note analyzes the weekly earnings in U.S. manufacturing and services industries, based on data for approximately 164,000 workers in 2014. It estimates the earnings premium in export-intensive industries, based on an econometric analysis that combines worker-

level data on earnings, education, occupation, and other demographic characteristics from the Current Population Survey with industry-level data on exports and total shipments of manufactures and services. The estimates indicate that export-intensive industries pay more on average and that the export earnings premium is larger for blue collar workers in production and support occupations (they earn a 19.0% premium in export-intensive manufacturing industries and a 17.6% premium in export-intensive services industries) than for white collar workers in management and professional occupations (they earn a 9.9% premium in export-intensive manufacturing industries and a 12.0% premium in export-intensive services industries). Overall, the export earnings premium in 2014 is 16.3% on average in the manufacturing industries and 15.5% on average in the services industries.

"**The Internet and Product-Level Entry into the U.S. Market**." David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2015-5-B.
Abstract: We estimate an econometric model of product-level entry of middle income countries into the U.S. market. The model uses data on U.S. imports of 1,159 technologically advanced manufactured goods from 87 middle income countries between 2001 and 2013. The econometric estimates indicate that Internet use in the middle income countries has a significant positive effect on the probability of product-level entry into the export market, as do real exchange rate depreciations and growth in real expenditures and output. According to the model, the probability of product-level entry increases by 1.18 percentage points for every 10 additional Internet users per 100 people in the countries that have highly efficient export logistics, and by 0.65 percentage points in the countries that have less efficient export logistics. We use this econometric model to simulate the increase in each country's product-level entry if the country's number of Internet users increased to 75 users per 100 people (a value above all of the middle income countries but below most high income countries in 2013). The simulated increases in the probabilities range from 0.28 percentage points for Hungary to 7.07 percentage points for India, with an average across all of the middle income countries of 3.12 percentage points.

"**Domestic Regulations and U.S. Exports**" David Riker, U.S. International Trade Commission, Office of Economics Working Paper No. 2015-5-A.
Abstract: The regulatory compliance costs of manufacturing firms often take the form of fixed costs of production, and they may reduce the firms' competitiveness, including their competitiveness in export markets. Yet most models of the impact of regulatory policy on trade flows are based on economic models with constant returns to scale and perfect competition that are not structured to allow for fixed costs of production. If, to make due, policy modelers represent regulatory costs as purely variable costs, then this assumption will dictate the prediction of the economic analysis: an increase in regulatory costs will reduce an industry's exports. In this paper, I examine this policy modeling issue using a model of international trade with fixed costs of production, fixed costs of exporting, and firm heterogeneity based on Melitz (2003), Chaney (2008), and the literature that has followed. The model shows that a country-specific increase in fixed costs of production may have little or no effect on a sector's exports, because exporting firms are generally more productive and will probably be able to profitably export despite the increase in fixed costs. The firms that lose profitability and exit the market are non-exporters. On the other hand, an increase in variable costs of production can significantly reduce the sector's exports. The model also predicts that any increase in domestic regulations, whether in the form of fixed or variable costs, will increase the sector's imports. I embed the Melitz-Chaney model within a GTAP model in order to account for the general equilibrium trade effects of the regulatory compliance costs. The model can be used to evaluate the effects of a

variety of behind-the-border non-tariff measures that are structured in part as fixed costs of production. To illustrate, I use the extended GTAP model to quantify the effects of the labor costs of pollution abatement in the electronics, machinery, and transportation equipment sectors in the United States.

"**The Economic Implications of Strengthening Intellectual Property Rights in Developing Countries**." David Riker, Journal of International Commerce and Economics. November 2014.
Abstract: We survey the recent literature on the economic implications of strengthening intellectual property rights in developing countries. First, we identify the theoretical concepts and empirical methods that are frequently applied to this topic. Then we discuss ten specific economic studies that have addressed this topic in the last ten years. Finally, we identify the most common findings in the literature.

"**Theory and Empirical Evidence Linking International Trade to Unemployment Rates**." David Riker, Journal of International Commerce and Economics. May 2015.
Abstract: In this article, we review recent theoretical and empirical studies that link international trade flows and trade policies to aggregate (economy-wide) unemployment rates. The theoretical models demonstrate that there is a complex and often ambiguous relationship between trade and unemployment: whether trade increases or reduces unemployment rates depends in a complicated way on the industry composition of a country's output and on differences in labor market frictions across industries and countries. The empirical studies, on the other hand, offer a story that is simpler and fairly consistent: they generally find that an expansion in international trade reduces a country's aggregate unemployment rate in the long run.

Other

The Impact of NAFTA on U.S. Labor Markets, by Justino De La Cruz, and David Riker.
Abstract: This paper investigates the effects of NAFTA preferences on labor market outcomes in the United States. First, we review prior literature that has tried to quantify these economic effects over the last twenty years. Then we turn from the past to the present. We ask how NAFTA preference margins affect U.S. labor markets today. We incorporate the data on NAFTA tariff preference margins into a GTAP-based CGE model and simulate how real wages and manufacturing employment in the United States would be different absent the recent NAFTA preference margins on U.S. manufacturing imports from Mexico. We estimate that recent NAFTA preference margins have a positive effect on U.S. real wages, albeit quite small.