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THE ECONOMIC EFFECTS OF SIGNIFICANT U.S. IMPORT RESTRAINTS

Fifth Update 2007

Investigation No. 332-325

United States
International Trade
Commission

February 2007

U.S. International Trade Commission

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List of Frequently Used Abbreviations and Acronyms

AGE	Applied general equilibrium
AGOA	African Growth and Opportunity Act
APHIS	Animal and Plant Health Inspection Service
ATC	Uruguay Round Agreement on Textiles and Clothing
ATPA	Andean Trade Preference Act
ATPDEA	Andean Trade Promotion and Drug Eradication Act
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BSE	Bovine spongiform encephalopathy
c.i.f.	Customs insurance freight
CAFTA-DR	Central America–Dominican Republic U.S. Free Trade Agreement
CBERA	Caribbean Basin Economic Recovery Act
CBO	Congressional Budget Office
CBTPA	U.S.–Caribbean Basin Trade Partnership Act
CCC	Commodity Credit Corporation
CES	Constant elasticity of substitution
CFR	Code of Federal Regulations
CMPP	Concentrated milk protein products
Commission	U.S. International Trade Commission
CPS	Current Population Survey
CRESH	Constant ratios of elasticity of substitution, homothetic
CRETH	Constant ratios of elasticity of transformation, homothetic
CRT	Cathode ray tube
DWS	Displaced Worker Surveys
DWT	Deadweight ton
EIA	Energy Information Administration
ELVIS	Electronic Visa Information System
ERS	Economic Research Service
ETE	Export tax equivalent
EU	European Union
FAS	Foreign Agriculture Service
FCFS	First-come, first-served
FMCSA	Federal Motor Carrier Safety Administration
FMD	Foot and mouth disease

List of Frequently Used Abbreviations and Acronyms—*Continued*

f.o.b.	Free-on-board
FSA	Farm Service Agency
FTA	Free trade agreement
FTE	Full time equivalent
GAO	Government Accountability Office
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GSP	Generalized System of Preferences
HFCS	High fructose corn syrup
HTS	Harmonized Tariff Schedule
IG	Inspector General
I-O	Input-output
ITA	International Trade Administration
ITC	International Trade Commission
Jones Act	Merchant Marine Act of 1920
LES	Linear expenditure system
MARAD	U.S. Department of Transportation, Maritime Administration
MOU	Memorandum of understanding
MPC	Milk protein concentrates
mt	Metric ton
MTBE	Methyl tertiary-butyl ether
n.e.c.	Not elsewhere classified
NAFTA	North American Free Trade Agreement
NAICS	North American Industry Classification System
NAIRU	Non-accelerating inflation rate of unemployment
NDM	Nonfat dry milk
NTR	Normal Trade Relations
OIE	World Organization for Animal Health
ROOs	Rules of origin
SBVF	Silk blend or non-cotton vegetable fiber
SCP	Sugar-containing products
SIC	Standard industrial classification
SSA	Sub-Saharan African
strv	Short tons, raw value
TEU	Twenty-foot equivalent unit
TRAINS	Trade Analysis and Information System

List of Frequently Used Abbreviations and Acronyms—*Continued*

TRQ	Tariff-rate quota
U.S.C.	United States Code
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
USACE	U.S. Army Corps of Engineers
USAGE-ITC	U.S. Applied General Equilibrium—International Trade Commission
U.S. Customs	U.S. Customs and Border Protection
USDA	U.S. Department of Agriculture
USDA, ERS	U.S. Department of Agriculture Economic Research Service
USDA, FAS	U.S. Department of Agriculture Foreign Agriculture Service
USDOC	U.S. Department of Commerce
USDOL	U.S. Department of Labor
USDOT	U.S. Department of Transportation
USITC	U.S. International Trade Commission
USTR	United States Trade Representative
VER	Voluntary export restraint
WTO	World Trade Organization

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Executive Summary

The Commission estimates that U.S. welfare, as defined by public and private consumption, would increase by about \$3.7 billion annually if all of the significant restraints quantified in this report were removed unilaterally. Exports would expand by \$13.5 billion and imports by \$19.6 billion, while about 60,000 workers would move from contracting sectors to expanding sectors as a result of liberalization. In addition to estimating the economic impact of removing significant and quantifiable import restraints, this report features a discussion of other significant restraints that do not lend themselves to quantification. The increase in U.S. welfare would likely be greater if the nonquantifiable barriers, such as those identified in transport services, were also removed.

In 2005, the average U.S. tariff rate on goods reached an historic low of 1.4 percent. While this rate ranks the United States among the most open trading nations in the world, some significant restraints remain. The sectors registering the most restrictive trade barriers were agriculture, and textiles and apparel (table ES-1). This report discusses the following import restraints and estimates the effects of their removal:

- Significant tariffs and tariff-rate quotas on food and agricultural products including beef, canned tuna, dairy, ethyl alcohol, sugar and sugar-containing products, and tobacco;
- Significant tariffs and quotas on certain textiles and apparel from China, Vietnam, and certain non-World Trade Organization member countries; and
- Significant tariffs for merchandise goods including footwear and leather products; glass and glass products; watches, clocks, watch cases and parts; ball and roller bearings; ceramic wall and floor tile;

Table ES-1
Quantifiable significant U.S. import restraints, by sector, percent, 2005

Sector	Ad valorem equivalents		
	U.S. import tariff	Export tax equivalent ^a	Rest-of-world total price wedge ^b
<i>Textile and apparel sectors</i>			
Textile mill goods	4.7	(+)	4.7
Textile products	6.8	0.0	6.8
Apparel	11.1	2.6	14.0
<i>Agricultural sectors</i>			
Beef	2.1	0.0	2.1
Dairy	10.5	— ^c	— ^c
Sugar	2.6	— ^c	— ^c
Ethyl alcohol	5.1	— ^c	— ^c
Canned tuna	11.6	0.0	11.6
Tobacco	4.5	6.9	11.7
<i>Other manufacturing sectors</i>			
Ball and roller bearings	6.0	0.0	6.0
Ceramic wall and floor tile	7.9	0.0	7.9
Costume jewelry	6.4	0.0	6.4
Cutlery and hand tools	4.6	0.0	4.6
Edible fats and oils n.e.c.	5.0	0.0	5.0
Footwear and leather products	10.7	0.0	10.7
Glass and glass products	4.5	0.0	4.5
Musical instruments	3.9	0.0	3.9
Pens, mechanical pencils, and parts	5.1	0.0	5.1
Processed fruits and vegetables	4.8	0.0	4.8
Table and kitchenware	5.4	0.0	5.4
Watches, clocks, watch cases and parts	5.1	0.0	5.1

Source: Ad valorem tariff equivalents (calculated by dividing calculated duties by customs value for all imports in a given sector) are compiled from the U.S. Department of Commerce official statistics. U.S. International Trade Commission estimates and calculations include export tax equivalents of U.S. quotas and tariff-rate quotas.

^aThe export tax equivalent measures the degree to which tariff rate quotas increase the export price of the commodity (i.e., the price before entry into the U.S. market). More restrictive tariff rate quotas produce higher export tax equivalents.

^bThe total price wedge represents the combined effect of the U.S. import tariff and the rest-of-world export tax equivalent.

^cExport tax equivalents were not calculated for this sector because of the modeling techniques used to account for the effects of tariff-rate quotas. In the previous update of this report, all tariff-rate quotas were evaluated using export tax equivalents. In this study, the effects of the tariff-rate quotas for dairy, sugar and ethyl alcohol are estimated within the model using improved techniques that do not rely on estimates of price wedges.

Note: (+) denotes a small positive value with magnitude below 0.05.

table and kitchenware; costume jewelry; pens, mechanical pencils, and parts; musical instruments; processed fruits and vegetables; and cutlery and hand tools.

The economic implications of the restrictions affecting two transportation industries are also reviewed. In coastwise shipping, this report discusses the implications of the domestic construction and flagging restrictions imposed by the Jones Act. In road transport, this report considers the effects of restrictions that were negotiated in the North American Free Trade Agreement on Mexican suppliers of trucking services to the U.S. market. However, data limitations precluded formal quantitative analysis of the impact of restrictions on these two transportation industries.

The report also includes a detailed analysis of the implications for U.S. workers of removing significant import restraints. The analysis finds that while some concentrated pockets of dislocation could be expected from such a change in U.S. trade policy, the overall impact would be transient and very small in comparison to the month-to-month fluctuation in labor demand in the United States.

Analytical Framework

The main vehicle for quantitative analysis in this report is the USAGE-ITC economic model. The model—a system of equations describing the dynamic behavior of the U.S. economy and its interaction with the rest of the world through international flows of goods, services, and capital—uses detailed sectoral data, macroeconomic forecasts, and negotiated changes to U.S. import tariffs and quotas to establish a projection of the U.S. economy from 2005 to 2011, a period of time believed to be adequate to allow the economy to adjust to liberalization.¹ The time span covers important changes to trade policy, including liberalization of sugar trade with Mexico in 2007, expiration of negotiated quantitative limits on textiles and apparel with China in 2008, and the continued phase-in of a number of free trade agreements. The economic simulations discussed here represent the effects of liberalization on the projected state of the economy in 2011, incorporating known trade policy changes, measured in 2005 dollars.

1. In contrast to earlier studies in this series, the model implemented here is dynamic, rather than static. The simulations are now set in a forward-looking framework.

The reported effects of liberalization should therefore be understood as deviations from the projected state of the economy in 2011, owing to removal of identified significant import barriers.

The current version of the USAGE-ITC model includes a number of innovations that permit more detailed and realistic analysis of the effects of liberalization. The move to a dynamic framework has enabled the analysis to take into account the underlying trends in the economy as well as negotiated changes in trade policy, including the effects of trade liberalization brought about by the recent signing of a number of free trade agreements. The future state of the economy is also informed by macroeconomic projections and other data from government agencies, such as the Bureau of Labor Statistics, the Congressional Budget Office, the U.S. Department of Agriculture, and the Energy Information Administration. Greater disaggregation aligns some model sectors more closely with the liberalized products, in particular beef, tuna, dairy, and sugar. The introduction of an explicit model of tariff-rate quota behavior improves the results for sugar, ethyl alcohol, and dairy.

Simultaneous Liberalization of Significant Import Restraints

Simultaneous liberalization of all significant and quantifiable import restraints identified in this report as of 2005 is estimated to yield an increase in economywide welfare of approximately \$3.7 billion annually as of 2011 (table ES-2). For most liberalized sectors, import prices are expected to fall and imported quantities are expected to rise (table ES-3). In response, prices for domestic production would also decline. Exports in liberalized sectors are expected to increase, although by a smaller percentage than the estimated increase in sectoral imports. Domestic output and employment in liberalized sectors typically decline. For the economy as a whole, real gross domestic product is estimated to increase by \$1.6 billion. Imports are estimated to increase by 0.6 percent, and exports are also likely to expand by 0.6 percent (table ES-3).

Table ES-3 also shows the effects of liberalization in nine broad sectors that constitute the entire U.S. economy. The two broad sectors subject to the most significant tariffs—agriculture and nondurable manufacturing—are estimated to contract overall. The mining sector and the service

Table ES-2

Projected economic welfare changes from baseline projections resulting from the liberalization of significant import restraints, by sector, million dollars, 2011

Sector	Change in economic welfare
Simultaneous liberalization of all significant restraints	3,688
<i>Individual liberalization</i>	
Textiles and apparel	1,885
Sugar	811
Dairy	573
Footwear and leather products	249
Ethyl alcohol	120
Beef	48
Tuna	24
Glass and glass products	20
Tobacco	19
Processed fruits and vegetables	13
Cutlery and hand tools	12
Costume jewelry	12
Ball and roller bearings	11
Pens, mechanical pencils and parts	10
Watches, watch cases, and parts	7
Table and kitchenware	7
Musical instruments	4
Edible fats and oils	2
Ceramic wall and floor tile	-2

Source: USITC estimates.

sector—with the exception of finance, insurance, and real estate—are estimated to expand in response to liberalization. Chapter 6 considers in greater detail the economic effects of removing all significant and quantifiable import restraints simultaneously.

Effects of Sector-by-Sector Liberalization

The economic effects of identified significant and quantifiable tariff restraints are considered individually to identify the relative welfare gains available through liberalization as well as to estimate the upstream and downstream effects of each simulation. The sectors analyzed are organized into three groups: food and agriculture, textiles and apparel, and other sectors with significant import restraints.

Table ES-3**Projected economic effects of liberalization of all significant import restraints on liberalized sector, changes in employment, output, trade, and prices, percent, 2011**

Sector	Employment	Output	Imports	Exports	Household price
Entire economy	0.0	(-)	0.6	0.6	(+)
<i>Food and agricultural sectors</i>					
Beef	0.3	0.2	10.7	12.3	0.1
Dairy	-2.4	-2.6	131.9	30.9	-1.1
Sugar	-18.5	-3.1	318.4	131.4	-3.4
Ethyl alcohol	-1.0	-1.2	27.8	1.0	-0.6
Tuna	-8.5	-15.1	12.3	4.6	-5.5
Tobacco	-0.2	-0.3	14.9	1.8	-0.1
<i>Textile and apparel sectors</i>					
Textile mills goods	-15.3	-11.1	3.5	-38.6	-0.5
Textile products	-0.6	-1.2	3.1	-5.0	-1.2
Apparel	-4.0	-5.4	3.1	-31.9	-1.9
<i>Other manufacturing sectors</i>					
Ball and roller bearings	-4.9	-4.7	11.1	0.7	-0.1
Ceramic wall and floor tile	-5.6	-5.3	2.8	0.4	-0.1
Costume jewelry	-3.3	-2.7	5.8	0.7	-1.6
Cutlery and hand tools	-1.1	-1.1	4.3	0.7	-0.8
Edible fats and oils n.e.c.	-0.5	-0.6	25.0	11.0	-0.2
Footwear, leather products	-2.9	-2.2	4.4	1.3	-4.2
Glass and glass products	-0.4	-0.4	6.1	5.2	-0.6
Musical Instruments	-1.3	-1.2	2.9	4.9	-1.0
Pens, mechanical pencils, and parts ..	-2.9	-2.3	4.6	1.6	-1.1
Processed fruits and vegetables	-1.9	-1.7	17.5	4.6	-0.4
Table and kitchenware	-2.5	-2.4	2.9	0.2	-1.8
Watches, clocks, watch cases, and parts	1.1	0.8	2.4	5.1	-1.7
<i>Broad sectors</i>					
Agriculture, forestry, and fisheries	-0.9	-0.6	-0.1	0.9	0.2
Mining	0.3	0.4	(+)	5.0	0.2
Construction	(+)	(+)	—	1.9	—
Nondurable goods	-0.5	-0.4	2.4	-0.5	-0.7
Durable goods	(+)	(+)	0.1	0.4	0.2
Transportation, communications, and utilities	0.1	0.2	0.9	1.5	0.1
Wholesale trade	0.2	0.2	—	-0.6	0.2
Finance, insurance, and real estate ..	-0.1	(-)	(-)	(+)	0.1
Government and other services	(+)	(+)	(+)	1.1	0.2

Source: USITC estimates.

Note: (+) and (-) denote small positive and negative changes with magnitudes below 0.05 percent.

Food and Agriculture

This study examines six agricultural sectors that have either high tariffs, binding tariff-rate quotas, or both. The estimated net welfare effects of liberalizing these sectors are all positive, although liberalization is expected to have adverse effects on employment and output in the liberalized sectors. Table ES-2 presents a summary of all estimated welfare changes, and the principal findings of chapter 2 are as follows:

- Sugar** Removing U.S. tariff-rate quotas and tariffs on imports of raw and refined sugar is estimated to increase U.S. welfare by about \$811 million. Employment and production changes in liberalized sectors are mixed. The removal of U.S. tariff-rate quotas on raw and refined sugar results in price declines throughout the industry. Production of sugar cane, raw cane sugar, sugar beets, and refined beet sugar are estimated to decline by 31 to 37 percent. Cane refiners benefit from the drop in raw cane sugar prices, increasing output and employment by about 40 percent. Confectioners benefit from the decline in refined sugar prices, thus increasing production and exports.
- Dairy** Removing the U.S. tariff-rate quotas and tariffs on imports of dairy products is estimated to increase U.S. welfare by approximately \$573 million. Employment and production in butter is estimated to decline substantially, while other sectors are estimated to contract less.
- Tobacco** Elimination of tariffs and tariff-rate quotas on tobacco is estimated to increase U.S. welfare by about \$19 million. Output and employment in tobacco are estimated to decline by a small amount.
- Tuna** Tuna liberalization is estimated to increase welfare in the United States by about \$24 million. Canned tuna output is expected to decline by more than 15 percent as a result of liberalization. Employment in the broader canned fish industry also falls, by 8.5 percent.

Ethyl alcohol Liberalization of ethyl alcohol is estimated to increase U.S. welfare by \$120 million. This liberalization has only a small effect on industry output and employment.

Beef Liberalization of beef is expected to increase U.S. welfare by about \$48 million. This effect is relatively modest because the sanitary and phytosanitary measures in place in 2005, which have the effect of limiting imports, are expected to remain in force throughout the period of analysis. Output and employment are expected to decline by less than 1 percent.

Textiles and Apparel

The Commission estimates that liberalization of the textile and apparel sectors would increase 2011 welfare by approximately \$1.9 billion (table ES-2). In about half of these sectors, liberalization would cause a small decline in domestic production and employment and a somewhat larger increase in imports compared to their estimated trends. However, U.S. exports in certain sectors are currently encouraged by rule-of-origin-based requirements for U.S. inputs in U.S. preference programs and free trade agreements (FTAs). Exports, production, and employment in these sectors, such as in apparel (cut pieces), yarn, thread, knit fabric, and broadwoven fabric, would decline considerably as a result of full liberalization. Domestic prices of these goods would also decrease, leading to increased U.S. competitiveness in the global economy and a slight mitigation of the decline in U.S. exports caused by the erosion of rule-of-origin-based requirements. Chapter 3 provides a complete discussion of these results and the methods used to obtain them.

Other Significant Tariff Restraints

Twelve other sectoral groupings are identified as subject to relatively high tariffs.² The Commission examined the economic effect of removing

2. The 12 sectoral groupings identified as subject to relatively high tariffs are ball and roller bearings; ceramic wall and floor tile; costume jewelry; cutlery and hand tools; edible fats and oils n.e.c.; footwear and leather products; glass and glass products; musical instruments; pens, mechanical pencils and parts; processed fruits and vegetables; table and kitchenware; and watches, clock, watch cases and parts.

tariffs on these sectors individually. The welfare effects of liberalization are estimated to range from a potential gain of about \$249 million for footwear and leather products to a potential loss of approximately \$2 million for ceramic wall and floor tile. All sectors are expected to experience increased imports and increased exports. Import increases range from 2–19 percent (table 4-2). Consumer prices are estimated to fall in every case. In all but two sectors, domestic employment and output would decrease. Brief descriptions of the sectoral groupings, market conditions, and the effects of liberalization for these twelve sectors can be found in chapter 4.

Transport Services

Among the services sectors, maritime transport and truck transport have significant import restraints. For maritime transport, federal regulations are designed to ensure the existence of a U.S. merchant fleet that can participate in domestic ocean-borne commerce and can assist in national defense. The quantitative effect of lifting U.S. cabotage restrictions is not assessed. The effect of changes to crew requirements is unclear, as shippers would remain subject to U.S. employment laws. For truck transport, if the United States lifted restrictions on Mexican truckers providing cross-border trucking services, it is expected that Mexico would also lift restrictions on U.S.-provided cross-border trucking services. This increased competition would likely result in a net gain for Mexican truckers because of their lower wages. Chapter 5 provides further detail on significant import restraints in services.

Labor Market Transitions

Wages for skilled and unskilled workers have diverged in the U.S. labor market during the past three decades. The literature points to technical change and international trade as reasons for the wage divergence. Simulations suggest that about 60,000 full-time equivalent workers would move from contracting sectors to expanding sectors as a result of liberalization, with over half of the displaced workers coming from the textile and apparel industries. The overall employment rate is treated as stable over the period of analysis. As in the previous report, workers estimated to be displaced by liberalization of significant import restraints have lower levels of educational attainment than the average displaced worker. Analysis

of displaced worker surveys indicates that most workers displaced by removing import restraints would succeed at finding other full-time jobs, although typically at lower pay. Chapter 7 discusses the labor effects of removing significant import restraints.

Chapter 1

Introduction

This report addresses the question, “What does the United States have to gain—or lose—from the removal of significant restraints on imports?”¹ Although there are caveats to this conclusion, the U.S. International Trade Commission (USITC) finds that yearly U.S. welfare could, by 2011, increase by approximately \$3.7 billion (in 2005 dollars) if the identified barriers were removed.² Much of this gain comes from the liberalization of tariffs, tariff-rate quotas (TRQs), and other barriers. The gains from liberalization are substantially smaller than those found in the previous updates of this report.³ Since the previous update, the Agreement on Textiles and Clothing has expired, resulting in the liberalization of quotas on imports of textiles and apparel from World Trade Organization (WTO) members. As a result, the benefits of complete liberalization in this analysis are substantially smaller.

1. This report was originally requested by the United States Trade Representative in May 1992. See appendix A for a full discussion of the history of this series of reports as well as a copy of the original request letter.

2. Welfare is defined in this report as the aggregate change in public and private consumption resulting from liberalization.

3. See USITC, *Import Restraints, Fourth Update 2004*. Note that the previous analysis was conducted with a pure *comparative static* model, presenting a snapshot of the U.S. economy at a specific point in time (2002). This report uses a *modified dynamic* model presenting the projection of the economy from 2005 to 2011. From the 2011 projected economy, deviations resulting from liberalization are considered.

Significant Import Restraints

In 2005 (the base year for this report), the average tariff rate for the United States was 1.4 percent, a reduction from the average rate of 1.6 percent in 2002. Despite this low average level, a number of goods and services were still affected by significant trade restraints. This report analyzes the economic effects of those restraints on U.S. consumers, firm activities, employment, and economic welfare. The restrictiveness of the restraints examined are summarized in table 1-1, which includes both U.S. import tariff rates and rest-of-world export tax equivalents (ETEs).

The restrictiveness of quantitative restraints varies by supplier and by product. A quota that is binding effectively limits the supply to the U.S. market of a given product, making its price higher in the United States than in the world market. Given the resulting difference between the U.S. and world prices, the limited and scarce supply of quotas becomes valuable and benefits accrue to firms (or individuals) that have access to them. In other words, exporters that have licenses to export products to the United States are able to capture economic rents by increasing the export prices of their products.⁴

The ETE of a quota or a TRQ measures the degree to which the quota or the TRQ increases the export price of the commodity, i.e., the price before entry into the U.S. market. To export to the United States, a firm in a quota-constrained country must obtain or buy the right to use the quota (or an export license).⁵ Given that quotas impose a cost on exporting firms that is analogous to an export tax, one common way to measure the restrictiveness of the quotas is to compute their ETEs, which measure the degree to which the quota increases the export price (i.e., the price before entry into the U.S. market).⁶ The ETE is equal to the percentage of the cost of production for a good that an exporter must pay to obtain a license to ship the good to

4. It is possible that, in some cases, a portion of the rents generated by the quotas accrue to U.S. importers. This concept is known as rent-sharing. For a discussion of rent-sharing, see Krishna and Tan, *Rags and Riches*.

5. Note that even in countries where quotas are distributed without charge, the system is still costly to exporters that must forgo the opportunity to sell the valuable quotas to other suppliers.

6. ETEs can be used to measure the restrictiveness of many quantitative restraints. The analysis of the tobacco TRQ in chapter 2, for example, employs an ETE of 15.3 percent for Brazilian tobacco. For additional textile and apparel examples, see Francois and Spinanger, "ATC Export Tax Equivalents."

Table 1-1
Quantifiable significant U.S. import restraints, by sector, percent,
2005

Sector	Ad valorem equivalents		
	U.S. import tariff	Rest-of-world ETE ^a	Total price wedge ^b
<i>Textile and apparel sectors</i>			
Textile mill goods	4.7	(+)	4.7
Textile products	6.8	0.0	6.8
Apparel	11.1	2.6	14.0
<i>Agricultural sectors</i>			
Beef	2.1	0.0	2.1
Dairy	10.5	— ^c	— ^c
Sugar	2.6	— ^c	— ^c
Ethanol	5.1	— ^c	— ^c
Canned tuna	11.6	0.0	11.6
Tobacco	4.5	6.9	11.7
<i>Other manufacturing sectors</i>			
Ball and roller bearings	6.0	0.0	6.0
Ceramic wall and floor tile	7.9	0.0	7.9
Costume jewelry	6.4	0.0	6.4
Cutlery and hand tools	4.6	0.0	4.6
Edible fats and oils n.e.c.	5.0	0.0	5.0
Footwear and leather products	10.7	0.0	10.7
Glass and glass products	4.5	0.0	4.5
Musical instruments	3.9	0.0	3.9
Pens, mechanical pencils, and parts	5.1	0.0	5.1
Processed fruits and vegetables ..	4.8	0.0	4.8
Table and kitchenware	5.4	0.0	5.4
Watches, clocks, watch cases, and parts	5.1	0.0	5.1

Source: Ad valorem tariff equivalents (calculated by dividing calculated duties by customs value for all imports in a given sector) are compiled from the U.S. Department of Commerce official statistics. USITC estimates and calculations include ETEs of U.S. quotas and TRQs.

Note: (+) denotes a small positive value with magnitude below 0.05.

^aThe ETE measures the degree to which tariff rate quotas increase the export price of the commodity (i.e., the price before entry into the U.S. market). More restrictive tariff rate quotas produce higher ETEs.

^bThe total price wedge represents the combined effect of the U.S. import tariff and the rest-of-world ETE.

^cIn the previous update of this report, all TRQs were evaluated using ETEs. In this study, the effects of the TRQs for dairy, sugar and ethanol are estimated within the model using improved techniques that do not rely on estimates of price wedges.

the United States. More restrictive quotas lead to more valuable export licenses, which in turn produce higher ETEs.

The sectors registering the most restrictive trade barriers are textiles and apparel, and food and agriculture. In particular, the following import restraints are discussed and examined using a single analytical framework developed by the Commission:

1. Significant tariffs and TRQs on food and agricultural products including beef, canned tuna, dairy products, ethyl alcohol, sugar and sugar-containing products, tobacco and tobacco products;
2. Significant tariffs and quotas on certain textiles and apparel pursuant to China's WTO accession agreement and bilateral textile agreements with Vietnam and certain non-WTO member countries; and
3. Significant tariffs for merchandise goods, including footwear and leather products; glass and glass products; watches, clocks, watch cases, and parts; ball and roller bearings; ceramic wall and floor tile; table and kitchenware; costume jewelry; pens, mechanical pencils, and parts; musical instruments; processed fruits and vegetables; and cutlery and hand tools.

The economic implications of the restrictions affecting two transportation industries are also investigated. In coastwise shipping, the report discusses the implications of the domestic construction and flagging restrictions imposed by the Jones Act.⁷ In road transport, the report discusses restrictions on Mexican suppliers of trucking services to the U.S. market that were negotiated in the North American Free Trade Agreement (NAFTA). Data limitations precluded a formal quantitative analysis of the impact of restrictions on these two transportation industries.

The report also includes in chapter 7 a detailed analysis of the implications for U.S. workers of a removal of significant import restraints. The analysis finds that while some concentrated pockets of dislocation can be expected from such a change in U.S. trade policy, the impact would be transient and very small in comparison to the month-to-month fluctuation in overall labor demand in the United States.

7. The transportation of merchandise between U.S. ports, either directly or via a foreign port, is known as cabotage.

Approach of the Study

The analysis in the report reflects the importance of linkages between sectors in the U.S. economy, as well as U.S. linkages with the rest of the world. This study employs qualitative and quantitative analyses to assess the impact of trade liberalization. The qualitative analysis focuses on the conditions of competition in the industries under question and the nature of trade barriers. This analysis relies on expert knowledge of industry trends and trade policy. The qualitative analysis also informed the development of tools used in the quantitative analysis.

The quantitative analysis relies on the USAGE-ITC model of the U.S. economy to simulate the impact of quantifiable trade restraints on the United States.⁸ The USAGE-ITC model is a highly disaggregated model of the United States economy and the import and export relationships between the United States and the rest of the world. It is similar to the model used in previous editions of *Significant U.S. Import Restraints*, with several important extensions, including a dynamic framework and more detailed treatment of some industries of interest.

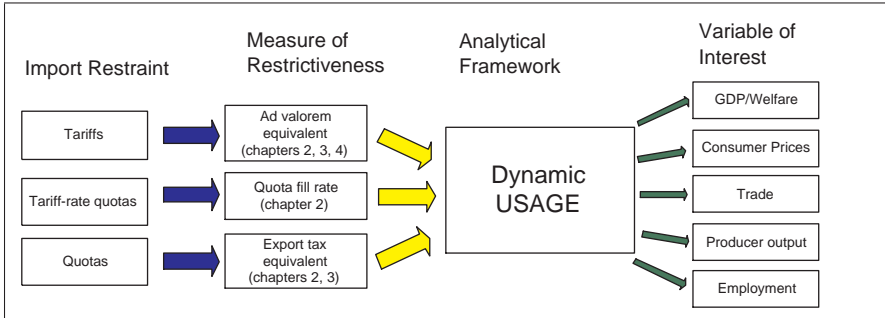
Figure 1-1 sketches the most important inputs in the USAGE-ITC framework: TRQs for food and agriculture (discussed in detail in chapter 2), textile and apparel quotas (discussed in detail in chapter 3), and sectors with relatively high tariffs (discussed in chapter 4). Figure 1-1 also identifies the simulated effects that are discussed in this report: changes in gross domestic product (GDP) and welfare, trade, output, employment, and consumer prices.

Below is a brief description of the model; a fuller account is provided in appendix D. In contrast to earlier studies in this series, the model implemented here is dynamic, rather than static. This change has several implications for the study. The simulations are now set in a forward-looking framework. The model itself includes a baseline projection of the U.S. economy from 2005 to 2011, incorporating macroeconomic projections from a number of federal agencies.⁹ Previously negotiated

8. The acronym USAGE-ITC stands for U.S. applied general equilibrium-International Trade Commission.

9. All projections given in the report represent the cumulative percentage change from the baseline 2005 data to the 2011 projection. For example, GDP (output) is projected to increase by 21.7 percent over the period (table 3-6). This represents an average annual real GDP growth rate of about 3.3 percent.

Figure 1-1
Study methodology



U.S. trade agreements that are still in the process of full implementation are also incorporated into the baseline projection, thus taking into account liberalization that is already expected to occur.

The effects of policy liberalizations reported in this study are the *deviations* from the projected baseline outlook for the economy. Thus, they illustrate the incremental impact of the removal of remaining significant import restraints, above and beyond anticipated effects resulting from those changes to U.S. and partner countries’ trade policy already scheduled to take place.¹⁰

USAGE-ITC Model

Basic Model Structure

The USAGE-ITC model simulates the effects of policy changes at both the sectoral and economywide levels, examining how individual sectors and the whole economy respond to policy liberalization. The analysis focuses on changes in employment, output, imports, and exports for the liberalized sectors, sectors upstream and downstream from those subject

10. For example, consider a sector for which output is projected to grow by 20 percent, from \$100 million in 2005 to \$120 million in 2011. If the sector were to grow only to \$108 million in the case of liberalization, then the effect of liberalization would be characterized as a decline of 10 percent from the 2011 baseline projection.

to liberalization, and in the economy as a whole.¹¹ Because the USAGE-ITC model is a dynamic model that tracks changes that occur from the base year of 2005 through 2011, this analysis considers the deviation in the projected economy resulting from the trade policy liberalization specifically analyzed here. Investment decisions are made in light of the changes in the economy, taking into account the losses incurred by idled production capacity in shrinking industries as well as the development requirements in expanding industries. Similarly, labor responds to overall market forces by moving from contracting to expanding sectors, but with a lag.

Trade with the rest of world is grouped into 23 distinct regions, grouped by trading relationship.¹² For example, U.S. free trade agreement (FTA) partners and members of other preferential trade agreements are grouped by agreement so that the details of each agreement may be considered separately. This regional breakout allows for the careful consideration of the influence of tariff preferences granted under FTAs or other preferential agreements, and takes into account the implications of rules of origin when moving to unrestrained trade. TRQs are explicitly modeled in a number of sectors, including sugar, dairy products, and ethanol. This approach allows for a more realistic representation of the repercussions of liberalization on each of these sectors than was possible in earlier reports in this series.

Industries and commodities of particular interest have received a more thorough treatment in this study. For example, the model now features a full specification of the sugar industry, separately modeling the production of cane and beet sugar, including distinct treatment of the cane milling and refining industries and the beet sugar refining industry. In other cases, industry production has been split from a single commodity to two or more to increase the focus on product-specific effects. For example, splitting the production of the meat packing industry into beef and other red meats allows this report to consider more precisely the implications for trade liberalization in U.S. beef trade. Similarly, the upstream livestock industry now produces two commodities, beef cattle and other meat

11. Here and elsewhere in this report, upstream sectors are those that sell their output to the sector in question, and downstream sectors are those sectors that buy the output of the sector in question.

12. The FTAs included in these 23 groups are NAFTA, CAFTA-DR, Australia, Bahrain, Chile, Israel, Jordan, Morocco, Oman, Peru, and Singapore. Other trading arrangements include the Memorandum of Understanding with China on their accession to the WTO, CBERA, CBERA plus CBTPA, ATPA, GSP, GSP plus AGOA, GSP-LDC, and GSP-LDC plus AGOA.

animals (primarily pigs and sheep). A dry corn milling sector for the production of ethanol has been introduced, complementing the production of ethanol by wet corn milling technology. The commodity ethanol has also been separated from the rest of industrial chemicals.

Data

The USAGE-ITC data are based on (a) 2005 national income and product accounts published by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce (USDOC); (b) the 1992 input-output (I-O) accounts published by BEA; (c) 2005 trade flows published by USDOC; (d) the final text of FTAs provided by the United States Trade Representative (USTR); and (e) 2005 tariffs on U.S. exports from the United Nations Conference on Trade and Development (UNCTAD), Trade Analysis and Information System (TRAINS), and WTO statistics.¹³ The other major inputs into the USAGE-ITC model are the elasticity parameters, which specify the responsiveness of demands for and supplies of commodities to changes in relative prices.

Incorporating these various types of data to establish the 2011 baseline projection has important implications for other aspects of the baseline projection. For example, forecasts of export and import growth, combined with consensus assumptions concerning rates of world economic growth and other factors such as the size of the U.S. current account, imply a 20 percent real depreciation in the dollar over the 6-year period of the projection.

Other adjustments have been incorporated into the 2011 baseline projection. Hurricane Katrina caused substantial damage to infrastructure and to crops throughout the Gulf Coast region, resulting in depressed sugar cane production and much higher trade in petroleum products than would otherwise be expected. These data were smoothed to make 2005 more consistent with recent experience. Had these changes not been made, the resulting 2011 baseline projection would have featured much lower sugar production and much higher trade in petroleum products. (See appendix D for complete details of model data construction.)

13. For a complete discussion of the data, see Dixon and Rimmer, "MONASH-USA: Creating a 1992 Benchmark Input-Output Database"; Dixon and Rimmer, "USAGE-ITC: Creating Historical Shocks for 1992 to 1998"; and Dixon, Rimmer, and Tsigas, "Creating a USAGE-ITC Database for 2002."

A quantitative analysis of the removal of significant U.S. import restraints requires measures of the magnitudes of these restraints. Among these restraints, tariffs are readily quantifiable. For each sector, an average ad valorem rate is calculated using import data and estimated duties collected by the U.S. Treasury from official statistics of USDOC.

Organization of Report

Chapter 2 discusses the economic effects of significant import restraints in the food and agricultural sector. Chapter 3 presents the same analysis for the textiles and apparel sectors. Chapter 4 analyzes the liberalization of significant import restraints in merchandise trade. Chapter 5 discusses the import restraints affecting maritime transport and trucking services. Chapter 6 reports the economic effects of the comprehensive removal of all quantifiable significant import restraints identified in chapters 2–4. Finally, chapter 7 analyzes the labor market effects of liberalization of all quantifiable significant import restraints.

Chapter 2

Food and Agriculture

This chapter analyzes the effects of removing significant U.S. border measures affecting trade in food and agricultural goods. Such border measures include ad valorem and specific tariffs and TRQs. Each following section provides an overview of the sector, an analysis of the border measures, and an assessment of the economic impact of removing those restraints. The sectors that are analyzed are sugar and sugar-containing products (SCPs), dairy products, tobacco and tobacco products, canned tuna, ethyl alcohol, and beef. In contrast to previous updates of this report, neither peanuts nor cotton are analyzed because their TRQs did not fill in 2005 and hence TRQs did not restrain trade in these commodities.¹

As mentioned in the previous chapter, the USAGE-ITC model is a dynamic model that tracks changes that occur from the base year of 2005 through 2011. Thus, the analysis considers the deviation in the projected economy resulting from trade policy liberalization.

The TRQs for sugar, dairy, and ethyl alcohol are more explicitly analyzed than in previous reports. This change allows for a more accurate

1. The U.S. peanut TRQ has not filled since 2003. The change in the U.S. government peanut program implemented under the 2002 Farm Act essentially lowered the U.S. price for peanuts to the world price by the close of 2002, making the U.S. market less attractive to peanut exporters relative to previous years. The cotton TRQ did not fill in 2005. In addition, the Secretary of Agriculture and the President have the authority to provide additional market access for cotton imports when U.S. cotton prices increase. Additional market access is designed to aid U.S. textile mills by providing them with cotton at competitive prices. For details on quota structure and administration, see USDA, FSA, *Fact Sheet on Upland Cotton*, and USITC, *Cotton Summary*.

representation of liberalization of these products. The restrictiveness of TRQs varies by supplier and by product. A binding TRQ effectively limits the supply to the U.S. market of a given product, making its price higher in the United States than in the world market. Given the resulting difference between the U.S. and world prices, the limited and scarce supply of quotas becomes valuable and rents accrue to firms (or individuals) that have access to them. In other words, exporters that have licenses to export their products to the United States are able to capture economic rents by increasing the export prices of their products. This analysis takes into account the special nature of TRQs and the rents that accrue to holders of such rights.

For the tobacco sector, the only TRQ found to be binding is on imports from Brazil. In contrast to other TRQs in this chapter, the tobacco TRQ is not explicitly modeled, and TRQ rents are treated as an export tax equivalent (ETE). A common way of measuring the restrictiveness of a TRQ is to compute its ETE, which measures the degree to which the TRQ increases the export price of the commodity (i.e., the price of the commodity delivered to the U.S. border). More restrictive TRQs produce higher ETEs.

Although TRQs exist for the other agricultural products in this chapter—tuna and beef—these were not explicitly analyzed. In the case of tuna, almost all tuna entering the United States does so at the over-quota tariff rate. For beef, Commission analysis finds that the TRQ is only minimally binding, and the degree of binding may decline in the future.

The analysis proceeds in two steps. First, the USAGE-ITC model uses recent national, international, and industry trends to produce a baseline projection of the U.S. economy from 2005 to 2011. This 2011 baseline projection illustrates the size of changes that would likely occur in food and agriculture in the absence of changes to U.S. trade policy. Second, the model is used to simulate the liberalization scenarios of removing import restraints in food and agriculture commodities. The results of this liberalization are presented as deviations from the trends in the baseline projection.

The immediate effect of removing import restraints on a liberalized sector is a reduction in the landed duty-paid price of imports. The decline in the import price is directly related to the restrictiveness of the import restraint: the higher the degree of restrictiveness, the larger the price decline. As a result of the decline in the import price, demand for imports

would increase and demand for the U.S. commodity would decline. These two demand effects are related to the magnitude of the decline in the relative import price and the responsiveness of U.S. consumers to price changes. The larger the decline in the import price and the more responsive U.S. consumers are, the larger the increase in demand for imports. At the same time, U.S. producers of the liberalized commodity would respond to increased competition from imports by lowering the price of the U.S. commodity. As a result, U.S. producers would be less willing to supply the market, and U.S. output and sectoral employment would decline. U.S. demand for the liberalized good would increase because the prices of both the imported and the U.S. good decline. Demand for U.S. exports of that commodity would also increase as U.S. producers become more competitive in the world economy.

While TRQs generally act to restrict imports through prohibitive over-quota tariff rates, products with TRQs are also commonly subject to price guarantees and production or marketing quotas. Producer prices are supported by loans to producers or processors, with the commodity serving as collateral. Border measures allow these domestic support programs to function effectively. Because border measures are frequently necessary to maintain domestic support programs, this chapter's analysis is based on the assumption that such price support programs are suspended. If the United States were to continue such programs at current levels while simultaneously liberalizing the importation of the supported goods, the budgetary implications, either through direct payments to producers or through the accumulation of stocks of commodities, could easily be prohibitively expensive.

Sugar and Sugar-Containing Products

For the purposes of this report, the sugar sector consists of three 6-digit categories in the North American Industry Classification System (NAICS): sugarcane mills (311311), cane sugar refining (311312), and beet sugar manufacturing (311313).² Sugar is used as a primary product and as an input in the manufacture of a multitude of food items. These food items,

2. Sugarcane and sugar beet production (NAICS categories 111930 and 111991, respectively) are not formally included in the sugar sector, as the import restraint is applied to the manufactured product.

which compose the SCP sector, span several NAICS categories.³ The primary focus of this section is the sugar sector. There is a secondary discussion of SCPs that are covered by import restraints because of the quantity of sugar contained within these products.

The United States was the fifth-largest global consumer of sugar in 2005.⁴ Total U.S. sugar use reached 10.5 million short tons, raw value (strv), in 2005. U.S. per capita consumption of sugar totaled 63.4 pounds (refined basis) in 2005. U.S. per capita sugar consumption has been in a long-term decline, having peaked at 102.3 pounds in 1972. The decline mainly reflects a shift to lower-cost alternatives, principally high-fructose corn syrup (HFCS), by primary users, mainly soft-drink manufacturers. Per capita sugar consumption rebounded in 2004 and increased slightly in 2005, with the main reason believed to be a decline in consumer concerns regarding the link between sugar and obesity.⁵ In 2005, refined sugar accounted for approximately 44 percent of the total U.S. consumption of sweeteners, down from 86 percent in 1967, the year before consumption of HFCS was first recorded.⁶ This share has remained relatively stable in recent years, as the shift to HFCS has reached an equilibrium.

Although U.S. producers typically supply 80–85 percent of U.S. consumption of sugar, due to weather-related disruptions in 2005, U.S. producers supplied approximately 75 percent of U.S. consumption.⁷ In that year, U.S. raw cane sugar production totaled \$1.4 billion; U.S. refined sugar production totaled \$3.8 billion, with refined beet sugar accounting for 59 percent of the total (table 2-1). U.S. production of sugar increased from 8.4 million strv in 2003 to 8.6 million strv in 2004, then fell to 7.9 million strv in 2005.⁸ The decline in 2005 resulted from weather conditions that affected both sugar beet and sugarcane production.

3. NAICS categories for SCPs include chocolate and confectionery manufacturing from cacao beans (31132); confectionery manufacturing from purchased chocolate (31133); nonchocolate confectionery manufacturing (31134); bread and bakery product manufacturing (31181); cookie, cracker, and pasta manufacturing (31182); and flavoring syrup and concentrate manufacturing (31193).

4. Data in this section are on a fiscal year basis (Oct.–Sept.), except as noted. For example, 2005 includes October 2004–September 2005.

5. For more on the rebound in sugar consumption, see American Sugar Alliance, “From the International Sweetener Symposium.”

6. USDA, ERS, *Sugar and Sweetener Yearbook Tables*.

7. USDA, ERS, *Sugar and Sweetener Yearbook Tables*.

8. USDA, ERS, *Sugar and Sweetener Yearbook Tables*.

Table 2-1
Sugar: Summary data, 2003–5^a

Item	2003	2004	2005
<i>Production (million dollars)</i>			
Raw cane sugar ^b	1,725	1,626	1,367
Refined cane sugar	2,002	1,750	1,564
Refined beet sugar ^c	2,230	2,075	2,209
Total, refined sugar	4,232	3,825	3,773
<i>Employment (FTEs)</i>			
Sugarcane production ^d	5,565	5,290	6,087
Sugar beet production ^d	1,474	1,515	1,401
Total, sugar crop farming ^d	7,039	6,805	7,488
Sugar cane mills and refining ^e	7,950	7,594	6,979
Beet sugar manufacturing ^e	6,434	6,594	6,137
Total, sugar processing ^e	14,384	14,188	13,116
<i>Imports (million dollars)</i>			
Raw cane sugar ^f	540	522	600
Refined sugar ^f	44	46	113
Total, sugar ^f	584	568	713
<i>Exports (million dollars)</i>			
Total sugar ^g	28	51	88

Source: USDA, ERS, *Sugar and Sweetener Yearbook Tables*; USDOC, U.S. Census Bureau, *Annual Survey of Manufactures*, various issues; U.S. Department of Labor (USDOL), Bureau of Labor Statistics (BLS), *Census of Employment and Wages*.

^aValues are reported for fiscal years beginning October 1 of the previous year and ending September 31 of the reported year.

^bValued at the U.S. domestic price for raw sugar.

^cValued at the U.S. domestic wholesale price for refined beet sugar.

^dSugarcane and sugar beet production are not formally included in the sugar sector, as the import restraint is applied to the manufactured product. Data are for sugarcane farming (NAICS 111930) and sugar beet farming (NAICS 111991).

^eThe three subsectors of the sugar processing sector correspond to 6-digit NAICS categories: sugarcane mills (NAICS 311311), cane sugar refining (NAICS 311312), and beet sugar manufacturing (NAICS 311313). Data are only available in the aggregate for sugarcane mills and cane sugar refining.

^fIncludes both refined cane and beet sugar.

^gThe value includes exports of cane and beet sugar, including refined sugar exports under the sugar reexport program.

The sugar processing sector employed about 13,000 workers in 2005. Such employment has been in decline, as a result of long-term industry consolidation. Sugarcane and sugar beet production are not formally included in the sugar sector, as the import restraint is applied to the manufactured product. Estimated employment in these upstream sectors, sugarcane and sugar beets growing (Standard Industrial Classification (SIC) 0133), was about 38,000 workers in 2002, the latest year for which data are available.

The United States is a net importer of sugar and exports very little.⁹ The United States imports mostly raw sugar, virtually all from sugarcane. The total value of sugar imports rose substantially in 2005 as a result of domestic supply shortages and higher prices. The share of the U.S. sugar market supplied by imports increased, in terms of quantity (raw basis), from about 21 percent in 2003 to 23 percent in 2005.¹⁰

Nature of Trade Barriers

The U.S. trade policy for sugar is determined by elements of the domestic policy as well as by trade agreements.¹¹ To maintain the U.S. domestic price sufficiently above the fixed loan rates, the United States administers a system of TRQs for raw cane and refined sugar, blended sugar syrups, and SCPs for Mexico under NAFTA, for WTO member countries in accordance with the WTO Agreement on Agriculture, and for other countries under various bilateral and regional FTAs.¹²

9. Almost all exports of U.S. sugar fall under the refined sugar reexport program that allows cane sugar refiners and manufacturers using refined sugar as an input to import raw cane sugar at or slightly above world prices. However, the equivalent quantity of imported sugar is reexported within a given time period. The refined sugar reexport program is designed to ensure the competitiveness of U.S. sugarcane product exports on the world market while offering U.S. cane sugar refiners access to the raw material to maintain capacity utilization of their refineries.

10. USDA, ERS, *Sugar and Sweetener Yearbook Tables*.

11. Namely, the domestic loan rates as well as the import trigger level for the suspension of domestic marketing allotments. For more information about the Farm Security and Rural Investment Act of 2002 (Farm Act), see USITC, *Import Restraints, Fourth Update 2004*.

12. Currently the United States has FTAs containing sugar TRQs with Bahrain, Chile, Jordan, Morocco, Peru, Singapore, and the Central America-Dominican Republic Free Trade Agreement countries of El Salvador, Guatemala, Honduras, and Nicaragua.

NAFTA TRQs

The NAFTA granted Mexico its own preferential TRQs for raw cane and refined sugar, blended sugar syrups, and SCPs. In addition to the preferential TRQ access, Mexico is granted preferential in-quota and over-quota tariff rates. Although other countries are granted preferential in-quota rates, Mexico is the only major supplying country that is granted preferential over-quota tariff rates.¹³ The preferential over-quota tariff rates have tended to be restrictive, but not prohibitive, in recent years.¹⁴ These rates are being phased out and will reach zero as of January 1, 2008.

Under the terms of NAFTA, Mexico's TRQ is contingent on Mexico being a net surplus producer for two consecutive years; the United States considers net surplus as production minus consumption, both of sugar and corn sweeteners.¹⁵ Mexico was not a net surplus producer in 2003–5. However, Mexico has been determined to be a net surplus producer in 2006, is projected to be a net surplus producer in 2007, and will receive NAFTA TRQs of 243,126 metric tons in 2006 and 250,000 metric tons in 2007.¹⁶

13. Jordan is also granted preferential over-quota tariff treatment for various sugar TRQ items, but it is a minor supplier of sugar.

14. For example, in 2005, U.S. in-quota imports of raw cane sugar (Harmonized Tariff Schedule (HTS) subheading 1701.11.10) from Mexico totaled about 1,445 metric tons, valued at \$624,000, while over-quota imports (HTS subheading 1701.11.50) totaled 63,000 metric tons, valued at \$29 million. In 2002, U.S. in-quota imports of refined sugar (HTS subheading 1701.99.10) from Mexico totaled 36,000 metric tons, valued at \$13 million, while over-quota imports (HTS subheading 1701.99.50) totaled 31,000 metric tons, valued at \$13 million.

15. The inclusion of corn sweeteners in the calculation was disputed by Mexico and led to Mexican barriers to U.S. exports of corn syrup. On July 27, 2006, however, the United States and Mexico reached an agreement on market access for sweeteners. That agreement provides Mexico duty-free access to the United States for 250,000 metric tons raw value of raw or refined sugar in FY 2007 and at least 175,000 metric tons raw value of raw or refined sugar for the first three months of FY 2008. Under the agreement, Mexico will provide reciprocal access for U.S. HFCS, including 250,000 metric tons in FY 2007 and at least 175,000 metric tons for the first three months of FY 2008. Mexico also commits that effective January 1, 2008, it will not impose duties on U.S. HFCS. The United States and Mexico confirm that on July 3, 2006, they submitted a joint letter to the WTO Dispute Settlement Body regarding the elimination of Mexico's soft drink and distribution taxes. Mexico will establish a duty-free quota for U.S. sugar of not less than 7,258 metric tons raw value for each of marketing years 2006, 2007, and 2008. The over-quota tariff on U.S. sugar will be eliminated effective January 1, 2008, as provided for in the NAFTA. (See USTR, "USTR Announces Revised FY 2006 Tariff-Rate Quota Sugar Allocations.")

16. See USDA, FAS, *Sugar Under Tariff Rate Quotas*.

WTO Agreement on Agriculture TRQs

The United States scheduled separate TRQs for raw cane sugar, refined sugar, certain SCPs, blended sugar syrups, and cocoa powder containing sugar under the WTO Agreement on Agriculture.¹⁷ Imports within the quota are dutiable at a low in-quota tariff rate, while imports beyond the quota are dutiable at a higher over-quota tariff rate. Also, over-quota imports are subject to automatic price-based safeguards, which effectively raise the over-quota tariff by the level of the safeguard. Mexico, Canada, Jordan, Singapore, Chile, Australia, Morocco, El Salvador, Honduras, Nicaragua, Guatemala, and Bahrain are exempt from these special safeguard duties, due to separate FTAs between those countries and the United States.¹⁸

The raw cane sugar TRQ is allocated on a country-specific basis among sugar-exporting nations in proportion to their average market share of U.S. imports during a base period of 1975–81. Under Uruguay Round commitments, the United States is required to allocate at least 1,117,195 metric tons annually. During 2003–4, the TRQ allocations for raw cane sugar were at the minimum level, continuing the pattern of recent years. However, in 2005, the TRQ for raw cane sugar was expanded to 1,193,804 metric tons as a result of shortfalls in U.S. supply.

The minimum level of the global refined sugar TRQ is 22,000 metric tons annually. However, annual allocations increased from 37,000 metric tons in 2003 to 45,000 metric tons in 2005. A certain amount—24,656 metric tons in 2005—is reserved for specialty sugars. In addition, Mexico and Canada receive reserved annual allocations, totaling 2,954 metric tons and 10,300 metric tons, respectively. The remaining amount is allocated on a first-come, first-served (FCFS) basis. Practically all in-quota imports entered free of duty in 2005.

17. The WTO TRQs for raw cane sugar, refined sugar, certain SCPs, and blended sugar syrups are all provided for in the additional U.S. notes 5, 7, 8, and 9 to ch. 17 of the HTS and pertinent subheadings. The WTO TRQ for cocoa powder containing sugar is provided for in additional U.S. note 1 of ch. 18 of the HTS. 15 CFR 201.1.

18. See U.S. note 1 to ch 99, subch. IV of the U.S. HTS.

Restrictiveness of Trade Barriers

The TRQs in this sector effectively limit U.S. imports (to about 25 percent of U.S. sugar consumption on a raw-value basis in 2005), and they contribute to maintaining domestic sugar prices above USDA loan rates for raw cane and refined sugar. In addition, the TRQs contribute to a significant gap between U.S. prices and world prices for raw cane and refined sugar.¹⁹ In 2005 the difference between the U.S. price (20.94 cents/lb) and the world price (10.42 cents/lb) for raw cane sugar was 101.0 percent; for refined sugar, the difference between the U.S. price (25.63 cents/lb) and the world price (12.47 cents/lb) was 105.5 percent.²⁰ Price gaps for sectors that include SCPs are not considered in this report because they are less than 0.1 percent.²¹

Another measure of the restrictiveness of the TRQs is the quota fill rate—U.S. sugar TRQs essentially are filled each year.²² TRQs restrict and distort the flow of trade to the United States because foreign suppliers cannot compete in the U.S. market at the generally prohibitive over-quota duty rates. Also, the TRQs provide market share to relatively high-cost producers, such as the Dominican Republic, at the expense of lower-cost producers, such as Brazil and Thailand. The NAFTA TRQ is less restrictive, as the over-quota duty rates are being phased out. As a result, imports of over-quota sugar from Mexico have increased in recent years.

Despite the restrictions imposed by the TRQs, U.S. policy provides

19. Policies in a number of countries affect world sugar trade and depress the world price of sugar. A 1999 study suggests that global liberalization of the sugar market would result in a 41 percent increase in the world price for raw sugar (Sheales, Gordon, Hafi, and Toyne, *Sugar: International Policies Affecting Market Expansion*). The study also finds that reducing the European Union intervention price for white sugar to world levels would increase global prices by 19 percent, and that reform of the U.S. market would increase world prices by 17 percent.

20. The world raw cane sugar price is represented by Contract No. 11-f.o.b. stowed Caribbean port, including Brazil, bulk spot price; the U.S. raw cane sugar price is represented by Contract No. 14, duty free New York, reported by the New York Board of Trade. Prices were obtained from USDA, ERS, *Sugar and Sweetener Yearbook Tables*. The world refined sugar price is represented by Contract No. 5, London Daily Price, for refined sugar, f.o.b. Europe, spot price; the U.S. refined sugar price is represented by U.S. wholesale refined beet sugar price, reported by the *Milling & Baking News*. Prices were obtained from USDA, ERS, *Sugar and Sweetener Yearbook Tables*.

21. See USITC, *Import Restraints, Third Update 2002*, D-17.

22. Minor shortfalls may occur. For more information about the nature of the TRQs, see USITC, *Import Restraints, Fourth Update 2004*.

flexibility to allow a greater quantity of imports when needed. In 2005, the USDA took several actions to increase imports in response to domestic supply shortages caused by weather conditions.²³ These actions included expanding the WTO TRQ and reassigning to imports a portion of the overall allotment quantity usually reserved for domestic producers.

Effects of Liberalization

Table 2-2 presents the effects of liberalizing U.S. sugar imports. Removing the U.S. TRQs on imports of raw and refined sugar is estimated to increase U.S. welfare by \$811 million. The removal of border measures on imports of raw cane and refined cane sugar causes their landed duty-paid import prices to decline by 40.0 percent and 38.0 percent, respectively, compared to the 2011 baseline projection. As a result of these price declines, U.S. demand for imports of these products is estimated to increase by 280.6 percent and 553.2 percent, respectively, from the baseline projection (table 2-2 and figure 2-1). Increased competition from imports causes a 36.8 percent decline in U.S. raw cane sugar output from the baseline projection (figure 2-2). The supply of U.S. refined cane sugar, however, expands by 40.0 percent because raw cane sugar (an input to the production of refined sugar) becomes cheaper. At the same time, the supply of U.S. refined beet sugar is estimated to decline by 32.0 percent. The private household price for refined sugar is estimated to decline by about 4 percent. Private household prices of products containing sugar decline by 0.1 to 0.5 percent.

23. A summary of the actions is available at USDA, FAS, "Summary of U.S. Sugar Tariff Rate Quota (TRQ) Actions by Fiscal Year."

Table 2-2
Projected baseline values and effects of liberalization for sugar, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H'hold price
<i>Liberalized industries</i>										
<i>Sugar crops farming</i>										
Sugarcane ^a	55	1,303	—	—	-55.1	-36.2	—	—	—	-0.9
Sugar beets ^a	358	3,200	—	—	-45.5	-31.0	—	—	—	-0.9
<i>Sugar manufacturing</i>										
Raw cane sugar	136	2,021	1,043	243	-42.8	-36.8	280.6	107.2	-40.0	-3.4
Refined cane sugar	402	5,187	124	— ^b	40.0	40.0	553.2	— ^b	-38.0	-3.5
Refined beet sugar	592	5,370	23	— ^b	-35.7	-32.0	848.8	— ^b	-49.4	-4.1
<i>Other industries^c</i>										
Cereal breakfast foods	1,329	10,041	242	1,202	1.9	1.6	-0.3	12.9	(+)	-0.1
Prepared flour mixes and doughs	824	5,455	114	179	1.5	1.2	-1.2	29.4	(+)	-0.3
Chocolate and cocoa products	608	2,932	2,950	1,017	7.2	5.4	0.6	12.6	(+)	-0.1
Candy and other confectionery products	2,837	20,676	2,050	545	-0.2	0.8	-2.1	14.2	(+)	-0.5

Source: USITC estimates.

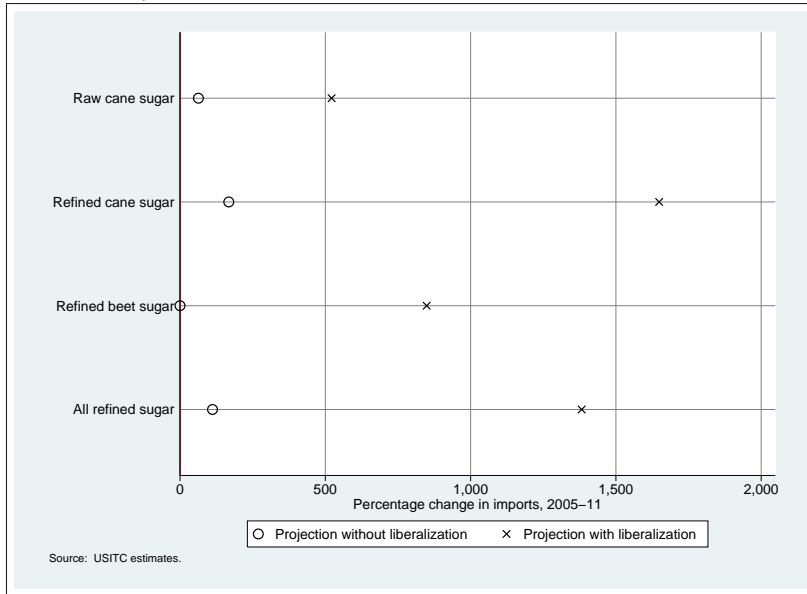
Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aSugarcane and sugar beets are not traded, and so trade values do not appear in this table or in figure 2-1.

^bRefined cane sugar and refined beet sugar are not differentiated in U.S. trade statistics. Projected baseline exports of total refined sugar are \$407 million. The estimated increase in refined sugar exports from liberalization is 147.5 percent.

^cImport price changes for other industries (i.e., industries that are not liberalized) are equal to the exchange rate change, which is very small in this analysis.

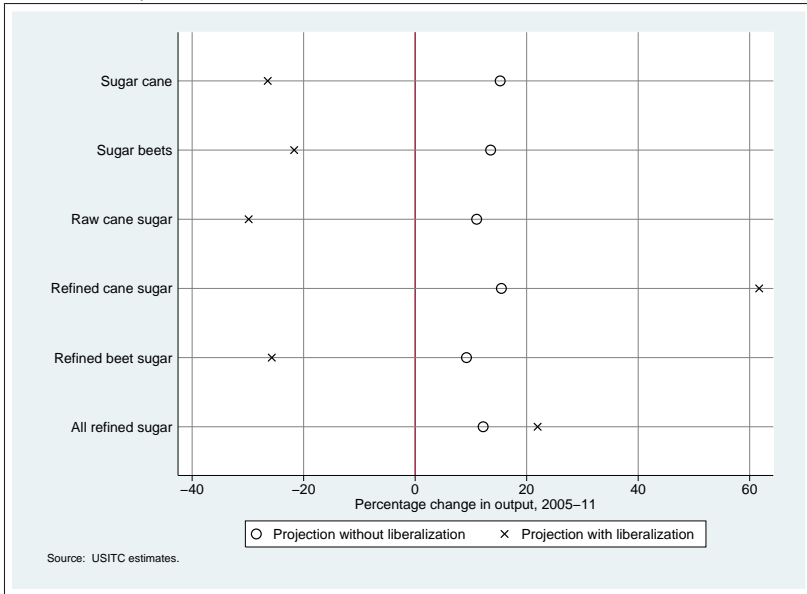
Figure 2-1
Percentage change in imports of sugar, baseline projection and liberalization, 2005–11



The simulated effects suggest that employment in cane production and cane milling would decline by 55.1 percent and 42.8 percent, respectively, from the 2011 baseline projection.²⁴ Employment in beet production would fall by 45.5 percent. Employment would expand in the raw cane sugar refining sector by 40.0 percent as refiners would take advantage of the increased supply of raw sugarcane inputs.

24. Two earlier studies by Stephen Haley and Won Koo find similar results. Haley and Koo both simulated removal of the U.S. sugar program (under the Federal Agriculture and Improvement Reform Act of 1996) and border measures within models of the U.S. sweeteners industry. (See Haley, *Modeling the U.S. Sweetener Sector*; and Koo, *The U.S. Cane and Beet Sugar Industry Under Alternative Trade Liberalization Options*.) Haley found that ten years after the removal of U.S. sugar policies, the United States would become much more dependent on imports of raw cane sugar, but would still produce a sizeable portion of its consumption: cane production would decline by 38 percent, beet production would decline by 19 percent, and refined sugar demand would increase by 17 percent. Koo found that if both the United States and the European Union liberalized their sugar trade, U.S. sugar beet and sugarcane producers would still cover their costs, but sugarcane producers in Louisiana, Texas, and Hawaii would not cover their costs. Koo also found that if only the United States eliminated its sugar programs, all U.S. sugar producing regions would be threatened.

Figure 2-2
Percentage change in output of sugar, baseline projection and liberalization, 2005–11



Dairy Products

Import restraints are applied to several milk products, including fluid milk and cream, butter, cheese, powdered milk products, ice cream, infant formula, and animal feeds containing milk.²⁵ Table 2-3 presents the value of shipments, level of employment, and trade for certain dairy products during 2003–5. U.S. shipments averaged about \$71.5 billion per year during 2003–5, with cheese accounting for about 40 percent of such shipments; fluid milk and cream, 35 percent; dry/concentrated milk products, 12 percent; ice cream, 10 percent; and butter, 3 percent.

U.S. trade in dairy products is relatively small in comparison to the domestic market. In 2005, for example, the total value of dairy imports was \$2.1 billion, representing about 3 percent of the total value of U.S. dairy shipments, while dairy exports, valued at \$1.4 billion, represented about 2 percent of such shipments. About 93 percent of dairy imports consisted of

25. Some food preparations and chocolate products covered in ch. 18, 19, and 21 of the HTS contain both dairy and sugar products.

Table 2-3
Dairy: Summary data, 2003–5

Item	2003	2004	2005
<i>Shipments (million dollars)</i>			
Butter	1,400	2,200	2,000
Cheese	25,000	32,000	30,000
Dry/condensed milk products	8,900	8,300	7,900
Fluid milk and cream	21,300	27,200	26,500
Ice cream	7,100	7,300	7,500
Total	63,700	77,000	73,900
<i>Employment (FTEs)</i>			
Butter	1,600	2,500	2,300
Cheese	42,000	53,000	50,000
Dry/condensed milk products	15,000	14,000	13,000
Fluid milk and cream	45,000	58,000	56,000
Ice cream	21,000	21,000	22,000
Total	124,600	148,500	143,300
<i>Imports (million dollars)</i>			
Butter	41.8	89.1	88.8
Cheese	881.7	982.3	1,007.0
Dry/condensed milk products	731.3	825.1	978.7
Fluid milk and cream	8.9	8.5	14.3
Ice cream	26.5	38.3	45.5
Total	1,690.2	1,943.3	2,134.3
<i>Exports (million dollars)</i>			
Butter	17.4	15.0	16.8
Cheese	152.1	197.4	201.1
Dry/condensed milk products	613.4	989.4	1,117.9
Fluid milk and cream	26.0	22.9	15.8
Ice cream	60.0	53.3	62.4
Total	868.9	1,278.0	1,414.0

Source: Shipments and employment: USITC estimates based on USDA price and production data. Imports and exports: USDOC, Dataweb: Butter HTS 0405, cheese 0406, fluid milk 0401, ice cream 2105, dry/condensed milk, 0402, 0403, 0404, 1702, 1901, 3501, and 3502.

cheese, casein/caseinates, and milk protein concentrates (MPC) in 2005, while major dairy exports were cheese and whey.²⁶

Nature of Trade Barriers

In the United States, milk is marketed under a complex system of federal, state, and local laws and regulations. Programs at the federal level, which have not changed since 2002, include domestic price supports, milk marketing orders, import controls, export subsidies and supports, as well as domestic and international food aid programs.

Slightly less than half the value of the dairy products imported into the United States between 2003 and 2005 were not subject to TRQs, including certain varieties of cheese (mainly cheese made of sheep's milk), MPC, and whey protein concentrates. These products faced fairly low specific and/or ad valorem tariffs. For example, the average ad valorem equivalent across all nonquota imports was 2.5 percent during 2003–5, with cheese at 5 percent. Casein, accounting for almost 30 percent of all dairy imports, is imported duty free. In general, dairy imports not subject to TRQs represent more than 95 percent of domestic consumption of the products in question.

Restrictiveness of Trade Barriers

Overall, the TRQ system has been highly effective in making over-quota imports uncompetitive in the U.S. market. For example, in 2002, the U.S. price of butter (\$1.55 per pound) was significantly higher than the price of imports at the in-quota tariff (\$0.98 per pound), but lower than the price of imports at the over-quota tariff (\$1.64 per pound). Similarly, for cheese and nonfat dry milk (NDM), the over-quota tariff for the most part was sufficient to deter imports above the TRQ level during 2003–5.²⁷

Evidence of the restrictiveness of barriers is provided by TRQ fill rates measured as the ratio between actual imports under the quota and the quota

26. For a detailed review of the U.S. and global markets for these products, see USITC, *Conditions of Competition for Milk Protein Products in the U.S. Market*.

27. Over-quota imports can occur when the U.S. domestic price exceeds the world price by more than the tariff. For example, exceptionally high U.S. prices of cheese in the second quarter of 2004 led to over-quota imports of about 23,000 metric tons of cheese. During this period, the gap between the U.S. price and the world price plus over-quota tariff was as much as \$1,000 per metric ton.

level. In 2005, fill rates for butter, whole milk powder, and cheese exceeded 90 percent. In some product categories, however, fill rates indicate that TRQs were not constraining in 2005. For instance, the quotas do not appear to be binding for NDM (16 percent fill), fluid milk and cream (44 percent fill), and ice cream (74 percent fill).²⁸ However, because the licensing system involves allocation of country-specific quantitative limits, it is difficult to gauge the extent to which quotas are binding.²⁹

Effects of Liberalization

The effects of liberalizing U.S. imports of dairy products are modeled by removing duties and TRQs on imports of butter; cheese; ice cream; fluid milk; and dry, condensed, and evaporated dairy products. Concentrated milk protein products (CMPP), which include casein, caseinates, and MPC products, are imported duty free. Liberalization of these sectors is expected to increase U.S. welfare by \$572.5 million.³⁰

Table 2-4 shows sectoral impacts of removing these border measures. The estimated impacts are mostly confined to the dairy processing sectors and dairy farming. Among the dairy processing sectors, butter is affected the most because butter has the most significant import restraints. Because of dairy farming contracts, upstream sectors such as feed grains and prepared feeds are also affected, but to a much smaller degree.

28. In the case of NDM, the quota was not filled because of historically high world prices of NDM that exceeded the U.S. domestic prices. In 2005, the average U.S. price for NDM was \$2,098 per metric ton, compared with an international price of \$2,230 per metric ton. This enabled the United States to export NDM commercially, without government assistance under the Dairy Export Incentive Program.

29. For more information on the restrictiveness of dairy trade barriers, see USITC, *Import Restraints, Fourth Update 2004*.

30. The TRQs for creamery butter and cheese require USDA licenses, which are allocated to domestic importers, suggesting that TRQ rents likely would accrue to these firms. However, research on U.S. cheese quotas indicates that the export side of the cheese market is highly concentrated, resulting in market power for both importers and exporters (Hornig, Boisvert, Blandford, "Explaining the Distribution of Quota Rents for U.S. Cheese Imports"; and Hornig, Boisvert, and Blandford, "Quota Rents and Subsidies."). Thus, TRQ rents for cheese and butter are assumed to be equally shared between U.S. importers and foreign exporters. The TRQ rents for dry/condensed milk products and ice cream are administered by U.S. Customs and Border Protection on a FCFS basis. The import side, however, is unconcentrated, and foreign exporters benefit from higher prices for their products. Consequently, it is assumed that foreign exporters earn all the TRQ rents.

Table 2-4
Projected baseline values and effects of liberalization for dairy, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H'hold price
<i>Liberalized industries</i>										
Butter	74	2,835	246	20	-38.3	-21.9	380.8	42.7	-45.2	-9.7
Dry dairy products	966 ^a	8,524	530	896	-6.2 ^a	-5.3	105.1	4.7	-20.2	-1.5
Condensed and evaporated dairy products (except CMPP)	— ^a	6,594	420	422	-6.2 ^a	-4.9	88.3	4.0	-17.9	-1.3
Fluid milk	3,687	40,153	18	300	-1.4	-1.4	-8.4	5.7	(+)	(-)
Cheese	1,725	36,296	1,574	746	-3.2	-2.7	116.1	83.9	-18.9	-1.2
Ice cream	1,284	11,282	33	185	-0.2	-0.3	159.8	0.6	-22.6	-0.1
<i>Other industries^c</i>										
Concentrated milk protein products	— ^a	335	14	104	-6.2 ^a	-1.4	-0.6	-1.8	(+)	0.4
Dairy farm products	3,684	42,515	83	79	-2.3	-2.2	-2.7	2.2	(+)	-0.1
Yellow corn	3,113 ^b	75,458	333	7,727	-0.6 ^b	-0.4	-0.9	0.2	(+)	(-)
Barley, sorghum, and oats	— ^b	5,011	36	1,328	-0.6 ^b	-0.4	-0.7	0.2	(+)	(-)
Prepared feeds n.e.c.	1,800	30,075	254	1,632	-0.3	-0.2	-0.5	0.2	(+)	(-)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aEmployment values are for the aggregate of dry, concentrated, and evaporated dairy industries (including milk proteins).

^bEmployment values are for the aggregate of all feed-grain industries.

^cImport price changes for other industries (i.e., industries that are not liberalized) are equal to the exchange rate change, which is very small in this analysis.

The removal of border measures on dairy products causes prices of imported dairy products to decline relative to the 2011 baseline projection. The import price of butter declines by 45.2 percent, and the import price of ice cream declines by 22.6 percent from the baseline projection. The import prices of cheese and dry, condensed, and evaporated dairy products decline by 18 to 20 percent. Because of the decline in import prices, U.S. demand for imports of these dairy products is estimated to increase by more than 80 percent from the 2011 baseline projection; the largest import increase is for butter, 380 percent (figure 2-3). Increased competition from imports causes a decline in the supply of U.S.-produced butter (22 percent) and dry, condensed, and evaporated dairy products (about 5 percent). The U.S. supply of other dairy products declines by less than 3 percent from the baseline projection (figure 2-4).

Increased import competition reduces the prices of the U.S.-produced dairy products. Thus, private household prices are also estimated to decline: 9.7 percent for butter and about 1 percent for cheese and dry, condensed, and evaporated dairy products. The U.S. dairy industries contract, and their employment declines by 2.4 percent as a whole from the baseline projection.

Tobacco and Tobacco Products

Import restraints in the form of a TRQ are applied to certain categories of tobacco used in the production of cigarettes consumed domestically, mainly semiprocessed flue-cured and burley leaf tobacco, the principal cigarette tobaccos produced in the United States.³¹

Table 2-5 provides production, employment, and trade data for un-

31. Generally, more than 90 percent of the value of tobacco imported under the TRQ is classified in HTS subheading 2401.20.85, threshed or similarly processed tobacco. Other categories of tobacco and tobacco products subject to the TRQ include 2401.10.63, unmanufactured tobacco (whether or not threshed or similarly processed), tobacco refuse, not stemmed or stripped; 2401.20.33, not stemmed or threshed, partly or wholly stemmed/stripped; 2401.30.33, tobacco stems not cut, ground, or pulverized; 2401.30.35, stems cut, ground, or pulverized; 2401.30.37, other, includes cut, ground, and pulverized; 2403.10.60, manufactured tobacco and manufactured tobacco substitutes, reconstituted tobacco, tobacco extracts and essences; 2403.91.45, homogenized and reconstituted tobacco; and 2403.99.60, extracts and essences.

Figure 2-3
Percentage change in imports of dairy, baseline projection and liberalization, 2005–11

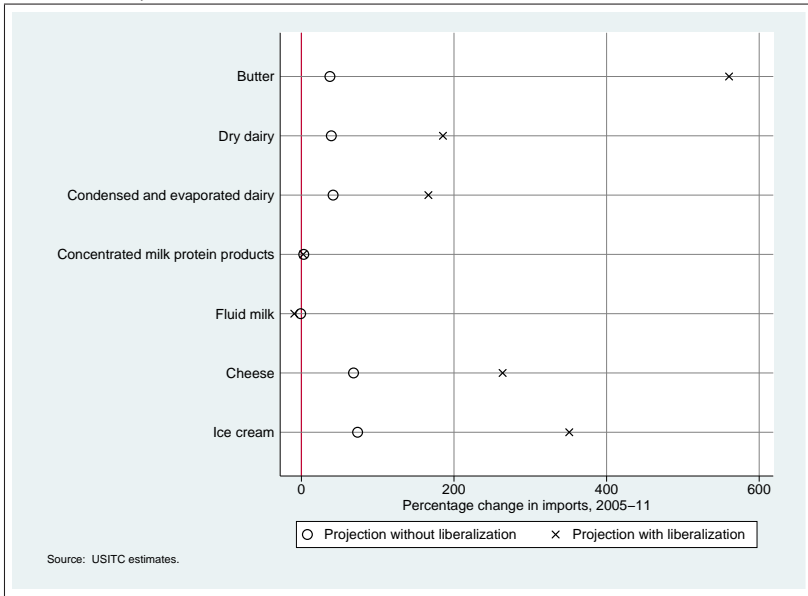


Figure 2-4
Percentage change in output of dairy, baseline projection and liberalization, 2005–11

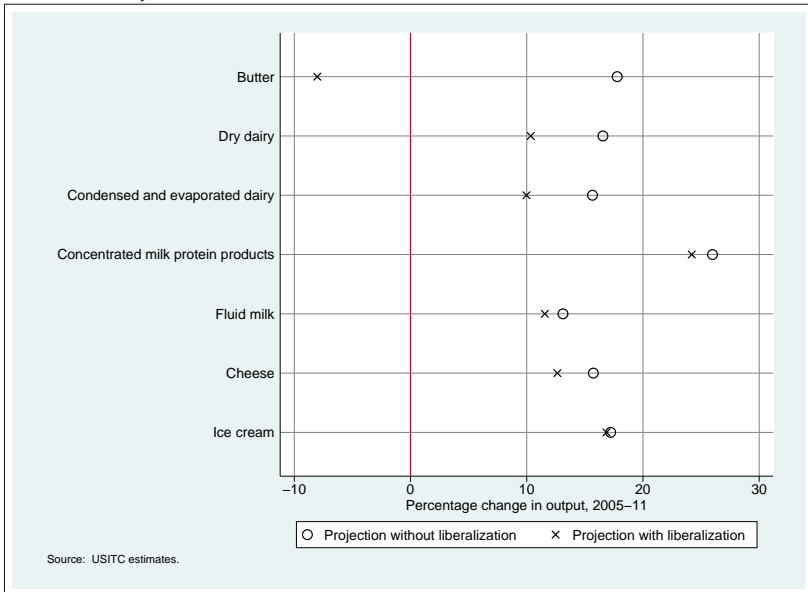


Table 2-5
Tobacco: Summary data, 2003–5

Item	2003	2004	2005
<i>Shipments (million dollars)</i>			
Unmanufactured tobacco.....	918	778	700 ^a
Cigarettes.....	33,262	33,252	33,000 ^a
<i>Employment (thousand)</i>			
Unmanufactured tobacco.....	2.6	— ^b	— ^b
Cigarettes.....	16.0	— ^b	— ^b
<i>Imports (million dollars)</i>			
Unmanufactured tobacco ^c	365	286	210
Cigarettes.....	234	231	194
<i>Exports (million dollars)</i>			
Unmanufactured tobacco ^c	878	868	829
Cigarettes.....	1,403	1,294	1,200

Source: USDOC, *Annual Survey of Manufactures, 2004: Value of Product Shipments*, December 2005, 10; USDOC official statistics.

^aUSITC estimate.

^bNot available.

^cFlue-cured and burley tobacco types subject to the TRQ.

manufactured tobacco and cigarettes during 2003–5.³² Unmanufactured tobacco output fell 24 percent to an estimated \$700 million during the period, owing to continued falling rates of domestic cigarette consumption and the eroding competitiveness of U.S. leaf in world markets. Exports, historically accounting for as much as one-half of output, dropped to \$829 million, as shipments to leading markets Japan and the European Union (EU) continued to decline.³³ Imports of unmanufactured cigarette tobacco also declined during 2003–5 as U.S. cigarette manufacturers drew down stock levels during the period. Imports from Brazil fell to \$134 million in 2005 after reaching a record high of \$241 million in 2003.

The volume of U.S. cigarette production also contracted, falling 4 percent to 480 billion pieces during 2003–5, even as the value of shipments remained steady as cigarette manufacturers increased wholesale

32. Unmanufactured tobacco is an intermediate product that has undergone processing, including curing, destemming, and redrying.

33. The EU and Japan account for approximately two-thirds of U.S. exports of unmanufactured tobacco, mainly flue-cured and burley tobacco. Calculated by USITC staff using data from official statistics of the USDOC.

unit prices to cover the costs of the multibillion-dollar settlement with state governments.³⁴ U.S. exports of cigarettes, \$1.5 billion in 2002, also fell during 2003–5 as the value of exports to Japan and Saudi Arabia, the two largest export markets, fell significantly during the period.

The federal price support program for tobacco was abolished in 2004, effectively allowing tobacco to be produced under a free market system without the production quotas or geographic limitations that characterized the 60-year-old supply management system. The end of the tobacco program is expected to lower prices for U.S. unmanufactured tobacco and make U.S.-produced leaf tobacco more competitive in the United States and in export markets.

Nature of Trade Barriers

The TRQ was established by presidential proclamation effective September 13, 1995, and applies to imports of unmanufactured leaf tobacco and manufactured tobacco used in the production of cigarettes destined for domestic consumption, mainly flue-cured and burley.³⁵ TRQ allotments were negotiated with source countries based on production levels and market shares (table 2-6).³⁶ Other than the country-by-country allotments, no quota import rights or licenses are issued to exporters or importers of tobacco.

The total TRQ quantity for quota year 2005 was 150,700 metric tons (mt), which was divided into ten separate allocations, including nine country/trading group allotments, and a residual allocation of 3,000 mt (2 percent) for all other countries. Brazil accounted for more than 80,000 mt (or 53 percent of the in-quota allocation), while Malawi and Zimbabwe, exporters of high-quality tobacco leaf, were each provided 12,000 mt (8 percent). In-quota quantity allocations were negotiated and set at high levels, based on a period of unusually high imports from 1992 through 1993, when U.S. imports of tobacco totaled more than \$1 billion. The rise of imported tobacco during that period was fueled by strong U.S. demand

34. For additional information on the 1998 Master Settlement agreement between states and cigarette manufacturers, see Levin, "Tobacco."

35. The proclamation also abolished duties on oriental and cigar binder and filler tobacco.

36. TRQs for tobacco and other goods specify the maximum quantity that may be imported at the in-quota tariff rate during a quota year, beginning on September 13 and continuing until September 12 of the following year.

Table 2-6
Tobacco: TRQ in-quota quantities allocated and imports, metric tons,
2005 quota year^a

Country	Allocation	Actual imports
Argentina	10,750	8,337
Brazil	80,200	80,200
Chile	2,750	184
EU	10,000	2,414
Guatemala	10,000	1,666
Malawi	12,000	7,786
Philippines	3,000	246
Thailand	7,000	3,488
Zimbabwe	12,000	370
Other countries or areas	3,000	3,000
Total	150,700	107,691

Source: U.S. Customs and Border Protection.

^aAllocations and imports are for the period determined by the TRQ (September 13, 2004–September 12, 2005).

for discount cigarettes, which contained a higher proportion of lower-cost imported leaf. In 1993, discount cigarettes accounted for 37 percent of the U.S. cigarette market; since then, consumption of discount cigarettes has stabilized at less than 30 percent.

In-quota duties for unmanufactured tobacco (HTS heading 2401), the bulk of tobacco subject to the TRQ, ranged from free to 40.9 cents per kg in 2005, with most in-quota tobacco (HTS subheading 2401.20.85) entering the United States subject to a duty of 37.5 cents per kg (approximately 10 percent ad valorem equivalent).³⁷ All over-quota imports are subject to a 350 percent ad valorem duty, although a drawback program exists for all imports (in-quota and over-quota) that are reexported either as unmanufactured tobacco or in cigarettes.³⁸ Pursuant to trade agreements, Canada, Mexico, and Israel are not subject to the quantitative restrictions set forth in the TRQ.³⁹

37. USITC calculations using statistics from official statistics of the USDOC.

38. Under the previous domestic content regime, domestic producers were assessed penalties for imported leaf content in excess of 25 percent, whether the cigarettes were consumed domestically or exported.

39. Under recently established U.S. bilateral FTAs, certain nontraditional suppliers of tobacco have been provided additional access under preferential rates; however, most of these countries, including Australia, Bahrain, and Singapore, are not traditional tobacco

Restrictiveness of Trade Barriers

During the quota year 2005, the TRQ on tobacco was restrictive for certain supplier countries. Brazil, the dominant supplier of leaf to the U.S. market, registered a fill rate of 100 percent (table 2-7).⁴⁰ Commission staff estimate that the ETE on Brazilian tobacco equaled 15.3 percent in 2005.⁴¹ Since Brazil is a member of the regional aggregation of Generalized System of Preferences (GSP) recipient countries, a pro-rated 10.7 percent ETE is applied to imports from this group. Pro-rated across all imports of tobacco, the Brazilian ETE is the equivalent of 6.9 percent. The previous update of this report found this ETE to be 15.6 percent, indicating that the Brazilian TRQ is indeed declining over time in its degree of binding.

Quota levels were not binding for the other seven country allocation holders and the EU in 2005.⁴² The TRQ regime is restrictive for countries that were not provided quantity allocations and must ship their tobacco under the “other countries” allocation. Exporters from “other countries” compete among themselves for a small allocation, and thus this residual allotment fills soon after the beginning of the quota year. However, the relatively low quality of filler-type tobacco that these countries currently produce is not directly competitive with foreign suppliers that have allocations, so little excess demand is restrained by the TRQ.

sources. Chile, which already has a TRQ allotment, was granted additional access, but Chile is not an important U.S. tobacco supplier and routinely has one of the lowest fill rates of countries that were provided TRQ access in 1995.

40. Until 2002, the TRQ had not been a significant barrier to imports because the in-quota quantity allocations were set at high levels. Although certain country allocations have had high fill rates in certain years, the total TRQ allotments never filled. After 2002, imports from the leading U.S. and world supplier, Brazil, which holds more than one-half of the U.S. TRQ allocation, posted fill rates in excess of 88 percent.

41. As discussed earlier, there has been no over-quota imports of processed tobacco in 2005. If there were over-quota imports of processed tobacco, they would probably have been reexported and qualified for duty drawbacks. Thus, the price effects of the high, over-quota tariffs would have been negated. Because imports from Brazil filled their allocation, however, Commission staff estimate that prices charged for imports from Brazil were about 15.3 percent higher than in the absence of the TRQ.

42. The very low fill rate for Zimbabwe is believed to be the result of internal policies which depressed production and exports.

Table 2-7**Tobacco: TRQ fill rates, percent, 2003–5 quota years^a**

Country	2003	2004	2005
Argentina.....	70	80	78
Brazil.....	89	100	100
Chile.....	0	7	7
EU.....	33	55	24
Guatemala.....	48	26	17
Malawi.....	54	76	65
Philippines.....	17	35	8
Thailand.....	89	87	50
Zimbabwe.....	34	25	3

Source: U.S. Customs and Border Protection.

^aFill rates are for the one-year periods determined by the TRQ, beginning on September 13 of the previous year.

Effects of Liberalization

The effects of liberalizing U.S. imports of tobacco and tobacco products are modeled by removing tariffs on tobacco (tobacco stemming and redrying), cigars, cigarettes, and tobacco snuff, and eliminating an ETE of 10.7 percent on imports from GSP countries (of which Brazil is the principal exporter of tobacco to the United States). Removing the U.S. tobacco and tobacco product duties and ETE is estimated to increase U.S. welfare by \$19 million.

Table 2-8 shows sectoral impacts of removing these border measures. The average U.S. ad valorem tariff equivalent on tobacco is estimated at 7.3 percent; on cigarettes, 4.7 percent; and on cigars and tobacco snuff, 0.2 and 1.9 percent, respectively. The estimated impacts are confined to the tobacco industry.

Table 2-8
Projected baseline values and effects of liberalization for tobacco, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H'hold price
<i>Liberalized industries</i>										
Tobacco stemming and redrying	357	6,188	431	3,318	-3.2	-2.4	39.5	1.9	-13.2	-0.8
Cigarettes	2,786	17,852	267	1,773	(+)	0.1	10.7	1.1	-5.0	-0.3
Cigars	187	504	646	25	0.2	0.3	0.2	1.8	-0.4	-0.3
Chewing and smoking tobacco and snuff ...	161	1,368	13	687	0.4	0.5	4.6	1.0	-2.0	-0.2
<i>Other industries</i>										
Tobacco farming	562	5,183	—	—	-1.4	-1.2	—	—	—	(-)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

The removal of border measures on tobacco, cigarettes, and snuff causes import prices to decline from the 2011 baseline projection by 13.2 percent, 5.0 percent, and 2.0 percent, respectively. As a result, U.S. demand for imports of tobacco, cigarettes, and snuff is estimated to increase by 39.5 percent, 10.7 percent, and 4.6 percent, respectively (figure 2-5).⁴³ Increased competition from imports causes a modest decline in the supply of U.S. tobacco, and the U.S.-produced tobacco price declines too. Even though there is increased import competition for cigarettes, cigars, and snuff, the U.S. output of these products increases because tobacco leaves, an input, become less expensive (figure 2-6). Private household prices for tobacco products are estimated to decline by 0.2–0.3 percent compared to the baseline projection. The U.S. tobacco sector (farming, stemming, and redrying) contracts in size, but all U.S. tobacco product sectors expand.

Canned Tuna

Canned (or pouched) tuna is one of the most valuable seafood products in the U.S. market, with U.S. production in 2005 reaching \$627.0 million, and U.S. imports totaling \$533.4 million (table 2-9).⁴⁴ The United States is the world's largest canned tuna producer and the largest importer. Most U.S. production takes place in American Samoa, where two large canneries produce more than three-quarters of the value of U.S. shipments. Puerto Rico and California account for the remainder of U.S. shipments (with a single firm operating one cannery in each jurisdiction). Three companies produce U.S. canned tuna: U.S.-owned StarKist, Canadian-owned Bumble Bee, and Thailand-owned Chicken of the Sea. Imports, which mainly come from low-cost sources such as Thailand, accounted for 46.1 percent of U.S. apparent consumption in 2005. Exports accounted for about 1 percent of domestic production.

The canned tuna sector has two principal products: tuna packed in oil and tuna packed in water. Production costs for tuna in oil and tuna in water

43. Imports of cigars actually decline by 0.1 percent because most cigar imports receive preferential access. Thus the effective tariff rate is very small for cigars, and as imports of other tobacco products increase, imports of cigars decline slightly.

44. In addition to tuna in metal cans, the tuna industry also produces tuna in flexible pouches, which are distributed in the same market channels as tuna in cans. Throughout this section, "canned tuna" is meant to include "pouched tuna."

Figure 2-5
Percentage change in imports of tobacco, canned tuna, ethyl alcohol, and beef, baseline projection and liberalization, 2005–11

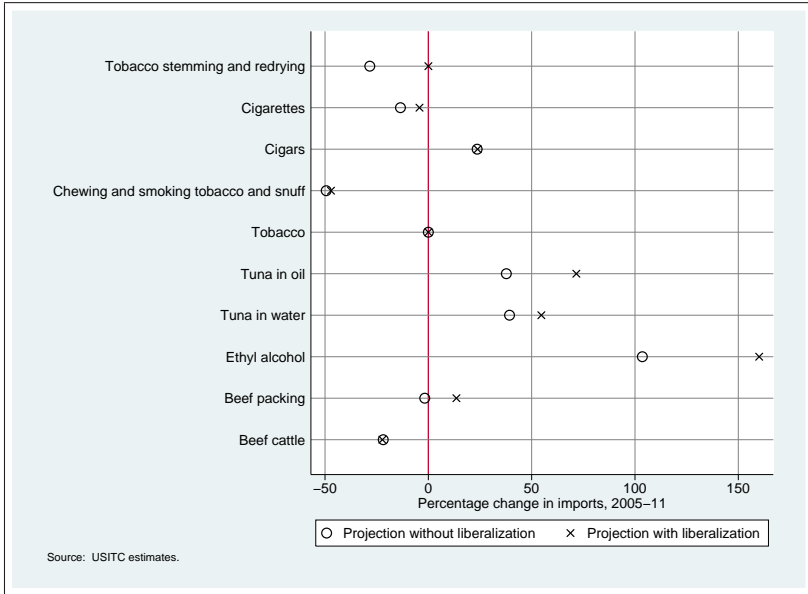


Figure 2-6
Percentage change in output of tobacco, canned tuna, ethyl alcohol, and beef, baseline projection and liberalization, 2005–11

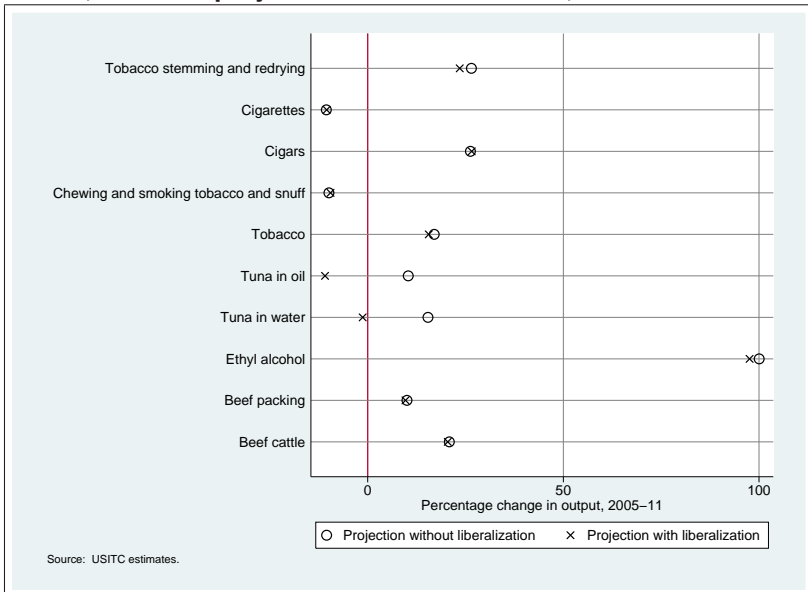


Table 2-9
Canned tuna: Summary data, 2003–5

Item	2003	2004	2005
<i>Production (million dollars)</i>			
Oil-pack	100.3	96.7 ^a	157.0 ^a
Water-pack	568.3	472.2 ^a	470.0 ^a
Total tuna.....	668.6	568.9	627.0
<i>Employment^a (1,000 FTEs)</i>			
Tuna.....	7.5	6.6	6.6
<i>Imports (million dollars)</i>			
Oil-pack	8.4	11.6	21.7
In-quota water-pack.....	0.6	0.1	0.5
Over-quota water-pack.....	446.4	471.4	511.2
Total water-pack.....	447.0	471.5	511.7
Total tuna	455.4	483.1	533.4
<i>Exports (million dollars)</i>			
Tuna.....	6.5	3.8	3.3

Source: Official statistics of the USDOC, except as noted.

Note: Figures may not add to totals due to rounding.

^aUSITC estimate.

are nearly identical; canneries can switch production from one product to the other with little cost. The two products also have identical wholesale and retail prices (for any given brand and size of can or pouch). Just over 15 percent of U.S. tuna production is packed in oil, and 85 percent is packed in water. Approximately 96 percent of U.S. imports of canned tuna are packed in water.

Nature of Trade Barriers

The U.S. tariff on canned tuna packed in oil is 35 percent. A TRQ exists for U.S. imports of canned tuna packed “not in oil” (i.e., in water). Imports within the quota are dutiable at 6 percent, and imports in excess of the quota are dutiable at 12.5 percent. The in-quota quantity entered in any calendar year cannot exceed 4.8 percent of apparent U.S. consumption (as reported annually by the USDOC) of tuna in air-tight containers during the immediately preceding year. The quota of 4.8 percent of the preceding year’s domestic apparent consumption is allocated on a global FCFS basis.

Restrictiveness of Trade Barriers

The TRQ reportedly imposes significant costs on importers in the form of increased warehousing needs and uncertainty regarding the extent and timing of reduced tariff-rate benefits. Because the TRQ is usually filled quickly and the tariff gap is 6.5 percent, importers attempt to qualify for the largest share of the TRQ as possible by stockpiling large quantities of canned tuna in Customs-bonded warehouses in late December and releasing the warehoused product as soon as the calendar year begins.

An additional burden for both the industry and U.S. Customs and Border Protection is that USDOC-reported consumption, on which the quota is based, is not available for several months into the new year. Industry sources report delays of as much as a year in receiving refunds for overcharged duties on canned tuna. The overcharging occurs when Customs sets a low quota in anticipation of USDOC's release of the consumption data, resulting in too much tuna being charged the higher tariff rate. The overcharged revenue—the amount of which is not known until USDOC reports the consumption data—must then be reimbursed to importers, often at a much later date. However, information on the amounts of the overcharging and any delays in reimbursement are not readily available.⁴⁵

Effects of Liberalization

The tuna TRQs were not explicitly modeled because quota levels are very small in comparison to the total volume of U.S. imports and consumption. Instead, the effects of liberalizing tuna imports are modeled by removing the tariff on tuna packed in oil and the over-quota tariff on tuna packed in water. The average U.S. ad valorem tariff equivalent on tuna packed in oil is estimated at 17.7 percent, and the average U.S. ad valorem tariff on tuna packed in water is estimated at 10.8 percent.⁴⁶ Removing the U.S. canned tuna border measures is estimated to increase U.S. welfare by

45. USITC, *Tuna: Competitive Conditions Affecting the U.S. and European Industries in Domestic and Foreign Markets*.

46. The USAGE-ITC model tracks U.S. imports of oil- and water-packed tuna from twenty-three groups of countries, some of which are U.S. FTA partners (e.g., Central America-Dominican Republic Free Trade Agreement), or are given preferential treatment (e.g., Andean Trade Preference Act) or are members of NAFTA (e.g., Mexico). Thus, there is a wide variation in the tariffs removed in this simulation.

\$24 million. Table 2-10 shows sectoral impacts of removing these border measures. The estimated impacts are mostly confined to the canned fish sector.

The removal of border measures on canned tuna packed in oil and water causes import prices to decline by 19.4 and 9.7 percent, respectively from the 2011 baseline projection. Thus, imports of canned tuna packed in oil are estimated to increase by 24.6 percent, while imports of canned tuna packed in water are estimated to increase by 11.1 percent from the baseline projection (table 2-10 and figure 2-5). Increased competition from imports causes a decline in the U.S. production of canned tuna packed in oil (19.3 percent) and in water (14.5 percent) (table 2-10 and figure 2-6). The private household prices are also estimated to decline: 8.2 percent for tuna packed in oil and 4.0 percent for tuna packed in water. The U.S. canned fish industry contracts in size, and its employment declines by 8.5 percent from the baseline projection.

Ethyl Alcohol

Ethyl alcohol for fuel use (ethanol) is a clear, colorless, liquid fuel produced from a variety of potential feedstocks, including sugarcane, corn, and sorghum.⁴⁷ In the United States, the majority of the ethyl alcohol produced is derived from corn.⁴⁸ Ethyl alcohol has a higher octane rating than gasoline and can be mixed with gasoline to reduce the level of emissions created by fuel combustion in gasoline engines or to extend the use of gasoline.

47. For the purposes of this study, ethyl alcohol and ethanol are used interchangeably.

48. There are two different processes used in the United States to produce ethyl alcohol from corn: dry corn milling and wet corn milling. Corresponding NAICS codes for the dry and wet milling production of fuel-grade ethyl alcohol are 32519303 and 32519301, respectively.

Table 2-10
Projected baseline values and effects of liberalization for tuna, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H ¹ hold price
<i>Liberalized industries</i>										
Canned tuna, oil-pack	189 ^a	127	150	—	-8.5 ^a	-19.3	24.6	—	-19.4	-8.2
Canned tuna, water-pack	— ^a	757	1,447	12	-8.5 ^a	-14.5	11.1	4.6	-9.7	-4.0
<i>Other industries</i>										
Other canned and cured fish and seafood	— ^a	1,545	1,434	806	-8.5 ^a	-1.1	0.2	-1.4	(+)	0.1
Commercial fishing	2,465	12,332	15,667	5,348	(-)	(-)	-0.4	0.4	(+)	(+)
Prepared fresh or frozen fish and seafood	1,653	24,131	—	27	0.1	(-)	—	-0.1	(+)	(+)
Metal cans	1,664	17,380	102	178	(-)	(-)	(-)	(+)	(+)	(+)
Canned specialties	879	8,195	82	233	(-)	(-)	(+)	-0.1	(+)	(+)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H¹hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aEmployment change is for all canned and cured fish and seafood.

U.S. production of ethyl alcohol in 2005 reached a record 4.0 billion gallons with a value of \$7.6 billion (table 2-11). Production capacity in the United States in 2005 totaled approximately 4.3 billion gallons. The U.S. ethyl alcohol industry employed 5,024 production workers in 2005, up 29 percent from the level in 2003.⁴⁹ In terms of 2005 world production, the United States ranked second, accounting for 45 percent of world production; the largest producer, Brazil, accounted for 46 percent of world production.⁵⁰

The Energy Policy Act of 2005 established a renewable fuel program, which mandates increasing absolute amounts of renewable fuels, including ethyl alcohol, to be blended with gasoline.⁵¹ The amount of renewable fuels produced in the United States is required to increase from about 4.0 billion gallons in 2006 to 7.5 billion gallons in 2012.

In the United States, a federal excise tax of 18.4 cents per gallon is assessed on motor fuels. A partial exemption from the federal excise tax on motor fuels is provided for ethyl alcohol that is derived from renewable resources and used as fuel. Ethyl alcohol that is derived from petroleum, natural gas, or coal is not eligible for the tax exemption. The value of the tax exemption depends on the quantity and type of ethyl alcohol blended in a gallon of fuel. In 2005, the tax exemption was 51 cents per gallon of ethyl alcohol. Thus, gasoline blended with 10 percent ethyl alcohol would receive a tax exemption equal to 5.1 cents per gallon. Fuel distributors that blend ethyl alcohol with gasoline can earn an income tax credit as well. However, a distributor cannot file for both the partial tax exemption and the income tax credit. Blenders tend to select the partial tax exemption.⁵² U.S. distributors of gasoline blended with ethyl alcohol receive the partial tax exemption whether or not the ethyl alcohol is produced domestically or imported. An additional charge on imported fuel ethyl alcohol is assessed to offset the domestic ethyl alcohol tax credit.

49. Renewable Fuels Association, *From Niche to Nation: Ethanol Industry Outlook 2006*, and USDOC, U.S. Census Bureau, *2002 Economic Census, Ethyl Alcohol Manufacturing: 2002*. Data are for industry category 325193, which includes all ethyl alcohol.

50. Calculated based on data from the research firm F.O. Licht.

51. Public Law 109-58.

52. GAO, *Tax Incentives for Petroleum and Ethanol Fuels*.

Table 2-11
Ethyl alcohol for fuel use: Summary data, 2003–5

Item	2003	2004	2005
<i>Production^a (million dollars)</i>			
Ethyl alcohol.....	3,736	5,813	7,576
<i>Employment (FTEs)</i>			
Ethyl alcohol.....	3,897	4,349	5,024
<i>Imports (million dollars)^b</i>			
Ethyl alcohol.....	74	175	231
<i>Exports (million dollars)</i>			
Ethyl alcohol.....	0	0	0

Sources: Renewable Fuels Association; LMC International Ltd; USITC Oracle database; PIERS; BLS *Census of Employment and Wages*.

^aEthyl Alcohol Manufacturing (NAICS 325193).

^bHTS subheadings for ethyl alcohol for fuel use are 2207.10.60 and 2207.20.00; imports in HTS subheading 9901.00.50 are subject to additional duties. The imports in the table do not reflect imports of other non-beverage ethyl alcohol, which also enter under the chapter 22 subheadings.

Nature of Trade Barriers

The United States administers three trade policy tools for imports of ethyl alcohol for fuel use: tariffs, a TRQ, and an additional duty for nonpreferential imports. A general rate of duty is applied to countries with Normal Trade Relations (NTR) status, ranging from 1.9 to 2.5 percent ad valorem.⁵³ A special rate of duty applies to those eligible countries that receive preference under an FTA (including Andean Trade Promotion and Drug Eradication Act (ATPDEA) countries, Australia, Bahrain, certain Caribbean Basin Economic Recovery Act (CBERA) countries, Israel, Jordan, Morocco, NAFTA countries, Peru, and Singapore) or under a preferential trading arrangement (including the least-developed beneficiary countries with GSP status and African Growth and Opportunity Act (AGOA) countries). Originating goods of Chile receive a preferential duty rate of 0.6 percent ad valorem for HTS subheading 2207.10.60 and free for HTS subheading 2207.20.00.

53. U.S. imports of fuel ethyl alcohol enter under HTS subheadings 2207.10.60 and 2207.20.00. The general duty rate for HTS subheading 2207.10.60 is 2.5 percent ad valorem, while that for HTS subheading 2207.20.00 is 1.9 percent ad valorem. See general note 3 to the HTS.

In addition to duty-free access for ethyl alcohol produced from local feedstock under the preferential trading agreement, CBERA countries receive duty-free access to the U.S. fuel ethyl alcohol market for a fixed quantity of ethyl alcohol produced from imported feedstock.⁵⁴ In-quota imports from CBERA countries enter free of duty; the over-quota imports are assessed the general duty rate. The Central America-Dominican Republic Free Trade Agreement (CAFTA-DR) reserves a portion of the CBERA TRQ for El Salvador and Costa Rica. Currently, only El Salvador receives a reservation of the CBERA TRQ, as Costa Rica has yet to implement the agreement. The CBERA quota has never been filled; the fill rate was 42 percent in 2005.⁵⁵ The USITC estimated U.S. domestic consumption for the 12-month period ending Sept. 31, 2004, to be 3.43 billion gallons; thus, the CBERA TRQ quantity was set at 240.4 million gallons for calendar year 2005, double the amount for 2002.⁵⁶

An additional duty of 14.27 cents per liter (54 cents per gallon) is assessed on fuel ethyl alcohol imports from sources other than least-developed GSP countries, CBERA countries, ATPDEA countries, Canada, Israel, and Mexico.⁵⁷ This additional duty is greater than the level of the federal tax exemption and expires on January 1, 2009. The duty, which is not subject to WTO reductions, was established to offset the subsidy effect of the federal tax credit.

U.S. imports of fuel ethyl alcohol from dutiable sources, particularly Brazil, have benefitted from duty drawbacks.⁵⁸ Complete data are not

54. Under the quota, CBERA producers import and dehydrate hydrous ethyl alcohol, mainly from Brazil, and export the finished product to the United States.

55. Data provided by Customs and Border Protection. For more information on the TRQs, see USITC, *Import Restraints, Fourth Update 2004*.

56. 69 F.R. 76956. The CBERA TRQ was set at 132.5 million gallons for 2003 and 186.9 million gallons for 2004.

57. For CBERA countries, the duty covers imports of ethyl alcohol produced from local feedstock as well as imports under the TRQ allowing the use of imported feedstock. Imports of over-quota ethyl alcohol from CBERA countries are subject to the additional duty. This additional duty is found in ch. 99, subch. 1 of the HTS. The applicable tariff subheading for the extra duty is 9901.00.50.

58. Drawback is the refund of Customs duties, certain Internal Revenue taxes, and certain fees that have been lawfully collected at importation. The refund is administered after the exportation or destruction of either the imported/substituted product or the article that has been manufactured from the imported/substituted product.

available; however, it is believed that a substantial portion of dutiable imports since the latter part of 2004 has received drawbacks.⁵⁹

Restrictiveness of Trade Barriers

The general rates of duty on ethyl alcohol are relatively low and therefore not, by themselves, significantly restrictive. The additional 14.27 cents-per-liter duty on imports of fuel ethyl alcohol is not considered restrictive because most dutiable imports currently receive duty drawbacks. Furthermore, this duty expires on January 1, 2009. The application of the CBERA TRQ generally prohibited U.S. imports from non-CBERA sources in the past.⁶⁰ However, in recent years, several factors have attracted direct imports of anhydrous fuel ethyl alcohol, mainly from Brazil. These factors include historically high ethyl alcohol prices, owing mainly to a ban on the fuel additive methyl tertiary-butyl ether (MTBE) in certain states; historically high world petroleum prices; developments in global sugar markets; and increasing U.S. demand for fuel ethyl alcohol resulting from the 2005 Energy Policy Act mandate. These factors have mitigated the impact of U.S. barriers to imports of fuel ethyl alcohol.

Effects of Liberalization

The effects of liberalizing U.S. imports of ethyl alcohol are modeled by removing the TRQ on imports of ethyl alcohol. Removing the U.S. TRQ on imports of ethyl alcohol is estimated to increase U.S. welfare by \$120 million. Table 2-12 shows sectoral impacts.

59. Unpublished data from the U.S. Customs and Border Protection Agency, e-mail received May 11, 2006. The drawbacks are based on the amount of jet fuel used by commercial airliners flying abroad. This fuel is deemed an export, as it is a supply used by a qualifying aircraft. (Although drawbacks are based on the quantity of jet fuel, the fuel rarely if ever contains ethyl alcohol, which concurs with the zero value of ethyl alcohol exports reported in table 2-11.) The link between jet fuel and ethyl alcohol first occurs through gasoline blended with ethyl alcohol, which is considered to be a “same kind and quality article.” Fuel ethyl alcohol and gasoline blends are then considered to be “commercially interchangeable.” (See 19 U.S.C. 1309, 19 U.S.C. 1313(p), and 19 U.S.C. 1313(j)(2).)

60. The import sources exempt from the additional duty generally are not competitive producers of ethyl alcohol for fuel use.

Table 2-12
Projected baseline values and effects of liberalization for ethyl alcohol, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H'hold price
<i>Liberalized sector</i>										
Ethyl alcohol	3, 146 ^a	14, 706	817	380	-1.5 ^a	-1.2	27.8	0.6	-14.5	-0.9
<i>Other sectors^b</i>										
HFCS	954 ^c	4, 435	78	597	-0.1 ^c	(-)	(+)	-0.1	(+)	(+)
Glucose	- ^c	1, 575	45	179	-0.1 ^c	(-)	(+)	(-)	(+)	(+)
Dextrose	- ^c	385	6	-	-0.1 ^c	(+)	(+)	-	(+)	(+)
Dextrin	- ^c	72	-	29	-0.1 ^c	(+)	-	(+)	(+)	(+)
Starch	- ^c	539	3	128	-0.1 ^c	(-)	(+)	(-)	(+)	(+)
Modified starch	- ^c	900	5	357	-0.1 ^c	(-)	(+)	(-)	(+)	(+)
Other wet corn milling	- ^c	480	170	261	-0.1 ^c	(-)	(+)	(-)	(+)	(+)
Yellow corn	3, 113 ^d	75, 458	333	7, 727	-0.1 ^d	-0.1	-0.1	(+)	(+)	(-)
Barley, sorghum, and oats	- ^d	5, 011	36	1, 328	-0.1 ^d	(+)	(+)	(-)	(+)	(+)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aEmployment is for the dry corn milling industry, which only produces ethyl alcohol. Ethyl alcohol is also produced by the wet corn milling industry.

^bImport price changes in other sectors (i.e., sectors that are not liberalized) are equal to the exchange rate change, which is very small in the analysis.

^cEmployment is for the wet corn milling industry as a whole. Total level is given in HFCS sector.

^dEmployment is for the feed grains industry as a whole. Total level is given in yellow corn sector.

The removal of the ethyl alcohol TRQ causes its import price to decline by 14.5 percent from the 2011 baseline projection; thus, U.S. demand for imports of ethyl alcohol is estimated to increase by 27.8 percent (table 2-12 and figure 2-5). Increased competition from imports causes a 1.2 percent decline in the U.S. output of ethyl alcohol from the baseline projection (table 2-12 and figure 2-6). The percentage effects for U.S.-produced ethyl alcohol are relatively small because imports of ethyl alcohol are small relative to U.S. production. The private household price for ethyl alcohol is estimated to decline by 0.9 percent.

Ethyl alcohol is produced by both the dry and wet corn milling industries. The dry corn milling industry produces only ethyl alcohol, and it accounts for more than 70 percent of ethyl alcohol in the United States. The wet corn milling industry primarily produces HFCS, but it also accounts for the remaining 30 percent of domestic ethyl alcohol production.⁶¹ The simulated effects suggest that both corn milling industries would contract. Employment in dry corn milling would decline by 1.5 percent, and employment in wet corn milling would decline by 0.1 percent from the baseline projection.

Beef

This sector covers primarily fresh, chilled, or frozen cuts of beef and veal produced in NAICS code 3116111 (beef not canned or made into sausage, made in slaughtering plants) and NAICS code 3116114 (veal, not canned or made into sausage, made in slaughtering plants).⁶² The primary upstream industry is cattle ranching and farming, including feedlots (NAICS code 1121). Related downstream industries include meat processed from carcasses (NAICS code 311612), rendering and meat byproduct processing (311613), and meat and meat product merchant wholesalers (NAICS code 424470).⁶³ While several processors classified under NAICS code 311611 operate overseas plants and also import beef, most non-Canadian foreign-produced beef is imported and handled by

61. In addition to ethyl alcohol, the wet corn milling industry also produces several other commodities that collectively account for less than 50 percent of the industry's revenues.

62. Hereafter, "beef" will be refer to both beef and veal, unless otherwise indicated.

63. Meat and meat product merchant wholesalers may fabricate primal and subprimal cuts into retail-ready cuts as well as distribute these items.

firms that would be classified as downstream industries, including many fast-serve restaurants.⁶⁴

The United States is the world's leading beef producer. Federally inspected beef production averaged more than 11.5 million metric tons (approximately 25.4 billion pounds) during 2003–5, representing more than 18 percent of total world beef production during this period.⁶⁵ The value of U.S. beef shipments averaged \$34.8 billion during 2003–5 (table 2-13). The United States is also the world's largest beef importer. Total beef imports averaged nearly 1.6 million metric tons during 2003–5, more than the combined total of the next two largest importers, Japan and the Russian Federation.⁶⁶ Average U.S. beef imports represented 13.5 percent and 12.4 percent of production and consumption, respectively, during 2003–5.

In 2003, the United States was among the world's leading beef exporters, shipping more than 1.1 million metric tons, compared with Australian shipments of nearly 1.3 million metric tons and Brazilian shipments of nearly 1.2 million metric tons.⁶⁷ However, sanitary restrictions imposed after discovery of bovine spongiform encephalopathy (BSE) in the U.S. cattle herd in December 2003 were a primary limiting factor on U.S. beef exports to Japan and Korea.⁶⁸ Total U.S. beef exports dropped to 209,000

64. Laurie Bryant, executive director, Meat Importers Council of America, telephone conversation with USITC staff, October 4, 2006.

65. USDA, FAS, *Livestock and Poultry: World Markets and Trade*, 8. Federally inspected production represented more than 98 percent of total beef production in 2005; the small amounts of beef produced outside the federally-inspected system may not enter interstate commerce (USDA, National Agricultural Statistics Service, Quick Stats Database). The total volume of U.S. beef production includes beef derived from live cattle and calves imported from Canada and Mexico. Production, import, and export data are on a carcass-weight basis. USITC estimates are based on total world bovine meat products from the UN Food and Agriculture Organization, *June 2006 Meat Market Assessment and Meat Market Statistics*.

66. USDA, FAS, *Livestock and Poultry: World Markets and Trade*, 9.

67. Sanitary restrictions related to foot and mouth disease were the primary limiting factor on beef imports from Brazil and Argentina, the world's third largest beef exporter in 2004. In addition, beginning in February 2005, the Argentine government banned nearly all beef exports in an effort to curb inflationary pressure (Dow Jones Newswire, "Govt Official: Argentina Uses Any Excuse to Stop Beef Trade").

68. The first confirmed case of BSE in the United States was an animal born in Canada. Subsequently, two cases of BSE have been confirmed in indigenous animals (OIE World Organization for Animal Health, "Number of Reported Cases of BSE in Farmed Cattle Worldwide"; and USDA, FAS, *Livestock and Poultry: World Markets and Trade*, 9). Japan

Table 2-13
Beef: Summary data, 2003–5

Item	2003	2004	2005
<i>Shipments (million dollars)^a</i>			
Beef	36,094	33,414	34,859
<i>Employment (1,000 production employees)</i>			
Beef	77	72	70
<i>Imports (million dollars)</i>			
In-quota			
Canada ^b	840	1,172	1,240
Mexico ^b	25	33	47
Australia	896	1,107	912
New Zealand	479	601	599
All other countries	106	153	159
Total, in-quota ^b	2,346	3,066	2,957
Over-quota			
Uruguay	14	224	325
All other countries	3	12	8
Total, over-quota	17	236	333
Total, beef	2,363	3,302	3,290
<i>Exports (million dollars)</i>			
Beef	3,069	528	848

Sources: The value of U.S. beef shipments were estimated by the USITC using federally inspected slaughter numbers, average dressed weight, and carcass cut-out values as reported by the USDA. See USDA, Agricultural Market Service, Livestock and Grain Market News Service, *Annual Meat Trade Review*. Employment data for the beef processing industry were estimated by USITC based on the share of total meat production (beef, veal, pork, and lamb) accounted for by beef and veal times the total number of meat packing production workers as reported by the USDOL.

^aIncludes live cattle imported from Canada and Mexico that are slaughtered in the United States. However, 2004–5 imports from Canada were essentially zero for animals older than 30 months.

^bIncludes all imports classified under those tariff lines subject to tariff-rate quotas, including imports from Canada and Mexico that are not subject to quantitative restrictions (product imported from Canada or Mexico not meeting the rule of origin would be subject to the over-quota rate). See Chapter 2, Additional Note 3, *Harmonized Tariff Schedule of the United States*.

metric tons in 2004, making the United States the ninth largest global beef exporter. Exports increased slightly to 313,000 metric tons in 2005, making the United States the eighth largest global beef exporter. Exports dropped precipitously from 9.5 percent of production in 2003 to 1.9 percent in 2004 and 2.8 percent in 2005.

Nature of Trade Barriers

Fresh, chilled, or frozen beef imported into the United States has been subject to a TRQ system since implementation of the WTO Agreement on Agriculture in 1995.⁶⁹ The United States agreed to an annual TRQ quantity of 696,621 metric tons. Of this total, 85 percent was allocated to Australia and New Zealand based on historic supply patterns (table 2-14).

Argentina and Uruguay were allocated 20,000 metric tons each to be effective when the U.S. Secretary of Agriculture declared these countries free of foot and mouth disease (FMD) and Rinderpest diseases.⁷⁰ Under NAFTA, imports from Canada and Mexico are not subject to quantitative

and Korea have recently agreed to resume limited imports of U.S. beef. Japan has agreed to allow imports of U.S. boneless beef from animals under twenty months of age (USDA, Newsroom, “Statement Regarding the Reopening of the Japanese Market to U.S. Beef”). The twenty-months-of-age restriction severely limits the supply of U.S. beef that qualifies for export to Japan. Korea has agreed to allow U.S. boneless beef imports from animals under thirty months of age (USDA, Newsroom, “Statement Regarding U.S. Beef Trade with Korea”). Korea, however, has imposed a zero-tolerance restriction on bone fragments in these shipments, which has continued to exclude U.S. beef exports (USDA, Newsroom, “Statement Regarding the Rejection of U.S. Beef Shipments by South Korea”).

69. The TRQ system replaced a system of voluntary export restraint agreements negotiated with Australia and New Zealand under the threat of strict quotas that could be imposed under the Meat Import Act of 1979 if imports exceeded the “trigger” level. The initial investigation and the first update of this report found that the voluntary export restraint agreements were binding on U.S. beef imports and, therefore, found that their removal would have significant impact on the U.S. beef industry and the associated upstream cattle industry. The second, third, and fourth updates of this report, however, found that the TRQs were not binding on U.S. beef imports, and therefore, found negligible impact on the U.S. beef industry and the associated upstream U.S. cattle industry (USITC, *Import Restraints*, various updates).

70. Both Uruguay and Argentina experienced outbreaks of FMD, during 2000–2, at which time imports of fresh, chilled, and frozen beef from Uruguay and Argentina were suspended. (USDA, FAS, *Argentina: Livestock and Products*; USDA, APHIS, *Foot and Mouth Disease, Uruguay, Short Report*; and USDA, APHIS, *USDA Prohibits Beef from Argentina*). As of May 29, 2003, Uruguay was again cleared to ship fresh, chilled, or frozen beef to the United States (68 FR 31940, May 29, 2003).

Table 2-14
Beef: TRQ quantities, imports, and fill rates, by country of origin, 2003–5

Country	Quota	Imports			Fill rates ^a		
	<i>Metric tons</i>	<i>Metric tons</i>			<i>Percent</i>		
	2003–5	2003	2004	2005	2003	2004	2005
<i>No quota^b</i>							
Canada.....	—	252,137	352,932	365,323	—	—	—
Mexico.....	—	4,487	5,836	8,574	—	—	—
Total.....	—	256,624	358,768	373,897	—	—	—
<i>In-quota</i>							
Australia.....	378,214	375,482	372,030	299,360	99	98	79
New Zealand	213,402	212,299	212,407	198,231	99	100	93
Argentina.....	20,000	0	0	0	0	0	0
Uruguay.....	20,000	18,410	19,977	19,953	92	100	100
Japan.....	200	0	0	0	0	0	0
Other.....	64,805	26,449	30,922	29,916	41	48	46
Total.....	696,621	632,640	635,337	547,458	91	91	79
<i>Over-quota</i>							
Uruguay.....	—	7,662	107,903	152,536	—	—	—
Other.....	—	1,056	2,588	1,419	—	—	—
Total.....	—	8,718	110,491	153,955	—	—	—

Source: Harmonized Tariff Schedule of the United States; USDOC.

^aFill rates are defined only for in-quota imports.

^bImports from Canada and Mexico classified under tariff lines subject to TRQs are not subject to quantitative restrictions. Quota limits and fill rates are not applicable to these imports.

restrictions or tariffs. However, after discovery of an indigenous Canadian cow with BSE in May 2003, all imports of live ruminant and ruminant products from Canada were prohibited. Beef trade was prohibited until August 2003, when imports of certain Canadian ruminant products were approved (primarily boneless beef from animals under 30 months of age). Imports of live animals under 30 months of age resumed in July 2005.⁷¹ Imports from Canada of beef from animals over 30 months of age and import of live animals over 30 months of age continue to be prohibited.⁷²

During 2005, nearly all imported beef that was subject to quantitative restrictions under the TRQs (except for beef from Canada and Mexico, which is not subject to quantitative restrictions and enters duty free) was classified in tariff lines with in-quota duty rates of 4.4 cents per kilogram. Some small amounts were imported in other in-quota tariff lines that included 4 percent duty rates on high-quality beef cuts (bone-in and boneless) or 10 percent duty rates on processed beef (bone-in and boneless). Total duties paid on in-quota beef during 2005 were equivalent to 1.4 percent of the dutiable value. In addition, during 2005, substantial quantities of beef were imported from Uruguay at the over-quota rate of 26.4 percent. As a result, total duties paid on all beef subject to the TRQ (in-quota quantities and over-quota quantities, except meat from Canada and Mexico) were equivalent to 9.4 percent of the dutiable value. Excluding imports from Uruguay, the ad valorem equivalent paid on all beef imports was 1.5 percent, while beef imports from Uruguay were subject to an ad valorem equivalent duty of 21.4 percent.

Restrictiveness of Trade Barriers

The TRQs have not significantly restricted U.S. beef imports in recent years. Imports from several countries with country-specific TRQ allocations did demonstrate average fill rates from 2003 to 2005 that suggested that the TRQs may have limited beef imports from these specific countries, including Australia (92 percent), Uruguay (97 percent), and New Zealand (97 percent). However, Australia's fill rate dropped from more

71. USDA, APHIS, *BSE Chronology*.

72. These restrictions continue to limit the quantity of lean manufacturing beef that may be exported from Canada to the United States, limiting the supply of lean manufacturing beef in the United States.

than 99 percent in 2003 to 79 percent in 2005.⁷³ Consequently, the overall fill rate for beef subject to quantitative restrictions decreased from more than 90 percent in 2003 and 2004 to 79 percent in 2005 (table 2-14).⁷⁴

Since reentering the U.S. market in 2003, Uruguay has demonstrated the ability to export significant quantities of beef to the United States at over-quota rates.⁷⁵ The ability of Uruguayan beef producers and exporters to competitively sell beef in the United States despite paying over-quota rates suggests that market conditions faced by Uruguayan producers may have changed such that the over-quota rate is less restrictive than in previous years.⁷⁶ In 2004 and 2005, beef imported from Uruguay at the over-quota rate of 26.4 percent equaled 17 and 28 percent of the total in-quota allocations, respectively. These over-quota imports from Uruguay represent the first significant over-quota imports since the TRQ system was implemented. Large over-quota imports from Uruguay have been attributed to a low number of cows slaughtered in the United States and a favorable exchange rate for Uruguay.⁷⁷ U.S. cow slaughter dropped from more than 6.1 million animals in 2003 to fewer than 4.8 million animals in 2005.⁷⁸

73. Fill rates from Australia dropped as Australian beef exports were diverted from the U.S. market to the Japanese market (USDA, FAS, "Japan: Livestock and Products").

74. Even if over-quota imports could have been reallocated to unfilled country-specific quota allocations, the 2005 fill rate would have just approached 100 percent. Therefore, considering that the corresponding duty-free beef imports from Canada and Mexico are not subject to quantitative restrictions, total beef imports from 2003 through 2005 averaged 134 percent of the total TRQ quantity.

75. See appendix E for additional discussion on over-quota beef imports from Uruguay.

76. The unit value of in-quota beef from Uruguay increased dramatically from 2003 to 2005, at which time it exceeded the average price of domestically produced beef. The unit value of over-quota beef from Uruguay remained below the price of domestic beef throughout this period. In addition, several plants in Uruguay are process certified by the USDA to export natural and organic beef to the United States. These facts suggest that Uruguay exports its higher-value natural and organic beef at in-quota rates, while exporting lesser valued beef that does not meet these conditions at the over-quota rate.

77. Jones, *Animal Products Markets in 2005 and Forecast for 2006*, 3.

78. Two factors contribute to low cow slaughter in the United States. Cyclical herd expansion began in 2003 and 2004 as grazing conditions improved and calf prices increased (USDA, ERS, *Cattle. Briefing Room*). A ban on imports of cattle under 30 months of age has reduced the supply of slaughter cows from Canada from 372,294 in 2002 to fewer than 3,000 in 2005. In 2002, the Uruguayan peso devalued from less than 15 pesos per U.S. dollar to nearly 29 pesos per U.S. dollar, remained above 26 pesos per U.S. dollar during 2003–4, then ranged from 23.5 to 25.5 pesos per U.S. dollar during 2005.

Effects of Liberalization⁷⁹

The beef TRQs were not explicitly modeled because total imports subject to the TRQ were less than the total quantity of allocated and unallocated TRQ, and, therefore, they are not binding. Instead, the effects of liberalizing beef imports are modeled by removing the ad valorem equivalent tariffs on beef, estimated at 2.7 percent. Of the model's twenty-three regions, most had tariffs of less than 1 percent, while Japan and GSP countries (including Uruguay) had tariffs above 15 percent.

Removal of TRQs and the associated in-quota and over-quota tariff rates on beef imports into the United States would likely have a negligible impact on the U.S. beef packing industry. This conclusion is based on the assumption that sanitary restrictions on beef trade that applied during 2005 remain in place. The estimated welfare impact of removing the U.S. beef TRQ is a gain of \$48 million. The simulation estimates that less expensive beef imports would cause an increase in U.S. beef imports of 15.6 percent (table 2-15 and figure 2-5). As a result of increased imports, the price paid by U.S. consumers, a weighted average of the prices of U.S. and imported beef, would decline by 0.2 percent from the 2011 baseline projection. U.S. output of beef would decline by 0.3 percent from the baseline projection (figure 2-6). Labor employed in the meat packing industry would contract by 0.4 percent.

Estimated effects for related industries and commodities are also shown in table 2-15. Cattle farming would contract by 0.3 percent, as would other meat animals. The feed grains industry would decline by 0.1 percent from the baseline projection.

79. The Commission's analysis assumes that all SPS restrictions currently in place remain in place during the 2005–11 time period analyzed. See Appendix E for a discussion of how this analysis might change if there were changes in certain SPS restrictions currently in place.

Table 2-15
Projected baseline values and effects of liberalization for beef, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011					
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	LDP price	H'hold price
<i>Liberalized sector</i>										
Beef packing	6,358 ^a	50,977	2,801	3,512	-0.4	-0.3	15.6	4.7	-3.8	-0.2
<i>Other sectors^b</i>										
Beef cattle	4,190	73,244	1,191	295	-0.4	-0.3	-0.5	1.7	(+)	(+)
Other meat animals	1,833	31,668	661	124	-0.4	-0.3	-0.5	1.7	(+)	(+)
Other meat packing	— ^a	43,115	2,379	4,436	-0.4 ^a	-0.2	0.2	-2.5	(+)	(+)
Yellow corn	3,113 ^c	75,458	333	7,727	-0.2 ^c	-0.1	-0.2	0.1	(+)	(-)
Barley, sorghum, and oats	— ^c	5,011	36	1,328	-0.2 ^c	-0.1	-0.1	(+)	(+)	(-)
Prepared feeds n.e.c.	1,800	30,075	254	1,632	-0.1	-0.1	-0.2	(+)	(+)	(-)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," landed duty-paid is abbreviated as "LDP," and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aEmployment is for the meat packing industry as a whole. Total level is given in beef packing sector.

^bImport price changes for other industries (i.e., industries that are not liberalized) are equal to the exchange rate change, which is very small in this analysis.

^cEmployment is for the feed grains industry as a whole. Total level is given in yellow corn sector.

Chapter 3

Textiles and Apparel

The United States is the world's largest importer of textiles and apparel, accounting for an estimated 26 percent of world imports by value in 2005.¹ U.S. textile and apparel imports were subject to tariff rates that were among the highest of any product sector. The average tariffs based on 2005 dutiable imports were 4.4 percent for textile mill articles, 6.4 percent for textile products, and 10.6 percent ad valorem for apparel.² Imports of textiles and apparel from some countries were also subject to quotas in 2005. Although imports from WTO member countries entered mostly quota-free after January 1, 2005, imports of certain textile and apparel articles from China were subject to safeguard measures under the textile safeguard provision in China's WTO Accession Agreement. Additionally, some textile and apparel imports from three non-WTO member countries (Belarus, Ukraine, and Vietnam) were subject to quotas.³ The Commission

1. This figure has increased from 22 percent in 2004, but may overstate the U.S. share, as import values for 2005 are still unreported for many countries. Based on United Nations trade data, as reported by the World Integrated Trade Solution.

2. These tariff values are based on the NAICS nomenclature. Under NAICS, textile mill articles comprise intermediate inputs (e.g., yarn and fabric), and textile products consist mainly of made-up textile articles, including towels, bedding, and other house furnishings. See table 3-1 for additional information on the NAICS categories related to textiles and apparel.

3. These non-WTO countries are subject to quotas imposed by the president under section 204 of the Agricultural Act of 1956 (7 U.S.C. 1854), which authorizes the president to enter into agreements with foreign governments to limit trade in textiles and apparel with the United States and to issue regulations to carry out such agreements. The Vietnamese quotas were eliminated upon its accession to the WTO on January 11, 2007.

estimates the restrictiveness of the quotas in terms of their ETEs.⁴ In 2005, ETEs on apparel goods represented 2.6 percent of the total value of U.S. imports of apparel, but ETEs for textile mill articles and textile products were approximately zero percent.

Although tariffs and quantitative restrictions were lower in 2005 than in previous years, the estimated welfare increase from textile and apparel liberalization remains the largest of any sector in this report. Overall, liberalization of textiles and apparel is estimated to increase welfare by approximately \$1.9 billion in 2011, relative to the projected 2011 U.S. economy without liberalization. This figure includes a gain of about \$2.3 billion from the elimination of all tariffs and quotas, and a loss of less than \$0.5 billion resulting from declines in foreign demand for certain products that currently have U.S. content requirements in U.S. preference programs and FTAs. There is an additional estimated welfare gain of about \$0.9 billion from the elimination of Chinese quantitative restraints in 2008.

U.S. Textile and Apparel Trade Agreements

The framework for world trade in textiles and apparel was liberalized on January 1, 2005, when the United States, the EU, and Canada eliminated their remaining quotas on imports from WTO countries, as required by the Uruguay Round Agreement on Textiles and Clothing (ATC).⁵ Consequently, imports have increased in the U.S. market, particularly for apparel, which represented 78 percent of U.S. textile and apparel imports by value in 2005 (table 3-1). From 2002 to 2005, U.S. imports of textiles and apparel increased 23.3 percent to \$100.4 billion, while U.S. producers' shipments of such goods declined 11.0 percent to \$116.6 billion.

4. The degree of restrictiveness is measured as an ETE because quota licenses impose costs that are similar to export taxes on exporters in foreign countries. Procedures used to derive these estimates are discussed later in this chapter.

5. The ATC entered into force with the WTO agreements in 1995. It called for the gradual elimination of quotas established under the Multifiber Arrangement, an arrangement negotiated under the General Agreement on Tariffs and Trade (GATT) that had governed world textile and apparel trade since 1974. The ATC required countries both to increase the rate at which all quotas grow and to integrate textile and apparel articles into the GATT regime over a 10-year transition period, which ended on January 1, 2005; the articles were brought under GATT discipline and subject to the same rules as products of other sectors. For more on this topic, see USITC, *Textiles and Apparel*.

Table 3-1
Textiles and apparel: Summary data, 2002–5

Item	2002	2003	2004	2005	% change 2002–5
<i>Shipments (million dollars)</i>					
Textile mills ^a	43,170	39,775	43,411	40,589	-6.0
Textile products ^b ...	34,232	35,247	33,291	34,291	0.2
Apparel ^c	53,621	52,970	41,563	41,713	-22.2
Total	131,023	127,992	118,265	116,593	-11.0
<i>Employment (production workers, thousands)</i>					
Textile mills	290.9	261.3	236.9	217.9	-25.1
Textile products	194.6	179.3	175.7	172.3	-11.5
Apparel	359.7	312.3	285.5	260.2	-27.7
Total	845.2	752.9	698.1	650.4	-23.0
<i>Imports (million dollars)</i>					
Textile mills	7,128	7,153	7,792	7,882	10.6
Textile products	9,166	10,539	12,552	14,472	57.9
Apparel	65,150	69,510	73,835	78,034	19.8
Total	81,445	87,202	94,179	100,388	23.3
<i>Exports (million dollars)</i>					
Textile mills	7,397	7,557	8,352	8,471	14.5
Textile products	1,875	1,881	2,062	2,343	25.0
Apparel	5,462	4,923	4,346	4,069	-25.5
Total	14,733	14,361	14,760	14,883	1.0

Source: Official statistics of the USDOC and the USDOL.

^aTextile mills are included in NAICS code 313, which primarily includes yarn, thread, and fabric mills.

^bTextile products are included in NAICS code 314, which includes carpets and rugs, bed and bath linens, canvas products, rope and twine, tire cord, and other miscellaneous textile products.

^cApparel is included in NAICS code 315, which includes knit-to-shape apparel as well as apparel assembled from cut fabric.

Retailers are increasingly sourcing apparel directly from low-cost foreign producers, as are many U.S. apparel and home furnishing firms that reduced or eliminated domestic production to focus on product design and marketing. As a result, the U.S. textile industry has faced shrinking domestic markets for its yarn and fabric output. With increasing import competition, the textile industry has undergone extensive restructuring and consolidation. From 2002 to 2005, employment in the U.S. textile and apparel industries declined by 23.0 percent to 650,400 workers, representing a loss of 194,800 jobs.⁶

China has been the largest beneficiary, by value, of global quota elimination and the resulting market share reallocation. Chinese exports to the United States rose from \$12.8 billion to \$27.7 billion from 2002 to 2005, an increase of 115.5 percent (table 3-2). Initially, this rapid increase led to the establishment of 10 safeguards (quotas) on selected imports of Chinese textile and apparel articles in 2005, as provided for under China's WTO Protocol of Accession. Approximately 5.9 percent of total U.S. imports from China were imported under these safeguards in 2005.⁷ All 10 safeguards filled at rates higher than 90 percent, and eight of the safeguards filled in their entirety, effectively preventing U.S. importers from receiving ordered goods in the U.S. retail market.⁸

The disruption and uncertainties associated with the safeguards led to the negotiation of a 3-year agreement to limit U.S. imports of certain textile and apparel products from China. On November 8, 2005, the United States and China signed a Memorandum of Understanding (MOU) that established quotas on U.S. imports of selected textile and apparel products from China.⁹ The MOU went into effect on January 1, 2006, and extends through December 2008, at which time the right of the United States to invoke safeguards under the textile provision of China's WTO

6. Based on official data from the USDOL, BLS.

7. On a calendar year basis, total U.S. imports of the 10 categories subject to safeguards in 2005 represented 14.7 percent of total U.S. imports of textiles and apparel from China, but most safeguards were not in place for the entire year.

8. Articles under safeguards filled quickly in the absence of a visa system, discussed below. For example, cotton knit shirts entered the United States at an average rate of 120,545 dozen per day during the 42 days it took to fill the quota allocated for 223 days. Hence, export shipments from China under the safeguards were allowed entry into the United States on an FCFS basis, resulting in numerous overshipments.

9. USTR, "Memorandum of Understanding Between the Governments of the United States of America and the People's Republic of China."

Table 3-2
U.S. textile and apparel imports, by value, percentage change, and share, 2002–5

Country	Imports ^a		Import share
	2005 <i>Million dollars</i>	2002–5 <i>Percent change</i>	2005 <i>Percent</i>
World	100,388	23.3	100.0
<i>Major trading partners</i>			
China	27,681	115.5	27.6
Mexico	7,694	-15.8	7.7
India	5,540	53.4	5.5
Hong Kong	3,800	-11.4	3.8
Indonesia	3,239	33.8	3.2
Pakistan	3,232	42.5	3.2
Canada	3,161	-8.2	3.1
Vietnam	2,969	199.8	3.0
Honduras	2,758	7.7	2.7
Bangladesh	2,658	23.6	2.6
Italy	2,505	4.0	2.5
Thailand	2,278	2.9	2.3
Korea	2,231	-31.1	2.2
Philippines	2,011	-1.8	2.0
Guatemala	1,900	9.4	1.9
Dominican Republic	1,899	-15.4	1.9
Taiwan	1,841	-25.2	1.8
Cambodia	1,833	61.6	1.8
Sri Lanka	1,801	13.6	1.8
Turkey	1,731	-5.0	1.7
El Salvador	1,685	-3.5	1.7
Macao	1,268	4.6	1.3
Jordan	1,134	177.3	1.1
<i>Non-WTO members subject to quotas</i>			
Vietnam	2,969	199.8	3.0
Ukraine	65	-22.6	0.1
Belarus	42	-1.4	0.0
<i>Special Import Programs^b</i>			
CBTPA	6,716	9.3	6.7
AGOA	1,492	74.3	1.5
ATPDEA	1,367	—	1.4

Source: Official statistics of the USDOC.

^aImports and shares are based on a c.i.f. basis for all textiles and apparel included in NAICS codes 313, 314, and 315.

^bTrade values for special import programs are values claimed under each program, and may be less than the total value of trade with the relevant trading partners.

Membership Accession Agreement expires.¹⁰ The MOU supersedes the safeguard actions undertaken by the United States in 2005 in response to rising imports from China.

The MOU established 21 quotas covering 34 categories of textile and apparel products, including certain core products that had been subject to the above-referenced safeguard limits in 2005 (table 3-3).¹¹ These 34 product categories accounted for 37.0 percent by value (44.4 percent by square meter equivalent) of U.S. imports of textiles and apparel from China in 2005.¹² The 2006 agreed levels for many products are lower than the limits that could have been imposed under the China safeguard provision for 2006.¹³ Nevertheless, for most sectors that were subject to safeguards, the 2006 quota levels are substantially higher than the 2005 annualized safeguard levels and the 2004 quota levels under the ATC. In addition, the MOU provided higher annual growth rates (12.5 to 16 percent in 2007, and 15 to 17 percent in 2008) than the minimum growth rates allowed under the safeguard provision (7.5 percent). The MOU also reestablished an electronic visa information system (ELVIS) that created a more predictable trading environment than existed in the absence of the visa system under the safeguards in 2005.¹⁴

10. Under China's Accession Agreement to the WTO, the United States and other WTO countries may impose temporary safeguards (or quotas) on imports of Chinese textiles and apparel under certain conditions. The textile safeguard provision permits WTO countries that conclude that imports of Chinese textiles and apparel are, owing to market disruption, threatening to impede the orderly development of trade in these goods, to request consultations with China "with a view to easing or avoiding such market disruption." Upon receipt of such a request, the safeguard provision requires China to hold its shipments to a level no greater than 7.5 percent (6 percent for wool goods) above the amount entered in the first 12 months of the most recent 14 months preceding the request for consultations. The safeguards cannot remain in effect beyond one year, without re-application, unless both countries agree. Information on the China textile safeguard is from the WTO, "Ministerial Conference, Doha," para. 242, 46-47.

11. "Core products" are defined as cotton and man-made fiber knit shirts, woven shirts, trousers, brassieres, and underwear. Ten of the 21 limits had been subject to safeguards in 2005, seven of the limits had been under consideration for implementation by the Committee for the Implementation of Textile Agreements in 2005, and four others were neither under consideration nor implemented in 2005.

12. Estimated by USITC staff based on data of the USDOC, Office of Textiles and Apparel.

13. USTR, "Fact Sheet: Benefits from Establishing Quotas," and National Council of Textile Organizations, "NCTO Applauds New 3-Year Bilateral with China."

14. The ELVIS was used under the ATC to prevent overshipments of textile goods. Through an ELVIS transmission, an exporting country would in essence guarantee that

Table 3-3
Imports of Chinese textiles and apparel in 2005 and MOU limits for 2006-8, by MOU category, in million units^a

Category	Imports	MOU limits		
	2005	2006	2007	2008
Sewing thread, combed cotton yarn (cat. 200/301, in kilograms)	7.0	7.5	8.7	10.1
Knit fabric (cat. 222, in kilograms)	18.3	16.0	18.4	21.5
Special purpose fabric (cat. 229, in kilograms)	28.9	33.2	38.5	45.0
Hosiery, including baby socks (cat. 332/432/632T, in dozen pairs)	62.3	64.4	74.0	85.1
Cotton knit shirts and blouses (cat. 338pt/339pt, in dozens)	20.4	20.8	23.4	26.9
Woven shirts, men's and boys' (cat. 340/640, in dozens)	6.2	6.7	7.6	8.7
Sweaters (cat. 345/645/646, in dozens)	7.8	8.2	9.2	10.7
Cotton trousers (cat. 347/348, in dozens)	18.3	19.7	22.1	25.4
Brassieres (cat. 349/649, in dozens)	21.2	22.8	25.6	29.5
Underwear (cat. 352/652, in dozens)	18.0	18.9	21.3	24.5
Swimwear (cat. 359S/659S, in kilograms)	5.9	4.6	5.2	6.0
Pile towels (cat. 363, in numbers)	85.2	103.3	116.2	134.8
Wool suits, men's and boys' (cat. 443, in numbers) ..	1.6	1.3	1.5	1.8
Wool trousers, men's and boys' (cat. 447, in dozens)	0.2	0.2	0.2	0.3
Polyester filament fabric (cat. 619, in square meters) .	53.8	55.3	62.2	72.2
Other synthetic filament fabric (cat. 620, in square meters)	77.4	80.2	90.2	103.8
Glass fiber fabric (cat. 622, in square meters)	30.3	32.3	37.1	43.4
Man-made fiber knit shirts (cat. 638pt/639pt, in dozens)	9.2	8.1	9.1	10.4
Man-made fiber trousers (cat. 647pt/648pt, in dozens)	7.4	8.0	9.0	10.3
Window blinds, window shades (cat. 666pt, in kilograms)	1.1 ^b	1.0	1.1	1.3
SBVF trousers (cat. 847, in dozens) ^c	15.7	17.6	19.9	23.0

Source: Official statistics of the USDOC. Concordances from HTS to MOU categories are available in USDOC, Office of Textiles and Apparel, "U.S. Textile and Apparel Category System"; and Committee for the Implementation of Textile Agreements, "Establishment of Agreed Import Levels."

^aUnits are as specified in the MOU.

^bTo estimate 2005 imports in category 666pt, it was assumed that the import ratio of blinds and shades to curtains in HTS 63031200 and 63039220 was unchanged in 2005-6.

^cSBVF refers to silk blend or non-cotton vegetable fiber.

Restrictiveness of U.S. Import Restraints

Tariffs

The trade-weighted average ad valorem tariff on U.S. textile and apparel imports in 2005 was 9.4 percent (table 3-4). In general, tariffs on textiles and apparel increase with each stage of manufacturing, that is, the duty rates are usually higher on apparel than on its yarn or fabric inputs. The trade-weighted average tariff on apparel was 10.6 percent, compared with 4.4 percent for textile mill articles (mainly yarns and fabrics) and 6.4 percent for textile products. Tariffs for many heavily traded apparel articles were much higher than the overall average tariff rates cited above. For example, the 2005 Normal Trade Relations duty rates on certain women's and girls' man-made fiber pants and blouses were 28.2 percent and 32.0 percent, respectively.¹⁵ In addition, tariffs are generally higher on man-made fiber apparel than on similar cotton or wool goods (e.g., the 2005 duty rate on man-made fiber sweaters was 32 percent, compared with 16 percent for wool sweaters and 16.5 percent for cotton sweaters).

A significant portion of textile and apparel imports either enter free of duty under FTAs (mainly NAFTA) and trade-preference programs (mainly the United States–Caribbean Basin Trade Partnership Act [CBTPA]), or are eligible for a partial duty exemption under the production-sharing provisions of HTS chapter 98.¹⁶ The duty-free value of U.S. textile and apparel imports in 2005 totaled \$25.6 billion, or 28 percent of total imports of such goods. More than half of the duty-free import value was accounted for by goods from NAFTA countries (36.0 percent of the total) and eligible

a shipment had been allocated quota. The United States, in turn, would not allow imports of goods subject to quota from a country without an ELVIS transmission. The ELVIS was discontinued for WTO members on January 1, 2005. The MOU established a similar visa system for Chinese imports effective January 1, 2006.

15. Nearly all U.S. trading partners have Permanent Normal Trade Relations status, formerly known as Most Favored Nation status.

16. The production-sharing provision (“9802,” formerly “807”) provides a duty exemption for U.S. components returned to the United States in the form of finished articles. In general, the duty is assessed only on the value added abroad. For apparel, the fabric for making the garment parts can be of either U.S. or foreign origin as long as the fabric is cut to shape in the United States and exported ready for assembly.

Table 3-4
ETEs and trade-weighted average tariff rates on U.S. imports of
textiles and apparel, by selected product sectors, percent, 2005

Sector	Export tax equivalents	Average tariff rates ^a
All textile and apparel	2.0	9.4
Textile mills	(+)	4.4
Broadwoven fabric mills	(+)	6.8
Narrow fabric mills	0	3.7
Nonwoven fabric mills	0	0.5
Knit fabric mills	0	7.6
Yarn mills and textile finishing n.e.c.	(+)	6.7
Thread mills	0	4.4
Carpets and rugs	0	1.6
Coated fabrics, not rubberized	0	2.4
Tire cord	0	1.3
Cordage and twine	0	2.5
Textile goods n.e.c.	0	2.0
Textile products	0	6.4
Curtains and draperies	0	9.3
House furnishings n.e.c.	0	6.7
Textile bags	0	4.6
Canvas and related products	0	6.0
Pleating and stitching	0	6.1
Fabricated textile products n.e.c.	0	4.4
Apparel	2.6	10.6
Women's hosiery, except socks	0	4.0
Hosiery n.e.c.	16.5	8.8
Apparel made from purchased materials	2.3	10.7

Source: Official statistics of the USDOC and USITC estimates.

Note: (+) denotes a value less than 0.05 percent.

^aBased on c.i.f. values of imports (including both dutiable and duty-free imports). Only sectors with positive import values in 2005 are listed.

CBTPA countries (25.7 percent).¹⁷ Goods entered under the production-sharing provisions of HTS chapter 98 accounted for 18.4 percent of the duty-free value. The remainder of the duty-free imports consisted mainly of goods entered under the Andean Trade Promotion and Drug Eradication Act (ATPDEA; 5.1 percent) and from beneficiary sub-Saharan African (SSA) countries under the African Growth and Opportunity Act (AGOA; 5.5 percent).¹⁸

In some sectors, and with some FTA partners, imports of textiles and apparel must fulfill certain criteria for rules of origin (ROOs) to enter free of duty. These criteria require the use of U.S. or regional fabric in the production of apparel items. ROOs are influential in directing trade flows because they create demand for U.S. exports of textile articles for use in the production of apparel, which is then re-exported to the United States free of duty.

Quantitative Restraints

A common way to measure the restrictiveness of a quantitative restraint is to compute an ETE, which measures the degree to which the quantitative

17. On August 2, 2005, President Bush signed into law the implementing legislation for the CAFTA-DR. The CAFTA-DR makes permanent the duty-free and quota-free trade preferences granted under the CBTPA, establishes reciprocity so that U.S. goods will have duty-free access to the CBTPA countries, and includes several provisions that allow U.S. apparel manufacturers and importers greater sourcing flexibility. The CAFTA-DR is being implemented on a country-by-country basis. As eligible Caribbean countries adopt national legislation to enact the CAFTA-DR, such legislation supersedes the CBTPA. The CAFTA-DR is currently in force between the United States and El Salvador, Guatemala, Honduras, and Nicaragua.

18. The AGOA Acceleration Act of 2004 extended preferential treatment for qualifying textiles and apparel from eligible SSA countries through September 30, 2015. It provides for duty-free and quota-free treatment to apparel assembled in SSA countries from U.S.-origin fabrics, as well as specified quantities of apparel made from “regional fabrics” that are produced in SSA countries from U.S. or SSA yarns. Imports of apparel made in SSA countries from regional fabrics are subject to an annual “cap”; a special rule allows apparel entered under the cap from “lesser developed” SSA countries to be made of third-country fabrics. President Bush signed HR 6111 into law on December 20, 2006, which extends the current third-country fabric provision with some changes through September 2012. Apparel of third-country fabric accounted for 89 percent of total apparel imports from AGOA in 2005.

restraint increases the export price.¹⁹ The ETE is equal to the percentage of the cost of production for a good that an exporter must pay to obtain a license to ship the good to the United States. More restrictive quotas lead to more valuable export licenses, which in turn produce higher ETEs.

The Commission estimated ETEs for all safeguard sectors and all sectors in non-WTO countries that were subject to binding quotas in 2005. Using a quota fill rate of 90 percent to indicate a binding quota, exports were restrained in 10 sectors from China, 10 sectors from Vietnam, and one sector from Belarus (table 3-5).²⁰ Total imports under Chinese safeguards during the safeguard periods totaled \$1,646 million, and imports in restrained sectors with non-WTO countries totaled \$723 million; together these accounted for only 2.4 percent of total U.S. textile and apparel imports. The incidence of these quotas has declined significantly since the expiration of the ATC, and hence the estimated trade-weighted ETEs (and their economic importance to the United States) have also declined. The ETEs, however, remain important to the countries with quantitative restrictions and to their foreign competitors.

ETEs for China

Calculating ETEs requires a value or estimate of the price that foreign exporters must pay to obtain the right to export. In 2005, safeguards on Chinese imports were administered on an FCFS basis, so no export licenses were sold. In 2006, however, the Chinese government resumed its administration of export licenses and sold a portion of its export allocations in MOU sectors, which were nearly identical to the 2005 safeguard sectors. The January 2006 monthly average license prices were used as the best

19. As discussed in chapter 1, ETEs can be used to measure the restrictiveness of many quantitative restraints. The analysis of the tobacco TRQ in chapter 2, for example, employs an ETE of 15.3 percent for Brazilian tobacco.

20. No ETE was calculated for the one sector of imports from Belarus (heavy glass fiber fabric), because this sector had no reported license price and imports of only \$0.6 million in 2005. An alternative fill rate of 80 percent is sometimes employed in studies of trade restrictiveness. Using this alternative rate, only three additional sectors would be considered restrained. Because U.S. imports in these three sectors were low, the choice of fill rate has very little effect on trade-weighted ETEs and consequently has very little effect on the simulation results.

Table 3-5
Restrained U.S. imports: change in imports, change in unit value,
and average tariff rates, percent, 2002–5

Country and sector	Change in imports, 2002–5	Change in unit value, 2002–5	Average tariff rates, 2005 ^a
<i>China</i>			
Combed cotton yarn (cat. 301, in kilograms) . . .	138.7	5.3	8.7
Hosiery (cat. 332/432/632pt, in dozen pairs) . . .	565.2	–27.4	13.3
Cotton knit shirts and blouses (cat. 338/339, in dozens)	214.9	–59.7	15.5
Woven shirts, men's and boys' (cat. 340/640, in dozens)	94.1	–22.0	21.2
Cotton trousers (cat. 347/348, in dozens)	239.6	–49.0	15.4
Brassieres (cat. 349/649, in dozens)	82.0	–9.7	16.3
Underwear (cat. 352/652, in dozens)	110.4	–48.5	11.7
Other synthetic filament fabric (cat. 620, in square meters)	380.6	–57.5	9.3
Man-made fiber knit shirts (cat. 638/639, in dozens)	113.4	–41.4	29.2
Man-made fiber trousers (cat. 647/648, in dozens)	52.5	–34.8	22.6
<i>Vietnam</i>			
Cotton coats (cat. 334/335, in dozens)	129.9	62.2	10.5
Cotton knit shirts (cat. 338/339, in dozens)	153.7	11.1	16.2
Woven shirts, men's and boys' (cat. 340/640, in dozens)	260.4	26.5	20.5
Woven shirts, women's and girls' (cat. 341/641, in dozens)	141.0	16.9	17.5
Cotton and man-made fiber skirts (cat. 342/642, in dozens)	129.4	12.5	10.7
Cotton trousers (cat. 347/348, in dozens)	127.6	23.9	15.4
Swimwear (cat. 359S/659S, in kilograms)	854.7	94.2	23.1
Other synthetic filament fabric (cat. 620, in square meters)	21.0	16.8	1.3
Man-made fiber knit shirts (cat. 638/639, in dozens)	163.0	41.5	29.7
Man-made fiber trousers (cat. 647/648, in dozens)	154.9	55.8	22.5
<i>Belarus</i>			
Heavy weight glass fiber fabric (cat. 622N, in square meters)	–34.1	28.3	6.7

Source: Official statistics of the USDOC and USITC estimates.

^aBased on c.i.f. values of imports from each country (including both dutiable and duty-free imports).

proxy for the 2005 license prices.²¹ The per-unit production cost in each sector was estimated as the difference between the free-on-board (f.o.b.) export price per unit to the United States and the per-unit price of an export license.²² The ETE in each sector was calculated as the license price divided by the estimated production cost. Estimates of Chinese ETEs range from about 10 percent to 90 percent, with an average of 42 percent.

ETEs for Vietnam

The United States applied textile quotas to 25 sectors of Vietnamese imports, and 10 of these had quota fill rates above 90 percent. Although unit-value export prices to the United States were available for these products, Vietnam does not report license prices, so the ETEs cannot be calculated as with China.²³ In this case, the license price can be estimated as the difference between the export price and the production cost, if an estimate of the per-unit production cost in each sector is available. The ETE for each sector in Vietnam can then be calculated as the estimated license price divided by the production cost estimate. Trade journals estimate that Vietnamese production costs are 20–30 percent higher than Chinese costs for comparable products, and industry sources estimate that Vietnamese costs are the same as Chinese costs in some industries.²⁴ Accordingly, an estimate of Vietnamese costs equal to 1.1 times the

21. License prices at the beginning of 2006 are likely to reflect the prices of 2005 licenses, had they been sold, because the set of restricted countries exporting to the United States did not change and the quota and MOU limits in 2006 are close to the quantities traded in 2005. January prices were used instead of the average prices in 2006 because prices in 2006 declined considerably after January, reflecting quota fill rates considerably below the levels seen in previous years. (The low fill rates indicate that some U.S. importers switched to non-Chinese sources, likely due to the uncertainty associated with the safeguards in 2005, although the initially higher quota prices indicate that importers were not able to change sources immediately.) The January license prices were typically slightly lower than average 2004 prices in comparable sectors.

22. The f.o.b. price per unit is derived from official U.S. Customs data for customs value and quantity.

23. Nor can these ETEs be calculated as in the previous Commission report: the availability of only one exporter with license prices precludes any regression analysis.

24. See, for example, “Vietnam: Textile Industry Steps up Expansion Plans,” *Just-style*.

Chinese costs was used to calculate Vietnamese ETEs.²⁵ Estimated Vietnamese ETEs range from about 30 percent to 70 percent, with an average of 40 percent.

Trade-Weighted ETEs in Model Sectors

The ETEs for individual restrained sectors must be combined to determine the ETE in each USAGE-ITC model sector. For each model sector, a trade-weighted average ETE is calculated using the ETE for each restrained subsector in that model sector, and an ETE of zero for all other trade in that sector.²⁶ Table 3-4 gives the ETE for each model sector along with trade-weighted average tariff rates. ETEs are considerably lower than tariff rates in all sectors except “hosiery, not elsewhere classified (n.e.c.)” The ETEs in 2005 are also considerably lower than those estimated in previous updates of this report; the current ETE for all textiles and apparel is less than one-third of the lowest estimate of the average ETE in the fourth update of this report.²⁷ ETEs declined because the elimination of import quotas from most countries in 2005 as specified by the ATC considerably reduced the share of imports that were restrained by quotas.

Effects of Liberalization

The simulation exercise proceeds in two steps. First, the USAGE-ITC model uses recent national, international, and industry trends to produce

25. Costs can be quite difficult to estimate, and may differ from product to product and even factory to factory within a country. Because imports in restrained Vietnamese sectors totaled only \$722 million, or 0.7 percent of total U.S. imports of textiles and apparel, the estimate of Vietnamese costs has very little effect on the trade-weighted estimates of ETEs in model sectors, and correspondingly little effect on simulation results.

26. Mathematically, the ETE in model sector k is calculated as

$$ETE_k = \sum_{i \in k} \sum_j (M_{ij} ETE_{ij}) / M_k,$$

where M_{ij} is the value of U.S. imports in restrained sector i from country j , and M_k is the value of U.S. imports in model sector k .

27. USITC, *Import Restraints, Fourth Update 2004*, 68.

a baseline projection of the U.S. economy from 2005 to 2011.²⁸ This projection is used to illustrate the size of changes that would likely occur in textiles and apparel in the absence of changes to U.S. trade policy. Second, the model is used to simulate the liberalization scenario of removing all import restraints in textiles and apparel. The results of this liberalization are presented as deviations from the projected trends.

Because of the differences in the nature of negotiations with China and Vietnam, and the very recent and somewhat uncertain timing of Vietnam's accession to the WTO, Chinese and Vietnamese quantitative import restraints have been included in different ways in the simulation. As discussed in chapter 1, the baseline projection includes all pre-negotiated trade policy changes that will occur between 2005 and 2011. Therefore, the pre-negotiated expiration of the MOU with China in 2008 is included in the baseline projection, and gains from this liberalization are discussed with that projection. In contrast, the elimination of Vietnamese quotas was not similarly pre-negotiated, and these quotas were eliminated only upon Vietnam's entry into the WTO on January 11, 2007. Accordingly, the elimination of Vietnamese quotas has not been included in the baseline, and gains from this liberalization are instead included with the liberalization of all textile and apparel import restraints, as part of the deviation from the projected trend.

Projected Industry Trends

The USAGE-ITC model estimates that, without any changes to U.S. trade policy, household demand for all textiles and apparel would increase by 24.0 percent in the period 2005–11. This estimated demand increase for textiles and apparel is higher than the estimated 20.8 percent increase in consumption of all goods. However, the demand increase is not matched by an increase in domestic production. Overall textile and apparel output is expected to decline. Many sectors would shrink outright, and only two (narrow fabric and coated fabric) would increase output more than the

28. This projection describes the expected future growth of the economy and is based on trends from 1998–2005. See chapter 1 for additional details of the forward-looking framework of the model.

projected annual GDP growth rate of 3.3 percent or 21.7 percent for the 2005-11 period (table 3-6 and figure 3-1).²⁹

The projected employment decline of 35.0 percent is much greater than the output decline, because the trend toward more capital-intensive production is expected to continue.³⁰ Exports are projected to increase in about half of the sectors, but only three sectors (broadwoven fabric, knit fabric, and pleating) would exceed the expected overall U.S. export increase of 42.1 percent (table 3-6 and figure 3-2).³¹ Imports in textile and apparel sectors are generally projected to increase, and the largest estimated increase in imports is in coated fabrics (table 3-6 and figure 3-3).

The projection incorporates all negotiated trade policy changes that will occur in the 2005–11 period, including the 2008 expiration of the MOU and the associated end of quantitative restraints on textile and apparel imports from China.³² The elimination of these restraints is estimated to increase U.S. welfare by \$880 million. The effects of this increase are concentrated in hosiery n.e.c., which had the most restrictive quantitative limit in the MOU as measured by ETES.³³

Deviations from Projected Trends

The liberalization scenario consists of removing all tariffs on the subject goods as well as eliminating the Vietnamese ETES. Based on

29. Narrow fabric is extremely export oriented and would benefit from the projected devaluation of the U.S. dollar. The increase in coated fabrics is driven by a projected increase in several downstream sectors, including office furniture.

30. The U.S. industry is expected to further concentrate in higher-quality, higher-performance products that are generally more capital and research intensive, and face less competition from more commoditized products from low-wage countries (Center on Globalization, Governance, and Competitiveness, “North Carolina in the Global Economy 2006”).

31. These sectors share several characteristics that enhance their export competitiveness. Broadwoven and knit fabric are export oriented, and knit fabric and pleating have expected price decreases in the forecast period. Knit fabric would also benefit from a projected increase in foreign demand.

32. The projection does not, however, include the end of quotas on Vietnamese textile and apparel imports that occurred upon Vietnam’s entry into the WTO on January 11, 2007. The elimination of these quotas is part of the liberalization scenario.

33. Expiration of the MOU accounts for 70.2 percent of the 5.7 percent projected output decline in hosiery n.e.c. In other textile and apparel sectors, the end of the MOU accounts for very little (less than 3 percent) of the projected output declines.

Table 3-6
Projected percent change in textile and apparel sectors without liberalization, 2005–11

Sector	Employment	Output	Imports	Exports	H'hold price ^a
All textile and apparel	-35.0	-7.6	38.3	2.4	3.1
Textile mills	-30.9	2.2	9.7	26.8	4.4
Broadwoven fabric mills.....	-27.7	4.2	10.6	44.2	4.0
Narrow fabric mills.....	-17.8	23.0	-10.5	34.1	2.9
Nonwoven fabric mills.....	-35.0	-0.7	0.5	-12.4	1.7
Knit fabric mills.....	-55.8	-13.2	14.0	43.9	0.7
Yarn mills and textile finishing n.e.c.....	-30.4	-10.3	-10.9	34.0	5.1
Thread mills.....	-37.1	-15.7	0.5	-6.1	4.3
Carpets and rugs.....	-26.3	7.4	8.3	-15.6	5.2
Coated fabrics, not rubberized.....	-15.3	22.0	57.1	26.4	8.0
Tire cord.....	-30.8	4.2	24.8	-28.9	7.9
Cordage and twine.....	-26.4	7.1	31.9	-7.7	4.2
Textile goods n.e.c.....	-29.6	9.2	13.8	-32.1	4.7
Textile products.....	-28.8	-1.3	28.8	21.3	3.8
Curtains and draperies.....	-31.4	0.7	5.6	38.5	2.6
House furnishings n.e.c.....	-32.2	-1.7	31.1	15.0	4.7
Textile bags.....	-28.1	-1.9	34.0	27.6	4.8
Canvas and related products.....	-31.0	-1.4	14.9	-22.4	3.8
Pleating and stitching.....	-30.1	2.0	0.9	71.4	2.0
Auto applique and trim.....	-23.8	-1.6	— ^c	33.7	7.2
Embroideries.....	-33.7	-10.8	— ^c	— ^c	3.2
Fabricated textile products n.e.c.....	-32.1	-0.6	36.9	20.8	3.4
All apparel.....	-53.6	-29.9	43.2	-40.5	-4.3
Women's hosiery, except socks.....	-50.6	-2.3	40.5	-51.8	0.7
Hosiery n.e.c.....	-51.8	-5.7	38.9	-51.7	-8.9
Apparel made from purchased materials.....	-54.0	-33.6	43.3	-39.7	-5.5
<i>Upstream sectors^b</i>					
Cotton.....	-7.6	19.4	3.6	28.7	7.7
Cellulosic manmade fiber.....	-16.6	3.4	1.1	20.0	8.3
Synthetic fiber.....	-14.6	-2.1	3.0	17.3	8.2
Textile machines.....	-31.0	19.9	7.1	2.4	8.1
<i>Downstream sectors^b</i>					
Public building furniture.....	25.2	66.1	46.5	47.1	8.6
Entire U.S. economy.....	6.9	28.7 ^d	38.5	42.1	15.5

Source: USITC estimates.

^aThe household price, abbreviated "h'hold price" above, is the share-weighted average price of imports and domestic products purchased by households.

^bThese categories include all sectors with at least a 1 percent increase or decrease in output after liberalization (see table 3-7).

^cThere were no imports and/or exports in these categories in 2005, so percentage changes cannot be calculated.

^dProjected change in U.S. gross output is 28.7 percent; projected change in U.S. GDP is 21.7 percent.

Figure 3-1
Percentage change in output of textiles and apparel, baseline projection and liberalization, 2005–11

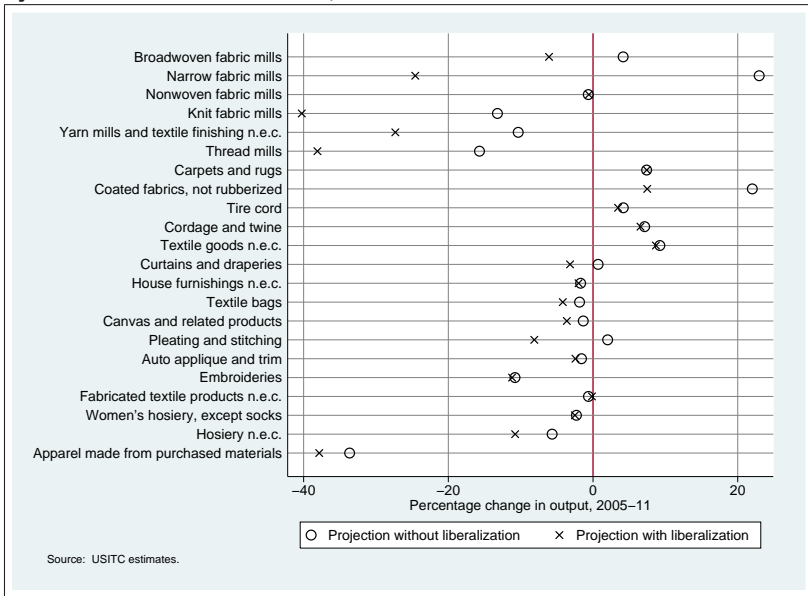


Figure 3-2
Percentage change in exports of textiles and apparel, baseline projection and liberalization, 2005–11

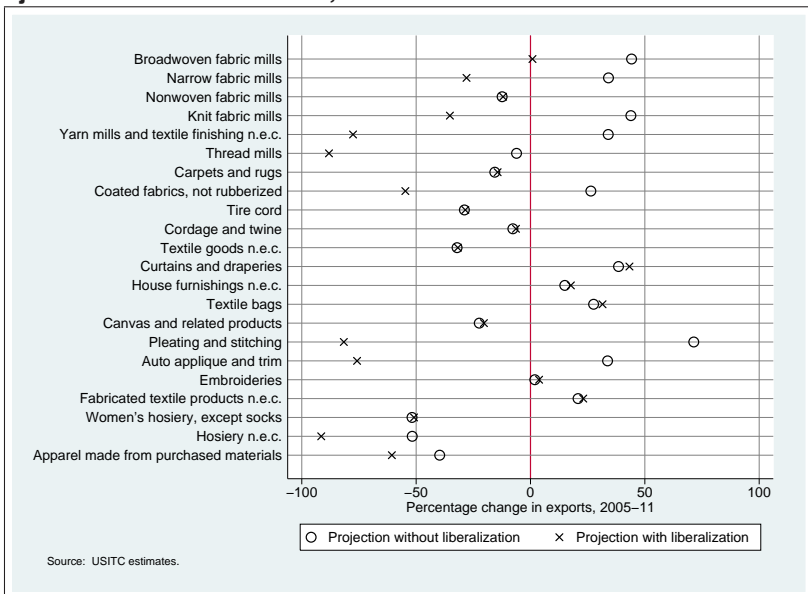
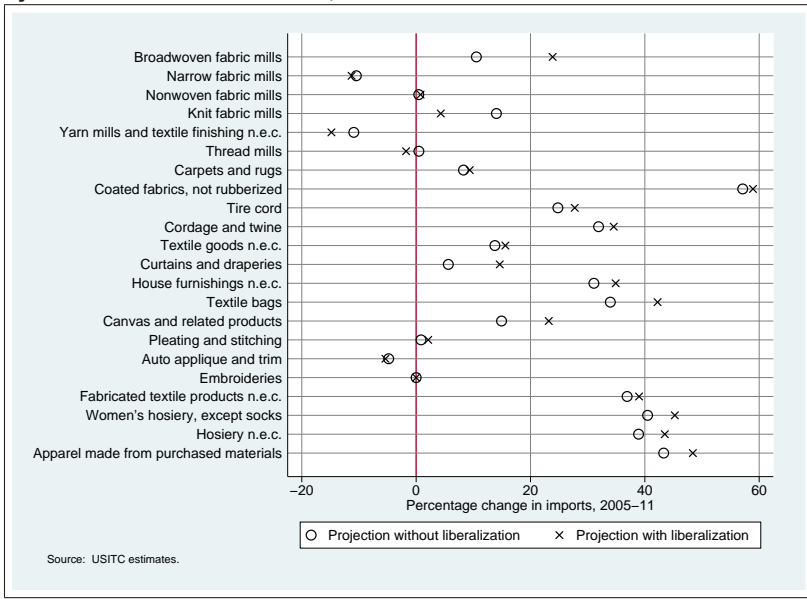


Figure 3-3
Percentage change in imports of textiles and apparel, baseline projection and liberalization, 2005–11



consultation with industry specialists, foreign demand was also reduced for certain products to reflect the erosion of U.S. preference programs and FTAs that often require the use of U.S. inputs, based on rule-of-origin requirements (hereafter referred to as “ROO-based preferences”). The reduction applied to foreign demand varies by sector, but is generally 95 percent of the demand for U.S.-produced textiles and apparel inputs from the trade partners that benefit from ROO-based preferences. The reduction is less in some sectors if industry specialists believed demand for U.S. products (such as in industrial uses) would remain in the absence of the preferences. This demand reduction has been applied to the following sectors that have ROO-based preferences: broadwoven fabric, narrow fabric, knit fabric, yarn mills, thread mills, coated fabric, pleating, auto applique and trim, hosiery n.e.c., and apparel.

For the overall economy, when compared to the projected trends presented above, liberalization of textiles and apparel is estimated to have a relatively minor effect on production, imports, and exports. Table 3-7 shows that these quantities change by 0.1 percent or less as a result of liberalization, relative to the 2011 baseline projection.

Table 3-7
Projected baseline values and effects of liberalization for textiles and apparel, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H ¹ hold price
All textile and apparel	27,681	178,740	161,808	30,927	-6.9	-6.2	3.6	-30.6	-1.0
Textile mills	9,656	75,406	12,761	13,787	-12.8	-9.8	3.5	-37.7	-0.5
Broadwoven fabric mills	3,455	30,216	4,090	6,123	-14.5	-9.8	12.1	-30.1	-0.7
Narrow fabric mills	352	1,762	837	1,471	-40.6	-38.7	-0.9	-46.3	-1.2
Nonwoven fabrics	551	4,550	800	1,057	0.7	0.1	0.3	0.5	-0.1
Knit fabric mills	653	5,100	1,340	2,265	-28.3	-31.2	-8.5	-55.0	-0.7
Yarn mills and textile finishing n.e.c.	1,584	8,662	876	1,132	-19.7	-18.9	-4.4	-83.3	-1.1
Thread mills	91	681	102	202	-28.8	-26.6	-2.2	-87.3	-1.5
Carpets and rugs	1,600	16,211	2,345	674	(-)	(+)	1.0	1.5	-0.1
Coated fabrics, not rubberized	454	2,756	952	515	-13.3	-11.9	1.1	-64.2	(+)
Tire cord	142	1,334	466	73	-0.8	-0.7	2.4	0.5	0.1
Cordage and twine	180	970	360	66	-0.3	-0.5	2.0	1.5	-0.2
Textile goods n.e.c.	595	3,163	593	209	0.4	-0.5	1.6	0.5	-0.1
Textile products	5,646	25,111	16,213	2,209	-0.6	-1.1	3.3	-4.1	-1.3
Curtains and draperies	460	1,607	1,244	68	-4.7	-3.9	8.5	3.5	-2.5
Housefurnishings n.e.c.	1,190	8,625	10,394	470	4.0	-0.3	2.9	2.3	-2.1
Textile bags	266	864	473	69	-2.5	-2.4	6.2	3.0	-1.3
Canvas and related products	347	1,303	624	26	-2.5	-2.3	7.2	2.6	-1.6
Pleating and stitching	259	918	172	103	-11.9	-9.9	1.2	-89.3	-1.5
Auto applique and trim	2,168	7,559	— ^b	48	-0.9	-0.8	— ^b	-81.9	-0.2
Embroideries	130	282	— ^b	— ^b	-0.5	-0.5	— ^b	— ^b	-0.1
Fabricated textile products n.e.c.	826	3,955	3,307	1,424	0.8	0.5	1.5	1.9	-1.0

Continued on next page

Table 3-7
Projected baseline values and effects of liberalization for textiles and apparel, 2011, continued

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H ^{hold} price
Apparel	3,269	28,603	123,187	3,249	-4.3	-5.5	3.6	-34.3	-2.0
Women's hosiery, except socks	163	3,625	258	120	2.8	-0.2	3.4	1.9	-0.1
Hosiery n.e.c.	265	1,196	1,908	67	-4.8	-5.4	3.3	-82.4	-2.2
Apparel made from purchased materials	2,841	23,781	121,021	3,062	-4.7	-6.3	3.6	-34.7	-3.6
<i>Upstream sectors</i> ^a									
Cotton	1,445	8,332	28	4,043	-6.8	-6.1	-20.1	2.0	0.1
Cellulosic manmade fibers	715	2,725	148	1,494	-4.9	-4.8	-0.4	0.1	-0.1
Synthetic fiber	3,068	13,738	2,025	2,134	-2.5	-4.9	-9.0	10.3	0.1
Textile machines	589	3,593	1,989	767	-2.5	-2.5	-4.2	0.7	0.2
<i>Downstream sector</i> ^a									
Public building furniture	2,803	18,680	4,437	2,863	1.1	1.0	-0.1	5.7	0.1
Entire U.S. economy	— ^c	— ^c	— ^c	— ^c	(+)	(+)	0.1	0.1	(+)

Source: USITC estimates.

Note: Employment is abbreviated as "Empl.," and household is abbreviated as "H^{hold}." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aThese categories include all sectors with at least a 1 percent increase or decrease in output.

^bThere were no imports in these categories in 2005, so percentage changes cannot be calculated.

^cBaseline projection values do not fit in the table. The values are as follows: employment, \$8.7 trillion; output, \$29.1 trillion; imports, \$2.9 trillion; and exports, \$1.7 trillion.

The removal of barriers would increase welfare in 2011 by 0.01 percent, or \$1,868 million dollars, relative to the forecast value. In detail, efficiency gains from the removal of tariffs and quotas improve welfare by \$2,343 million, but the reduction in U.S. export demand by countries that currently benefit from trade preference programs reduces this value by \$475 million. The overall increase in welfare is considerably lower than estimates in previous updates of this report, chiefly because the elimination of most quotas in 2005 considerably reduced import barriers relative to previous years.³⁴

In about one-half of textile and apparel sectors, liberalization would cause a small decline in domestic output (figure 3-1) and employment and a small increase in imports (figure 3-3), compared to the 2011 baseline projection. Liberalization would also result in a decrease in the domestic price, which would increase U.S. exports by making them more competitive in world markets (figure 3-2). In the 12 sectors for which ROO-based preferences are not a factor, the expected changes from the policy liberalization are small relative to the projected changes based on industry trends.³⁵

In contrast, liberalization is estimated to sharply reduce exports in the 10 sectors in which domestic production is encouraged by U.S. preference programs and FTAs, because foreign demand would decline for these exports.³⁶ Although all 10 of these sectors have large estimated declines in exports, the effect on production varies and depends primarily on the export orientation of the sector.³⁷ The auto applique and trim sector is the least export oriented, and it has the smallest estimated decline in output (0.8 percent) relative to the baseline projection. Conversely, narrow fabric is the most export oriented of these sectors, and it has the largest estimated decline in output (38.7 percent). The estimated decline in employment for

34. The previous update, for example, estimated an increase in welfare from quota and tariff liberalization of \$9-14 billion (USITC, *Import Restraints, Fourth Update 2004*, 71).

35. These 12 sectors include nonwoven fabric, carpets, tire cord, cordage, textile goods n.e.c., curtains, house furnishings n.e.c., textile bags, canvas products, auto applique and trim, embroideries, and fabricated textile products n.e.c.

36. These 10 sectors include broadwoven fabric, narrow fabric, knit fabric, yarn mills, thread mills, coated fabric, pleating, auto applique and trim, hosiery n.e.c., and apparel made from purchased material.

37. Export orientation is the percentage of U.S. output that is exported. In sectors with ROO-based preferences, export orientation ranges from 1.1 percent for the auto applique and trim sector to 87.6 percent for the narrow fabric sector.

these sectors is generally close to the decline in output.³⁸ The estimated effect on other textile and apparel sectors due to the decline in ROO-based foreign demand is minor.

Aside from textiles and apparel, only five other sectors are expected to experience changes of at least one percent in output as a result of the liberalization. Cotton, textile machines, and both synthetic and cellulosic man-made fiber are upstream sectors, so employment and imports in these sectors are expected to decrease if liberalization reduces domestic output of textiles and apparel. Consistent with the textile and apparel estimates discussed in box 3-1, upstream sectors are more affected by the elimination of ROO-based foreign demand than by the elimination of tariffs or quotas: foreign demand reduction accounts for at least 60 percent of the employment decline in these sectors. In contrast, the effects on downstream sectors are expected to be positive but small. Only public building furniture is estimated to expand output by more than one percent as the prices of textile inputs decline.³⁹

38. The employment change is similar to the output change in all sectors except house furnishings and women's hosiery. In house furnishings, employment increases by 4.0 percent while production declines by 0.3 percent. This result occurs because 21.1 percent of house furnishings are produced by workers in the broad fabric sector. The large contraction in the broad fabric sector sharply reduces production of house furnishings by workers in the broad fabric sector; thus employment in the house furnishings industry must increase even though the combined output in the house furnishings sector contracts slightly. Similarly, 55.0 percent of the output of women's hosiery is produced by workers in the hosiery n.e.c. sector. Even though output of women's hosiery contracts slightly, employment in the women's hosiery industry must increase to make up for a dramatic decrease in women's hosiery output by hosiery n.e.c. workers.

39. The outputs of two other sectors, nonferrous ores and the export of education sector, which consists of the expenses of foreign students in the United States, also increase by more than one percent. Although they are not upstream or downstream sectors, their output expands because the small estimated decline in the exchange rate that results from liberalization promotes exports in these two sectors. They are among the most export-intensive of all U.S. sectors (82.4 and 100.0 percent of the output of these sectors is exported, respectively).

Box 3-1**Relative impact of removing quotas, tariffs, and ROO-based preferences**

Examining tariffs, quotas, and ROO-based preferences separately, the effects of liberalization can be consistently ranked: in nearly every sector, the liberalization of tariffs has a greater estimated impact than the liberalization of quotas, but both of these effects are small compared to the effect of removing ROO-based preferences. The relative impacts of eliminating quotas, tariffs, and ROO-based preferences are well illustrated by comparing the effects of each type of liberalization on output (see table below).

The removal of quotas would have the least effect on output: this liberalization would change output by less than 0.5 percent in all sectors. (Elimination of ETEs is estimated to substantially reduce output in hosiery n.e.c., an apparel sector, but that change is included with other negotiated trade policies in the projection.) The removal of tariffs would have a larger effect on output. Textile mill products have the largest estimated output declines due to the removal of tariffs. Although textile products and apparel sectors would be subject to larger tariff removals, their output reduction would not be as great because they are downstream sectors that would benefit from cheaper fabric inputs after liberalization. The elimination of ROO-based preferences would have the largest effect on output in sectors subject to these rules. In all 10 of the sectors benefitting from ROO-based preferences, reduction in foreign demand accounts for at least 60 percent of the total reduction in output, and overall, ROOs account for about three-quarters of the output decline.

Effects of partial and full liberalization on output, relative to baseline projection, percent change, 2011

Aggregate Sector	Type of liberalization			
	ETEs only	Tariffs only	ROOs only	Full ^a
All textiles and apparel .	-0.1	-1.3	-4.8	-6.2
Textile mills	-0.1	-1.5	-8.1	-9.8
Textile products	(+)	-0.4	-0.6	-1.1
Apparel	-0.3	-1.4	-3.6	-5.5

Source: USITC estimates.

Note: (+) denotes a value less than 0.05 percent

^aThe effects of the partial liberalizations may not sum to the full liberalization because of rounding and because of minor interaction effects absent from the partial liberalizations.

Chapter 4

Other Sectors with Significant Import Restraints

This chapter identifies twelve sectors or groups of sectors subject to relatively high tariffs and examines the economic impact of removing these tariffs. The chapter describes the method of selection, the baseline model values, and the expected results of liberalization for each of these twelve sectors.

Significant Tariff Restraints

U.S. tariffs have generally been falling over time. The trade-weighted average tariff rate for all imports fell slightly between the years 2002 and 2005, from 1.6 percent to 1.4 percent ad valorem, based on customs values. Despite the low average U.S. tariff rate, certain sectors within the economy have relatively high tariff rates. To identify these high-tariff sectors, the trade-weighted average tariff for each of the 521 model sectors was calculated.¹ Peak sectors are defined as those with a tariff greater than 3.9 percent, which is one standard deviation above the average of 1.4

1. These sectors closely correspond to the sectors in the 1992 U.S. input-output tables: USDOC, BEA, 1992 Benchmark Input-Output Table.

percent for all sectors. Sectors that are discussed elsewhere in the study, such as textiles, are excluded, leaving a list of twelve (table 4-1).

The effects of liberalizing U.S. imports of these products are modeled by removing tariffs on them, one sector (or group of sectors) at a time. For the most part, removal of a tariff on a single good or class of goods would be expected to have relatively simple effects (and generally very small ones), as illustrated in most of the sectors below. The U.S. price of imported goods would decline, putting downward pressure on the price of competing domestic products and hence on domestic production, and also on sectors that supply the domestic industry, but favoring industries using these products as well as final consumers. For ceramic tile, which is not principally a consumer good, the effects on consumption are dominated by competing effects on investment. As seen below, this causes the elimination of tariffs on tiles to have a slightly negative effect on welfare as measured by consumer spending.

Simulation results indicate that elimination of tariffs would increase imports and typically reduce domestic output and employment within these twelve sectors and groups (table 4-2). However, these liberalizations are estimated to have little effect on other sectors or on national welfare.

Figures 4-1 through 4-6 illustrate the effects of eliminating tariffs on the selected sectors relative to the changes in trade and domestic output that would otherwise be expected from the dynamic baseline projection in the absence of tariff elimination. Results for footwear and leather products are shown in figures 4-4 through 4-6, while all other results can be found in figures 4-1 through 4-3. For example, the top line of figure 4-3 shows that the estimated increase in exports of ball bearings of 0.7 percent (discussed below) occurs in a context in which exports of this product are otherwise expected to increase by 55 percent between 2005 and 2011.

The USAGE-ITC model, with 521 industry sectors and commodities, contains much more sectoral detail than most general equilibrium models. Nevertheless, its structure still conceals, within its aggregate sectors, detail on important but highly specific sectors. As an illustration, box 4-1 discusses barite, which is contained within the industrial chemical sector and is not elsewhere analyzed in this report.

Table 4-1
Summary data for sectors with significant tariffs, 2005

USAGE-ITC Sector	U.S. import tariff ^a		Employment 1,000 workers	Production	Imports, c.i.f.		Exports
	Percent	Million dollars			Imports, c.i.f.	Exports	
Ball and roller bearings.....	6.0	1,775	27	6,233	1,775	1,293	
Ceramic wall and floor tile.....	7.9	2,013	6	1,023	2,013	27	
Costume jewelry.....	6.4	1,224	4 ^b	783	1,224	129	
Cutlery and hand tools.....	4.6	3,429	35 ^b	7,090	3,429	1,570	
Edible fats and oils n.e.c.....	5.0 ^c	156	7	9,657	156	345	
Footwear and leather products.....	10.7	17,069	17	2,019	17,069	265	
Glass and glass products.....	4.5	4,650	88	18,290	4,650	3,365	
Musical instruments.....	3.9	1,514	13	119	1,514	444	
Pens, mechanical pencils, and parts.....	5.1	997	7 ^b	1,309	997	189	
Processed fruits and vegetables.....	4.8	1,801	39 ^b	12,709	1,801	1,350	
Table and kitchenware.....	5.4	2,252	11	989	2,252	422	
Watches, clocks, watch cases, and parts.....	5.1	3,535	3	630	3,535	252	

Source: U.S. Customs and USDOC data.

Note: Aggregated according to NAICS category: ball and roller bearing manufacturing (332991); ceramic wall and floor tile manufacturing (327122); costume jewelry and novelty manufacturing (339914); cutlery and flatware manufacturing and hand and edge tool manufacturing (332211 and 332212); fats and oils refining and blending (311225); footwear manufacturing (3162); glass and glass product manufacturing (327211, 327212, and 327215); musical instrument manufacturing (339992); pen and mechanical pencil manufacturing (339941); dried and dehydrated food, frozen fruit, juice, and vegetable manufacturing (311423 and 311411); vitreous china, fine earthenware, and other pottery product manufacturing (327112); watch, clock, and part manufacturing (334518).

^aThe tariff rate shown is for the model sector and is not necessarily identical to that of the corresponding NAICS sector.

^bThese figures were estimated using NAICS 5-digit level data.

^cThis NAICS sector is defined more broadly than the model sector used in simulations. The NAICS sector includes edible fats and oils and portions of other model sectors such as vegetable mills, soybean mills, and cottonseed mills. The tariff rate for the NAICS fats and oils refining and blending sector is 1.2 percent.

Table 4-2
Projected baseline values and effects of liberalization for high tariff sectors, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Employment	Output	Imports	Exports	Employment	Output	Imports	Exports	Household price
Ball and roller bearings.....	2,921	10,277	4,342	1,748	-4.7	-4.6	11.0	0.7	-0.3
Ceramic wall and floor tile.....	345	1,228	3,122	65	-5.5	-5.3	2.8	0.5	-0.3
Costume jewelry.....	420	2,128	2,339	209	-3.2	-2.6	5.8	0.8	-1.9
Cutlery and hand tools									
Cutlery.....	612	3,295	1,791	651	-3.7	-3.2	7.9	1.6	-1.1
Hand tools.....	2,292	8,982	2,877	702	-0.3	-0.3	2.1	0.1	-0.9
Edible fats and oils n.e.c.....	640	7,736	488	369	-0.9	-0.7	19.4	8.7	-0.3
Footwear and leather products									
Shoes, except rubber.....	182	1,447	22,597	333	-0.6	-0.6	3.4	0.0	-3.9
House slippers.....	13	80	174	4	-1.5	-1.3	4.5	0.6	-3.7
Rubber and plastics footwear.....	203	1,006	10,285	594	-0.7	-0.7	4.8	0.0	-5.3
Luggage.....	103	550	5,242	261	-8.1	-7.3	7.3	2.3	-6.7
Leather gloves and mittens.....	28	87	492	7	-2.9	-2.6	6.7	0.2	-6.0
Women's handbags and purses.....	130	517	2,063	270	-3.2	-3.0	6.3	1.6	-5.3
Personal leather goods n.e.c.....	131	570	901	54	-6.9	-5.5	8.9	3.8	-3.4
Leather goods n.e.c.....	88	348	584	123	-0.2	-0.2	0.6	-0.2	-0.5
Glass and glass products.....	6,062	26,269	6,737	4,621	-0.3	-0.2	6.6	5.1	-0.8
Musical instruments.....	769	3,407	4,535	345	-1.1	-1.1	3.0	5.5	-1.3
Pens, mechanical pencils, and parts.....	504	3,112	2,741	226	-2.6	-2.2	4.4	1.7	-1.3
Processed fruits and vegetables									
Frozen fruits, fruit juices, and vegetables.....	1,535	12,448	1,970	1,587	0.0	-0.1	16.0	7.5	-0.3
Dehydrated fruits, vegetables, and soups.....	646	4,484	509	949	-2.1	-1.9	13.6	0.6	-0.5
Table and kitchenware									
Vitreous china table and kitchenware.....	229	563	323	35	-4.9	-4.8	10.6	0.3	-1.8
Fine earthenware table and kitchenware.....	30	105	623	39	-2.7	-2.6	2.0	0.2	-2.6
Pottery products n.e.c.....	564	1,761	354	231	-1.3	-1.3	2.2	0.4	-1.6
Watches, clocks, watchcases, and parts.....	73	1,912	4,012	254	1.0	0.7	2.3	5.0	-1.9

Source: USITC estimates.

Ball and Roller Bearings

The elimination of the 6.0 percent tariff on ball bearings is expected to increase the quantity of imported ball bearings by 11.0 percent over the 2011 baseline projection, whereas domestic output is expected to decline by 4.6 percent. As domestic output declines, so would domestic employment, by 4.7 percent relative to the baseline projection. Consumer prices for ball bearings would decline by 0.3 percent. Since the price of the domestic product also declines in response to import competition, exports actually increase very slightly, by 0.7 percent. Removal of the tariff would cause a welfare increase of about \$11.2 million.

Ceramic Tile

Elimination of the 7.9 percent tariff on ceramic tile is estimated to increase ceramic tile imports, which are initially about twice as large as domestic output, by 2.8 percent over the 2011 baseline projection. Domestic output of ceramic tile would decline by 5.3 percent relative to the 2011 baseline. The consumer price of tile would decline by 0.3 percent. For the most part, though, ceramic tile is not a product purchased by consumers as end users; rather, it is a product purchased by construction industries as an input to residential and commercial buildings, which are investment goods. As a result, the price of investment declines (very slightly) relative to the price of consumption goods. Household consumers invest very little and benefit very little from reductions in the prices of investment goods. Because consumption becomes more expensive relative to investment, welfare as measured by consumer expenditure is expected to decrease by \$2.2 million.

Costume Jewelry

In response to the elimination of the 6.4 percent tariff on costume jewelry, costume jewelry imports would increase by 5.8 percent over the 2011 baseline projection. Domestic production would decrease by 2.6 percent compared to the 2011 baseline. Industry employment would decline by 3.2 percent relative to the baseline. Because of the slight decline in the price of domestic costume jewelry, exports would be expected to increase slightly, by 0.8 percent. Removal of the tariff on costume jewelry would increase welfare by approximately \$11.7 million.

Box 4-1**Analysis of industries within the USAGE-ITC sector aggregation:
The case of barite**

Barite (barium sulfate, BaSO₄), the most common barium mineral, is almost exclusively consumed in the United States as a weighting agent in gas and oil well drilling fluids. Barite is also used as a filler, extender, or weighting agent in paints, plastics, and rubber; in automobile brake and clutch pads; and as a starting material to produce barium carbonate used in the faceplate glass of cathode ray tubes (CRTs) in televisions and computer monitors. Barite ores generally cannot be used directly; they must first be processed to achieve minimum purity or density levels, and then grinding is normally required.

The three major companies that mine and grind barite in the United States (Baker Hughes INTEQ, Baroid, and M-I SWACO) also function as oil service companies both domestically and internationally (either directly or through their parent companies), providing drilling sales and services. These three companies mine and process barite in Nevada, and they also operate plants in Louisiana and Texas for grinding imported material. A fourth company, Excalibar Minerals Inc., imports and grinds imported barite in Louisiana and Texas and also operates an industrial barite plant in Tennessee.

The United States imports about 80 percent of the barite it consumes. In 2005, about 86 percent of these imports came from China, the world's largest barite producer, and 12 percent from India, the second largest barite producer. Less than 1 percent of U.S.-imported barite is ground overseas.^a

U.S. imports of barite are classified under HTS heading 2511.10. The duty on crude (not ground) barite is \$1.25/metric ton. Based on official 2005 import statistics provided by the USDOC, that duty would be equivalent to an ad valorem duty rate for 2005 of 2.3 percent for imports from China, the dominant importer, on a landed duty-paid value basis.^b In contrast, ground barite is imported duty free. Virtually all barite imports are of the crude product because the cost of transporting the ground barite is high.

In a submission provided to the USITC, May 11, 2006, an industry representative stated that the removal of the \$1.25-per-metric-ton duty would benefit—not harm—the domestic producers of barite, the U.S. energy industry, and consumers.^c The Gulf region, an area that constitutes more than 70 percent of U.S. energy production, is dependent on imported barite, and most U.S. barite production is sold to the western U.S. and Canadian oil and gas industry.

^a2005 trade data obtained from trade statistics compiled by the USDOC.

^bImports of non-ground barite from India, the second largest foreign supplier, are duty-free under the GSP.

^cJohn Newcaster, Vice President, Supply Chain, M-I SWACO.

Cutlery and Hand Tools

Removing the tariffs on cutlery and hand tools, which average 4.6 percent, would result in lower prices for imported products in each commodity group. Although the price declines are similar, imported and domestic cutlery are much closer substitutes than are imported and domestic hand tools, so the domestic cutlery industry is much more sensitive to the tariff reduction than is the domestic hand tool industry. For cutlery, imports would increase by 7.9 percent over the 2011 baseline projection. Output would decline by 3.2 percent and employment would decline by 3.7 percent relative to the baseline projection. Consumer prices would decline by 1.1 percent relative to the baseline. For hand tools, imports would increase by 2.1 percent, output and employment would each decline by 0.3 percent, and consumer prices would decline by 0.9 percent relative to the 2011 baseline projection. Removal of cutlery and hand tool tariffs is estimated to increase welfare by \$12.1 million.

Edible Fats and Oils n.e.c.

The removal of the 5.0 percent tariff on edible fats and oils n.e.c. is estimated to increase U.S. demand for imports of these commodities by 19.4 percent over the 2011 baseline projection. Increased competition from imports would cause a 0.7 percent decline in U.S. production of edible fats and oils n.e.c. and a 0.9 percent decline in employment relative to the baseline projection. The consumer price would decline by 0.3 percent. Removing U.S. tariffs on imports of edible fats and oils n.e.c. is estimated to increase welfare by \$2.0 million.

Footwear and Leather Products

With the elimination of the 10.7 percent tariff on footwear and leather products, imports in these sectors are estimated to increase by 0.6 percent to 8.9 percent compared to the 2011 baseline projection, with the largest percentage change in imports coming in personal leather goods, followed by luggage. Domestic output would decline by 0.2 percent to 7.3 percent, and domestic employment would decline by 0.2 percent to 8.1 percent across the various commodity sectors relative to the baseline projection. Consumer prices for these goods would decline by 0.5 percent to 6.7 percent relative to the 2011 baseline projection, with the biggest decline

being in luggage. U.S. exports of these products generally increase. Removal of all of the tariffs in this group of products is estimated to increase welfare by \$249 million.

Glass and Glass Products

Removal of the 4.5 percent tariff on U.S. imports of glass is estimated to increase glass imports by 6.6 percent relative to the 2011 baseline projection. Domestic production of these products would decline by 0.2 percent and employment would decline by 0.3 percent relative to the 2011 baseline projection. The consumer price of glass would decline by 0.8 percent, and welfare would increase by \$20.1 million.

Musical Instruments

Elimination of the 3.9 percent tariff on musical instruments is estimated to increase U.S. demand for imported musical instruments by 3.0 percent compared to the 2011 baseline projection. Increased competition from imports causes a 1.1 percent decline in U.S. musical instrument production and employment relative to the baseline. The private household price for musical instruments also declines, by 1.3 percent. Removing U.S. tariffs on musical instrument imports is estimated to increase welfare by \$3.8 million.

Pens and Mechanical Pencils

Elimination of the 5.1 percent duty on pens and mechanical pencils is expected to increase imports of these goods by about 4.4 percent relative to the 2011 baseline. U.S. writing instrument output would decline by 2.2 percent. Domestic employment in the sector would decline by 2.6 percent compared to the 2011 baseline. The consumer price would decline 1.3 percent in this category, and overall welfare would increase by \$9.5 million.

Processed Fruits and Vegetables

Processed fruits and vegetables comprise two sectors: frozen fruits and vegetables, and dehydrated fruits and vegetables. With the elimination of

the average tariff of 4.8 percent, frozen fruits and vegetables imports would increase by 16.0 percent relative to the 2011 baseline projection. Domestic output and employment would not change substantially, and consumer prices would decline by 0.3 percent. In dehydrated fruits and vegetables, imports would increase by 13.6 percent relative to the baseline. Domestic output and employment would decline by 1.9 and 2.1 percent, respectively, and consumer prices would decline by 0.5 percent from the baseline. Removing U.S. tariffs on imports of processed fruits and vegetables is estimated to increase U.S. welfare by \$12.9 million.

Table and Kitchenware

Kitchenware is an aggregate of three model sectors: vitreous china and tableware, earthenware, and pottery products n.e.c. These sectors have a trade-weighted average tariff of 5.4 percent. With tariff elimination, vitreous china has the largest estimated increase in imports (10.6 percent) and the largest declines in production (4.8 percent) and employment (4.9 percent) relative to the 2011 baseline. After liberalization, imports of earthenware are estimated to increase by only 2.0 percent, production is expected to decline by 2.6 percent, and employment decline by 2.7 percent compared to the 2011 baseline. For pottery products n.e.c., liberalization results in a moderate estimated import increase of 2.2 percent and relatively small declines in production (1.3 percent) and employment (1.3 percent) relative to the 2011 baseline. Welfare would increase by \$7.1 million when the tariffs on the three sectors are eliminated.

Watches, Clocks, and Parts

Unlike the other high-tariff sectors, eliminating duties on watches actually promotes U.S. production and employment in this sector. The sector includes both finished watches and parts. The United States imports watch parts (mainly cases, complete movements, and straps) and finished watches, and performs final assembly of parts into finished watches. Elimination of duties leads to increased imports of parts at a lower price, and is expected to promote production and exports of finished watches. Elimination of the 5.1 percent tariff is estimated to increase imports by 2.3 percent relative to the 2011 baseline. Domestic output would increase by 0.7 percent. Exports would also increase, by 5.0 percent relative to the projected baseline, which itself is expected to fall slightly, and

U.S. employment would increase by 1.0 percent. The consumer price of these products would decrease by 1.9 percent, and welfare is estimated to increase by \$7.2 million.

Figure 4-1
Percentage change in output of sectors with significant tariff restraints, baseline projection and liberalization, 2005–11

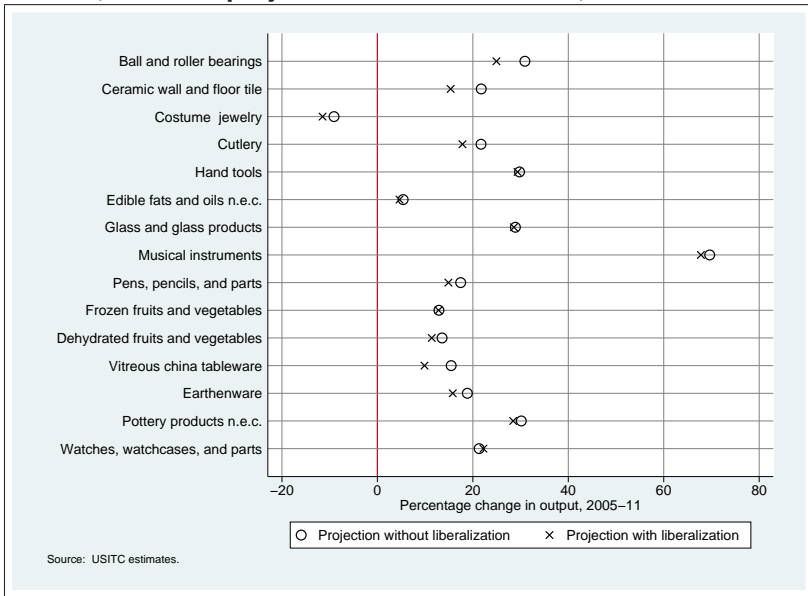


Figure 4-2
Percentage change in imports of sectors with significant tariff restraints, baseline projection and liberalization, 2005–11

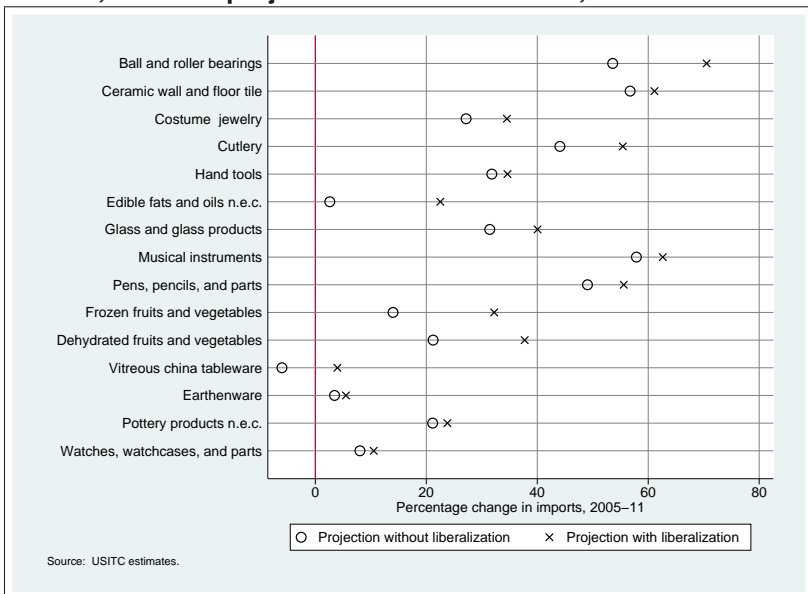


Figure 4-3
Percentage change in exports of sectors with significant tariff restraints, baseline projection and liberalization, 2005–11

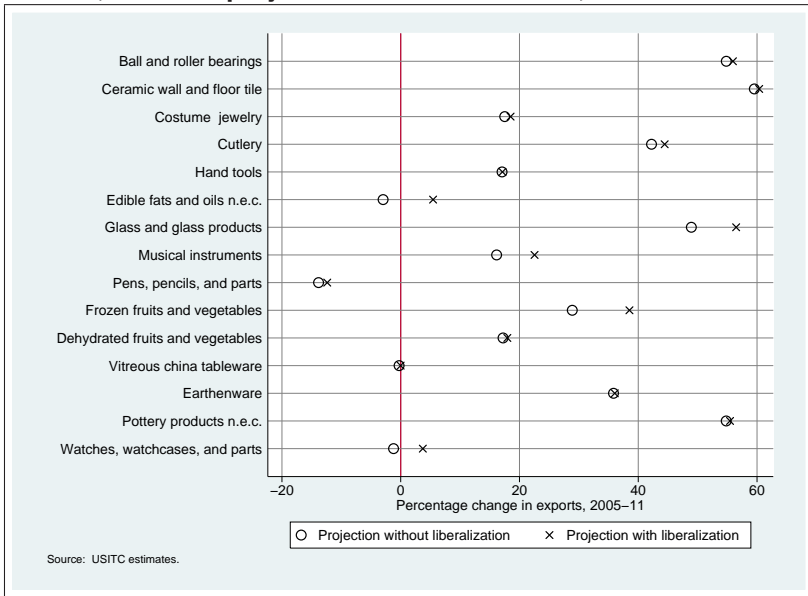


Figure 4-4
Percentage change in output of footwear and leather products, baseline projection and liberalization, 2005–11

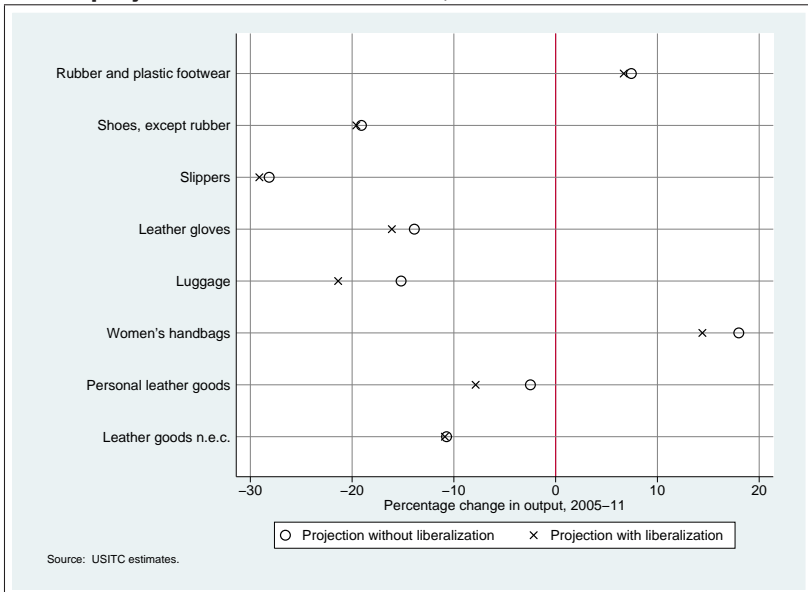


Figure 4-5
Percentage change in imports of footwear and leather products, baseline projection and liberalization, 2005–11

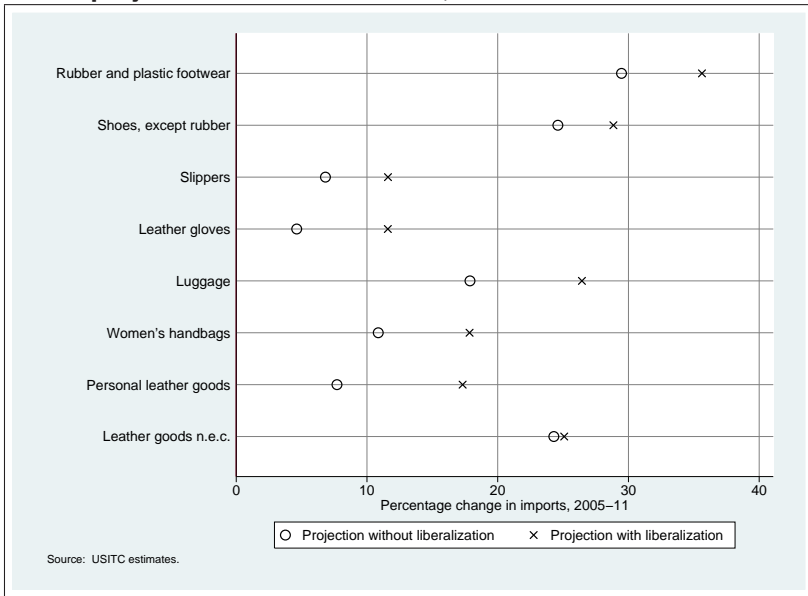
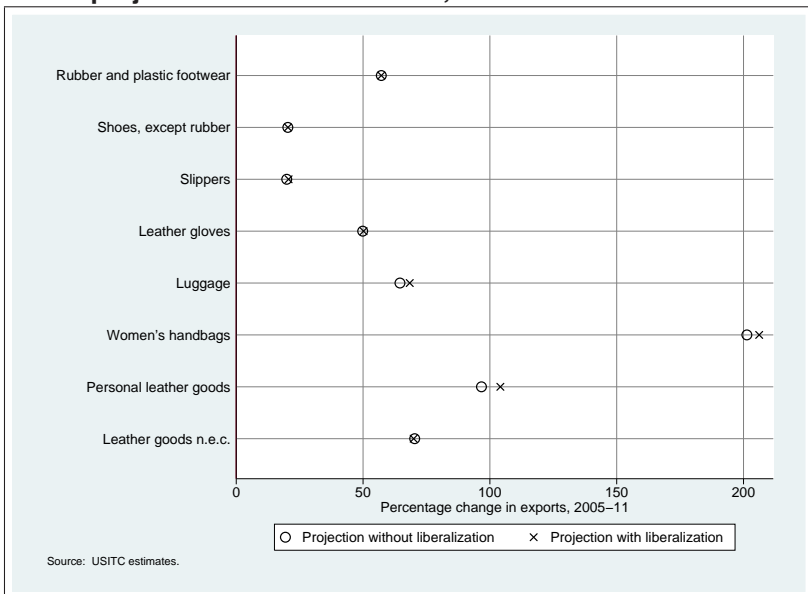


Figure 4-6
Percentage change in exports of footwear and leather products, baseline projection and liberalization, 2005–11



Chapter 5

Services

In some service sectors, particularly transportation services, federal regulations impose restrictions on foreign service suppliers. This chapter identifies and documents significant import restraints on maritime transport and trucking. The United States maintains regulations on shipbuilding, transport, and staffing requirements, particularly as applied to maritime transportation. U.S. regulations on trucking also affect the approval and harmonization of cross-border transport.¹ No quantitative analysis of maritime transport or truck transport is conducted because of the lack of necessary data.

Maritime Transport

The Jones Act

The United States protects U.S.-flag vessels and shipbuilders from import competition in the U.S. domestic oceanborne trade, primarily through section 27 of the Merchant Marine Act of 1920, also known as the Jones Act.² Domestic oceanborne trade includes coastwise shipping

1. Previous versions of this study have documented import restraints within the air transport services industry. In the current review period, no changes have been made to laws governing the provision of air transport services in the U.S. domestic market by foreign airlines. For an overview of the regulatory regime governing international air transport, see USITC, *The Economic Effects of Significant U.S. Import Restraints, Fourth Update 2004*, chapter 5.

2. 46 U.S.C. 883, 19 CFR 4.80 and 4.80 (b).

as well as shipping between the mainland United States and Hawaii and outlying territories. The Jones Act requires that the transport of cargo between U.S. ports be provided on vessels that are U.S. built and registered and that are owned and crewed by U.S. citizens.³ The United States also maintains several other cabotage laws that further restrict the participation of foreign vessels in U.S. domestic trade. These laws are designed to ensure the existence of a U.S. merchant fleet that can participate in domestic oceanborne commerce and can assist in national defense during times of war and national emergency.⁴

Three types of vessels are deployed in Jones Act deep-sea trade: dry-cargo carriers, liners, and tankers. Dry-cargo carriers transport bulk freight. Liners, which include container, breakbulk, and roll-on/roll-off vessels, transport primarily manufactured goods. Tankers carry petroleum and other liquid cargo.⁵ As of 2005, the Jones Act fleet operating in the U.S. deep-sea trade comprised 105 self-propelled vessels. Of this number, 56 were tankers, 29 were containerships, 15 were roll-on/roll-off vessels, 3 were dry-cargo carriers, and 2 were general cargo carriers.⁶ In 2004, Jones Act vessels carried 221 million short tons of cargo in U.S. coastal waters.⁷ According to the U.S. Army Corps of Engineers (USACE), the largest share of Jones Act cargo consisted of petroleum and petroleum-based products (34.9 percent), followed by crude materials (21.9 percent), coal (21.3 percent), food and farm products (8.3 percent), chemicals and

3. The transportation of merchandise between U.S. ports, either directly or via a foreign port, is known as cabotage. Although many nations have a variety of cabotage restrictions, very few require the use of domestically built vessels. Most nations maintain cabotage restrictions on inland waterways, rivers, and lakes, for reasons of sovereignty and national security; however, the United States and several other countries also maintain coastal and noncontiguous cabotage restrictions. For more information on cabotage laws in foreign countries, see USDOT, Maritime Administration, *By the Capes Around the World: A Summary of World Cabotage Practices*.

4. The United States maintains several exemptions to the Jones Act and other cabotage laws that permit the transport of cargo between specific U.S. ports by certain vessels that do not comply with Jones Act restrictions. For more detailed information on U.S. exemptions to the Jones Act, see USITC, *The Economic Effects of Significant U.S. Import Restraints: Fourth Update 2004*.

5. The McGraw-Hill Companies and USDOC, ITA, *U.S. Industry & Trade Outlook '99*, ch. 43, p. 17.

6. USDOT, Maritime Administration (MARAD), *U.S.-Flag Oceangoing Fleet 2005*.

7. U.S. Army Corps of Engineers, *Waterborne Commerce of the United States* (Part 5, National Summaries), Calendar Year 2004.

related products (7.2 percent), and manufactured goods and manufacturing equipment (6.1 percent).⁸

Other U.S. Cabotage Laws

Aside from the Jones Act, the United States maintains cargo preference laws that reserve the transport of certain types of U.S. cargo to vessels operating under the U.S. flag. For example, U.S.-flagged vessels must transport at least 50 percent of government-owned cargo and all U.S. military cargo.⁹ Additionally, freight that is transported in connection with loans provided by the Export-Import Bank must be carried by U.S.-flagged vessels, unless a waiver is granted by the U.S. Maritime Administration permitting the recipient country of such cargo to transport it on vessels under its own flag.¹⁰ The 1995 Alaska Power Administration Asset Sale and Termination Act requires that international exports of Alaskan crude oil be transported solely by U.S.-flagged and U.S.-owned vessels, although such vessels may be constructed outside of the United States.¹¹

Cost Differentials: U.S. Coastwise vs. Foreign Trade

Vessel costs are primarily comprised of capital and operating costs. Capital costs refer to vessel construction costs.¹² Operating costs include wages paid to crews, direct fuel charges, insurance, maintenance and repair, and other administrative expenses. Of these, labor and maintenance

8. U.S. Army Corps of Engineers, *Waterborne Commerce of the United States* (Part 5, National Summaries), Calendar Year 2004.

9. This restriction is maintained under the Cargo Preference Act of 1954 (Public Law 83-664). In addition, the Food Security Act of 1985 (Public Law 99-198) requires that U.S.-flagged vessels transport at least 75 percent of agricultural cargoes that are a part of foreign assistance programs administered by USDA and the U.S. Agency for International Development.

10. Public Resolution No. 17. USDOT, MARAD, *Maritime Subsidies*, 162–163.

11. Public Law 104-58. In the late 1990s, the largest export markets for Alaskan crude oil were China, Japan, and Korea. However, in 2000, the international export of Alaskan oil was voluntarily terminated and such oil was diverted to refineries located on the West Coast of the United States. Kumins, “Alaska Oil Exports”; and Murkowski, *Alaska Trade and Development Report: 2004 Export Report*.

12. The Commission was unable to secure direct information on the capital costs of U.S.-flagged vs. foreign-flagged vessels.

Table 5-1
Comparison of daily operating expenses for U.S.-flagged vs. foreign-flagged vessels, U.S. dollars, 2005

Expense category	Type of vessel			
	Tanker ^a		Containership ^b	
	U.S.-flagged	Foreign-flagged	U.S.-flagged	Foreign-flagged
Crew.....	11,000	2,300	12,705	2,940
Fuel.....	2,600	1,100	4,410	3,045
Maintenance and repair costs.....	1,200	700	2,310	1,470
Insurance.....	11,000	11,000	13,335	13,335
Other ^c	2,100	1,500	1,500	1,400
Total.....	27,900	16,600	34,260	22,190

Source: USDOT, MARAD, e-mail message to USITC staff, Sept. 5, 2006.

^aThese costs are estimated for 40-50,000 DWT tankers that are less than 10 years old.

^bThese costs are estimated for a containership with a volume of 4,000 twenty-foot equivalent units (TEUs) that are less than 10 years old.

^cOther expenses include food, supplies, and other vessel expenses.

costs are typically higher in absolute terms for U.S. vessels than for foreign-flagged vessels (table 5-1). U.S. crew costs generally account for most of the differences in operating costs between U.S.- and foreign-flagged vessels. For example, manning costs account for 77 percent of the operating cost differential for a typical oil tanker and 81 percent of the cost differential for a typical containership.¹³

If foreign vessels were allowed to participate in U.S. cabotage, some industry analysts maintain that, in addition to complying with environmental laws, foreign vessels operating in U.S. domestic waters would be required to comply with other U.S. regulations, including federal and state tax, immigration, and labor laws.¹⁴ According to industry representatives, foreign vessel compliance with these laws likely would increase the costs of such vessels operating in Jones Act trade, thereby

13. Manning costs include wages and benefits paid to shipboard employees. Calculated from information provided by MARAD. See table 5-1.

14. Written information provided to USITC staff during interview with U.S. industry representative, Washington, DC, October 31, 2001. For more information on these laws, see USITC, *The Economic Effects of Significant U.S. Import Restraints: Fourth Update 2004*.

substantially decreasing the cost differential between U.S.- and foreign-flagged carriers.¹⁵ However, other industry observers maintain that only some of these laws would apply to foreign vessels if they were allowed to participate in Jones Act trade. Even then, it is not clear to what extent these laws would affect the costs and operation of foreign vessels in the U.S. market, so the Commission is unable to provide an estimate of the welfare gains that would result from removing these import restraints.¹⁶

Truck Transport

In the decade following the establishment of NAFTA on January 1, 1994, merchandise trade by land between the United States and Mexico grew at an average annual rate of 10 percent, from \$90.1 billion to \$224.9 billion. Truck transport services have accounted for a growing share of this trade. In fact, 82 percent of total U.S.-Mexico merchandise trade by land was transported by truck in 2004, up 1 percent from 2002.¹⁷ The number of trucks crossing into the United States from Mexico increased by 5.6 percent, to 4.7 million crossings, during 2003–5 (table 5-2).¹⁸

Under NAFTA, Mexican truckers were to be given full access to the U.S. market for cross-border shipments. This NAFTA provision would have lifted a 1982 moratorium that Congress had placed on Mexican trucks, barring them from operating beyond a small commercial zone along the U.S.-Mexican border.¹⁹ Access to U.S. border states (California, Arizona, New Mexico, and Texas) was to be granted starting in December 1995,

15. Dean, “Jones Act Reflects Fundamentals of U.S. Legal System.”

16. For example, in a 1998 report by the GAO, analysts concluded that certain U.S. federal tax laws likely would apply to foreign vessels operating under the Jones Act, but it was unclear to what degree U.S. minimum wage, immigration, and employee protection laws would apply. GAO, *Maritime Issues: Assessment of the International Trade Commission’s 1995 Analysis of the Economic Impact of the Jones Act*.

17. USDOT, “Value of U.S. Land Exports to and Imports from Canada and Mexico by Mode.”

18. USDOT, “Border Crossings/Entries by State/Port and Month/Year Sorted by Month.” Data reflect the estimated number of crossings, not the number of unique vehicles that crossed the border.

19. A moratorium on Canadian trucks was also imposed in 1982, but was lifted within several months as a result of bilateral negotiations. Since that time, Canadian trucks have been free to transport merchandise across the U.S.-Canadian border, although the provision of cabotage, or point-to-point service, within the U.S. domestic market is prohibited.

Table 5-2
Truck transport: U.S. industry summary data, 2003–5

Item	2003	2004	2005
U.S. total revenue (<i>million dollars</i>)	163,086	184,293	— ^a
U.S. employment (<i>in 1,000s</i>).....	1,521	1,595	— ^a
Number of crossings (<i>in 1,000s</i>).....	4,238	4,504	4,679
Value of U.S. imports from Mexico transported via truck (<i>million dollars</i>)	92,535	104,944	— ^a
Value of U.S. exports to Mexico transported via truck (<i>million dollars</i>)	70,551	79,349	— ^a

Source: USDOC, Bureau of the Census, *Service Annual Survey*, table 2.2; USDOL, BLS, “Occupational Employment Statistics”; USDOT, Bureau of Transportation Statistics, “The Intermodal Transportation Database,” “US Mexican Border Land-Freight Gateways,” and “Value of U.S. Land Exports to and Imports from Canada and Mexico by Mode.”

^aNot available.

and access to the entire United States was to be granted by 2000, although cabotage was to be reserved for U.S. trucks. However, in December 1995, the USDOT suspended the processing of applications submitted by Mexican trucking firms to serve the border states pending the resolution of safety concerns. In 2001, a NAFTA arbitration board ruled that although the United States may ban specific carriers from operating within the country based on legitimate safety concerns, it may not impose a blanket ban on Mexican trucks.²⁰

On November 27, 2002, a memorandum by President Bush lifted the moratorium on Mexico-domiciled carriers’ operation beyond the U.S. border zone and authorized the USDOT to act on applications previously submitted by Mexican motor carriers seeking to operate scheduled services throughout the United States. However, on January 16, 2003, the U.S. Court of Appeals for the Ninth Circuit, citing the need to conduct environmental impact studies, set aside three USDOT Federal Motor Carrier Safety Administration (FMCSA) regulations that were necessary to

Generally, the U.S.-Mexico border commercial zone extends up to 20 miles north of U.S. border cities.

20. USDOT, *The Motor Carrier Moratorium, Mexico, and NAFTA*. In 2000, the out of service (OOS) rate (the percentage of U.S. inspections that resulted in a truck being pulled out of service) for Mexican trucks was 36.1 percent versus 21.3 percent for U.S. trucks. By 2005, the OOS rate for Mexican trucks had fallen to 21.5 percent, slightly lower than the 21.6 percent rate recorded for U.S. trucks.

the processing of applications for long-haul authority sought by Mexican carriers.

On June 7, 2004, the U.S. Supreme Court overturned the appeals court decision, ruling that the FMCSA was not obligated to conduct a full environmental impact review.²¹ This decision enabled USDOT to continue working with Mexican authorities to authorize long-haul operations. Nevertheless, the USDOT inspector general's (IG) audit report of January 3, 2005, on the implementation of NAFTA's cross-border trucking provisions concluded that, until agreements on outstanding issues are reached with Mexico, long-haul operating authority could not be granted to Mexican carriers to operate beyond the border commercial zone. The IG report called for separate agreements regarding on-site safety reviews and new background requirements for transporters of hazardous materials in the United States.²² Negotiations between the USDOT and the Mexican authorities are ongoing.

If the United States lifts its restrictions on Mexican truckers providing cross-border trucking services from points in Mexico to points in the United States, it is expected that Mexico will follow suit and lift its restrictions on U.S. trucks providing cross-border trucking services from points in the United States to points in Mexico.²³ If the United States and Mexico lift their respective restrictions on the operation of each others' trucks within their territory, Mexican and U.S. drivers would be able to directly compete with one another for cross-border routes. This competition would likely result in a net gain for Mexican truckers because of the lower wages that Mexican truckers receive and the reluctance of U.S. truck drivers to operate within Mexico.²⁴ However, there is also the potential for U.S. carriers to benefit, as Mexican investment restrictions in the trucking industry would likely be lifted.²⁵

21. Moore, "U.S. Supreme Court Finally Removes Decade-Long Road Block to U.S.-Mexican Trucking."

22. USDOT, Office of Inspector General, *Follow-up Audit*.

23. See Keane, *The Journal of Commerce*, and Londoño, *Institutional Arrangements that Affect Free Trade Agreements*, 132. Mexico's restrictions are reportedly much more onerous than those maintained by the United States.

24. Owner-Operator Independent Drivers Association, prehearing comments.

25. Keane, "OOIDA on the Border." According to industry sources, although U.S. truck drivers are generally not interested in operating within Mexico, U.S. trucking firms are interested in investing in Mexican trucking firms, which is currently restricted.

Chapter 6

Effects of Removing All Significant U.S. Import Restraints

Simultaneous liberalization of all significant and quantifiable import restraints and U.S. ROO-based requirements for apparel identified in chapters 2–5 is expected to yield an increase in economywide welfare of \$3.7 billion, growth in exports of \$13.5 billion, and growth in imports of \$19.6 billion relative to the 2011 baseline projection. Table 6-1 reports the estimated effects of removing all significant U.S. import restraints identified in chapters 2 through 5 on nine broad sectors of the U.S. economy. The reported results represent percentage changes relative to the projected state of the economy in 2011. Imports and exports for the economy as a whole are expected to rise, while employment and output tend to decline in the liberalizing sectors (agriculture and nondurable manufacturing) and generally rise elsewhere.

When considering results for liberalized sectors at the disaggregated level (table 6-2), imports and exports are estimated to rise in all sectors other than textiles and apparel. Exports in textiles and apparel sectors decline in all sectors for which the elimination of ROO-based preferences for U.S. FTA partners causes a decline in foreign demand for U.S. textile and apparel inputs. Production and employment decline in nearly all sectors. Landed duty-paid prices of imports and U.S. producer prices are expected to decline; private household prices (a weighted average of prices for imports and domestically produced goods) generally fall for

liberalized sectors and rise for others. All price changes are relative to an economywide index of final consumption prices.

Liberalized Sectors

The immediate effect of removing import restraints on the liberalized sectors is a reduction in the relative price of the respective imports. As a result, demand for imported goods is expected to increase, and demand for domestic goods is expected to decline. In response to increased competition from imports, U.S. producers lower their prices. At lower prices, domestic producers would supply less to the market, and domestic output and sectoral employment would decline. Domestic demand for the liberalized goods would increase because the prices of the imported and domestic varieties have both declined. Demand for U.S. exports would increase as U.S. producers lower their prices and become more competitive in the world economy.

When all significant and quantifiable import restraints and U.S. ROO-based requirements for apparel are eliminated simultaneously, the analysis suggests that the largest percentage declines in U.S. output would occur in sectors characterized by the most significant import restraints (table 6-2). The following sectors exhibit the greatest reduction in output relative to the 2011 baseline projection (with percentage decline in parentheses): narrow fabric mills (40.8 percent), sugar beet farming (31.0 percent) and refined beet sugar (32.0 percent), sugar cane farming (36.1 percent) and raw cane sugar (36.8 percent), thread mills (29.7 percent), and butter (21.8 percent).

Several factors determine the model results for output in textiles and apparel. Broadwoven fabric and narrow fabric are subject not only to increased competition through the removal of tariffs, but also face the loss of export markets driven by U.S. ROO-based requirements for downstream products such as apparel. With the removal of all tariff-preference benefits, the benefits to foreign manufacturers of using U.S.-made inputs disappear, thereby reducing a substantial amount of world demand for U.S. production of these products. This effect is most evident in the fabric sectors. The effect of liberalization on apparel is more mixed. While the world demand for cut pieces (classified under apparel) is anticipated to shrink dramatically, the apparel industry also benefits from global sourcing of inputs such as fabric and thread, somewhat dampening the contraction to 5.4 percent.

Table 6-1
Projected economic effects of liberalization of all significant import restraints on aggregate sectors of the economy, 2011

Sector	2011 baseline projection, billion dollars						Effects of liberalization, percent change, 2011					
	Empl.			Exports			Empl.			Exports		
	Empl.	Output	Imports	Exports	Imports	Exports	Empl.	Output	Imports	Exports	Imports	Exports
Entire economy	8,644	29,079	2,875	1,694	—	—	—	(-)	0.6	0.6	0.6	(+)
Agriculture, forestry, and fisheries	45	429	37	45	-0.9	-0.6	-0.1	0.9	0.9	0.9	0.2	0.2
Mining	54	421	168	24	0.3	0.4	(+)	5.0	5.0	5.0	0.2	0.2
Construction	707	1,671	—	0	(+)	(+)	(+)	1.9	1.9	1.9	— ^c	— ^c
Nondurable manufacturing	389	2,746	609	386	-0.5	-0.4	2.4	-0.5	-0.5	-0.5	-0.7	-0.7
Durable manufacturing	653	4,110	1,393	492	(+)	(+)	0.1	0.4	0.4	0.4	0.2	0.2
Transportation, communications, and utilities	411	3,061	251	498	0.1	0.2	0.9	1.5	1.5	1.5	0.1	0.1
Wholesale trade	1,014	2,481	—	7	0.2	0.2	— ^b	-0.6	-0.6	-0.6	0.2	0.2
Finance insurance, and real estate	790	3,838	103	73	-0.1	(-)	(-)	(+)	(+)	(+)	0.1	0.1
Government and other services	4,581	10,321	313	169	(+)	(+)	(+)	1.1	1.1	1.1	0.2	0.2

Source: USITC estimates.

Note: Employment is abbreviated as "Empl." and household is abbreviated as "H'hold." The symbols (+) and (-) denote small positive and negative changes with magnitudes below 0.05. 2011 baseline values may not be comparable to 2005 summary data; see discussion in appendix D.

^aThe household price is the share-weighted average price of imports and domestic products purchased by households.

^bValue was zero for these categories in 2005, so percentage changes cannot be calculated.

^cHousehold price for construction services unavailable in model.

Table 6-2
Projected economic effects of liberalization of all significant import restraints on liberalized sectors, changes in employment, output, trade, and prices, percent, 2011

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H'hold price
<i>Textiles and apparel</i>									
Textile mills	9,656	75,406	12,761	13,787	-15.3	-11.1	3.5	-38.6	-0.5
Broadwoven fabric mills	3,455	30,216	4,090	6,123	-17.6	-11.4	11.6	-31.5	-0.7
Narrow fabric mills	352	1,762	837	1,471	-44.0	-40.8	-1.3	-48.8	-1.2
Nonwoven fabrics	551	4,550	800	1,057	0.8	0.1	0.3	0.5	0.0
Knit fabric mills	653	5,100	1,340	2,265	-29.9	-31.2	-8.5	-53.1	-0.6
Yarn mills and textile finishing n.e.c.	1,584	8,662	876	1,132	-24.1	-22.0	-5.9	-84.5	-1.1
Thread mills	91	681	102	202	-34.4	-29.7	-2.6	-87.9	-1.5
Carpets and rugs	1,600	16,211	2,345	674	-0.1	(+)	1.0	1.5	-0.1
Coated fabrics, not rubberized	454	2,756	952	515	-13.9	-12.2	1.0	-64.2	0.1
Tire cord	142	1,334	466	73	-1.0	-0.7	2.4	0.4	0.2
Cordage and twine	180	970	360	66	-0.6	-0.8	1.6	1.5	-0.2
Textile goods n.e.c.	595	3,163	593	209	0.4	-0.6	1.6	0.4	0.0
Textile products	5,646	25,111	16,213	2,209	-0.6	-1.2	3.1	-5.0	-1.2
Curtains and draperies	460	1,607	1,244	68	-4.9	-3.9	8.6	3.7	-2.4
Housefurnishings n.e.c.	1,190	8,625	10,394	470	5.0	-0.4	2.7	2.6	-2.0
Textile bags	266	864	473	69	-2.6	-2.4	6.1	3.1	-1.2
Canvas and related products	347	1,303	624	26	-2.6	-2.3	7.1	2.6	-1.5
Pleating and stitching	259	918	172	103	-15.1	-11.7	0.8	-89.2	-1.5
Auto applique and trim	2,168	7,559	— ^b	48	-0.9	-0.9	— ^b	-82.2	-0.2
Embroideries	130	282	— ^b	— ^b	-0.1	-0.2	— ^b	— ^b	0.0
Fabricated textile products n.e.c.	826	3,955	3,307	1,424	0.9	0.5	1.4	2.0	-1.1

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Table 6-2
Projected economic effects of liberalization of all significant import restraints on liberalized sectors, changes in employment, output, trade, and prices, percent, 2011, continued

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H'hold price ^a
Apparel	3,269	28,603	123,187	3,249	-4.0	-5.4	3.1	-31.9	-1.9
Women's hosiery, except socks	163	3,625	258	120	2.7	-0.4	3.3	1.8	-0.1
Hosiery n.e.c.	265	1,196	1,908	67	-5.1	-5.4	3.2	-83.9	-2.2
Apparel made from purchased materials	2,841	23,781	121,021	3,062	-4.3	-6.1	3.1	-32.2	-3.4
<i>Food and agriculture</i>									
Sugar	1,543	17,081	1,190	650	-18.5	-3.1	318.4	131.4	-3.4
Sugarcane	55	1,303	— ^b	— ^b	-55.1	-36.1	— ^b	— ^b	-0.7
Sugarbeets	358	3,200	— ^b	— ^b	-45.5	-31.0	— ^b	— ^b	-0.6
Raw cane sugar	136	2,021	1,043	243	-42.8	-36.8	280.3	107.5	-3.1
Refined cane sugar	402	5,187	124	— ^c	39.9	39.9	552.1	— ^c	-3.2
Refined beet sugar	592	5,370	23	— ^c	-35.7	-32.0	847.1	— ^c	-3.9
Total refined sugar	994	10,698	147	407	-75.3	8.6	0.0	147.6	-8.7
Dairy	18,285	106,017	2,835	2,673	-2.4	-2.6	131.9	30.9	-1.1
Butter	74	2,835	246	20	-38.4	-21.8	379.9	50.4	-9.6
Dry dairy products	966	8,524	530	896	-5.8	-5.1	104.4	5.3	-1.5
Condensed and evaporated dairy products (except CMPP)	3,687	6,594	420	422	7.8	-4.7	87.6	4.6	-1.2
Concentrated milk protein products	1,275	335	14	104	-0.2	-1.1	-1.0	-1.3	0.5
Fluid milk	1,284	40,153	18	300	-1.3	-1.2	-8.7	15.3	0.1
Cheese	4,190	36,296	1,574	746	-3.0	-2.5	115.8	92.1	-1.1
Ice cream	6,358	11,282	33	185	0.0	-0.2	157.0	1.5	-0.2

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Table 6-2
Projected economic effects of liberalization of all significant import restraints on liberalized sectors, changes in employment, output, trade, and prices, percent, 2011, continued

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H'hold price ^a
Beef	10,548	124,221	3,992	3,807	0.3	0.2	10.7	12.3	0.1
Beef cattle	4,190	73,244	1,191	295	0.3	0.3	-0.2	10.7	0.3
Beef packing	6,358	50,977	2,801	3,512	0.3	0.2	15.3	12.4	0.0
Ethyl alcohol	3,146	14,706	817	380	-1.0	-1.2	27.8	1.0	-0.6
Tuna	189	885	1,597	12	-8.5	-15.1	12.3	4.6	-5.5
Canned tuna, oil-pack	189	127	150	— ^b	-8.5	-19.3	24.6	— ^b	-8.0
Canned tuna, water-pack	—	757	1,447	12	-8.5	-14.5	11.0	4.6	-3.8
Tobacco	3,447	24,782	1,403	4,841	-0.2	-0.3	14.9	1.8	-0.1
Cigarettes	2,804	17,709	300	1,523	0.1	0.1	10.6	1.3	-0.1
Cigars	186	498	653	24	0.2	0.3	0.1	2.1	-0.1
Chewing and smoking tobacco and snuff	149	1,222	12	523	0.7	0.6	5.0	1.3	-0.1
Tobacco stemming and retying	307	5,353	438	2,770	-1.8	-1.4	39.8	2.2	-0.6
<i>Other sectors with significant import restraints</i>									
Ball and roller bearings	2,921	10,277	4,342	1,748	-4.9	-4.7	11.1	0.7	-0.1
Ceramic wall and floor tile	345	1,228	3,122	65	-5.6	-5.3	2.8	0.4	-0.1
Costume jewelry	420	2,128	2,339	209	-3.3	-2.7	5.8	0.7	-1.6
Cutlery and hand tools	2,905	12,277	4,668	1,353	-1.1	-1.1	4.3	0.7	-0.8
Cutlery	612	3,295	1,791	651	-4.4	-3.4	8.1	1.4	-0.9
Hand tools	2,292	8,982	2,877	702	-0.3	-0.3	2.1	0.0	-0.7
Edible fats and oils n.e.c.	640	7,736	488	369	-0.5	-0.6	25.0	11.0	-0.2
Footwear and leather products	878	4,605	42,337	1,646	-2.9	-2.2	4.4	1.3	-4.2
Shoes, except rubber	182	1,447	22,597	333	-0.7	-0.6	3.3	0.2	-3.9
Rubber and plastics footwear	203	1,006	10,285	594	-0.3	-0.3	4.7	0.8	-5.4

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Table 6-2
Projected economic effects of liberalization of all significant import restraints on liberalized sectors, changes in employment, output, trade, and prices, percent, 2011, continued

Sector	2011 baseline projection, million dollars				Effects of liberalization, percent change, 2011				
	Empl.	Output	Imports	Exports	Empl.	Output	Imports	Exports	H'hold price ^a
House slippers	13	80	174	4	-1.5	-1.3	4.5	1.2	-3.5
Leather gloves and mittens	28	87	492	7	-3.1	-2.7	6.5	0.7	-5.9
Luggage	103	550	5,242	261	-8.0	-6.9	7.0	3.3	-6.6
Women's handbags and purses	130	517	2,063	270	-3.6	-3.1	6.2	1.6	-5.1
Personal leather goods n.e.c.	131	570	901	54	-7.4	-5.6	9.1	3.8	-3.2
Leather goods n.e.c.	88	348	584	123	0.2	0.1	0.6	0.9	-0.4
Glass and glass products	6,062	26,269	6,737	4,621	-0.4	-0.4	6.1	5.2	-0.6
Musical instruments	769	3,407	4,535	345	-1.3	-1.2	2.9	4.9	-1.0
Pens, mechanical pencils, and parts	504	3,112	2,741	226	-2.9	-2.3	4.6	1.6	-1.1
Processed fruits and vegetables	2,181	16,933	2,479	2,536	-1.9	-1.7	17.5	4.6	-0.4
Frozen fruits, fruit juices, and vegetables	1,535	12,448	1,970	1,587	-3.0	-2.5	17.6	1.3	-0.6
Dehydrated fruits, vegetables, and soups	646	4,484	509	949	0.6	0.6	17.3	10.1	-0.2
Table and kitchenware	259	669	945	74	-2.5	-2.4	2.9	0.2	-1.8
Vitreous china table and kitchenware	229	563	323	35	-4.7	-4.6	11.1	0.2	-1.6
Fine earthenware table and kitchenware	30	105	623	39	-2.8	-2.7	1.8	0.2	-2.5
Pottery products n.e.c.	496	1,487	2,015	802	-1.5	-1.5	2.1	0.3	-1.4
Watches, clocks, watchcases, and parts	73	1,912	4,012	254	1.1	0.8	2.4	5.1	-1.7

Source: USITC estimates.

Note: (+) and (-) denote small positive and negative changes with magnitudes below 0.05.

^aThe household price is the share-weighted average price of imports and domestic products purchased by households.

^bValue was zero for these categories in 2005, so percentage changes cannot be calculated.

^cRefined sugars are not differentiated in U.S. export statistics. Projected total refined sugar exports are \$407 million. The estimated increase is 147.6 percent.

Within the dairy industry, butter production exhibits the largest decline because, as indicated in chapter 2, butter benefits from the greatest degree of protection before liberalization. Regarding the beef packing industry, the output effect of the beef liberalization is small (see chapter 2), and thus the beef results from the simultaneous liberalization differ from the results of the sectoral liberalization described in chapter 2 (table 2-15). Although beef-packing imports are still anticipated to rise by about 15 percent (table 6-2), demand for U.S. exports of beef is expected to increase more in the simultaneous liberalization than in the sectoral liberalization because a larger dollar depreciation takes place in the simultaneous liberalization. Thus, beef exports rise by about 12 percent.

Almost all sectors with high tariffs or TRQs show the expected patterns of declining domestic production, employment, and prices, along with increases in imports and exports, when these barriers are eliminated.¹ A significant exception is the refined cane sugar sector, because of the structure of the sugar industry. Cane refiners can choose to refine domestically milled raw sugar or foreign milled raw sugar. Because sugar beets are essentially untraded, beet refiners are restricted to domestic sourcing of sugar beets, denying them the benefit of less expensive imported inputs. Cane sugar refiners benefit from liberalization because they would have access to much cheaper foreign raw cane sugar inputs. Cane refiners respond by expanding production by 39.9 percent. Exports of refined sugar more than double, rising by 147.6 percent. In contrast, cane millers and growers are both hurt due to import competition, with sugarcane production dropping 36.8 percent and raw sugar milling 39.9 percent. Growers of sugar beets and refiners of beet sugar are similarly hurt, with beet output declining 31.0 percent and refined beet sugar contracting by 32.0 percent.

In other sectors with significant import restraints, employment and output are generally estimated to fall in response to liberalization, while imports and exports are expected to rise. Similar to the case of beef, some high-tariff sectors that face relatively small output declines in the sector-by-sector liberalizations are estimated to expand under simultaneous liberalization, thanks to more favorable export demand conditions (because of the

1. There are, however, apparent exceptions. For example, the employment in house furnishing n.e.c. expands while output declines. A similar pattern exists in women's hosiery, except socks. Both are the result of compositional differences between industries (that define employment) and commodities (that define output). A full discussion of these differences may be found in footnote 38, chapter 3.

larger dollar depreciation in the simultaneous liberalization). Dehydrated fruits and vegetables is one such example, changing from an estimated 1.9 percent decline in output and 0.6 percent increase in exports under sector-by-sector liberalization, to a 0.6 percent expansion in output and a 10.1 percent increase in exports under simultaneous liberalization. Watches, watch cases and parts, as well as leather goods n.e.c. exhibit a similar relationship between sector-by-sector and simultaneous liberalization.

Chapter 7

Labor Market Transitions

This chapter examines the effects of removing significant U.S. import restraints on employment in the U.S. economy. It is estimated that, relative to the 2011 projected baseline, if all significant U.S. import restraints were to be removed, approximately about 60,000 workers would move from contracting sectors to expanding sectors as a result of liberalization. About 68 percent of these displaced workers would be from the textile and apparel industries.

This chapter provides a brief analysis based on data from the Displaced Worker Surveys (DWS) of the characteristics of workers in the industries most likely to be affected by the elimination of significant U.S. import restraints. The analysis does not describe workers who are likely to fill job openings created by trade liberalization. A survey of economic literature on the relationship between international trade, trade policy, and employment follows the analysis of displaced workers.

Transition Experiences of Displaced Workers

Loss of employment linked to trade liberalization represents a transition cost to the economy, which may be weighed (along with other costs) against the benefits of trade liberalization. Transition costs include costs of unemployment benefits, lost income to the workers, and the cost of retraining workers.¹ This section presents an analysis based on the DWS

1. In its model, the Commission did not quantify these transition costs, and therefore these costs are not reflected in the welfare calculations presented earlier.

and compares these estimates to previous work by the USITC in its 2002 Import Restraints Study when labor transitions were last analyzed.²

Estimated Effects of Simultaneous Liberalization of Import Restraints on Displaced Workers

The modeling results show that simultaneous liberalization of all significant U.S. import restraints would result in the movement of 60,000 workers from contracting sectors to expanding sectors in 2011 relative to the 2011 baseline projection. Approximately 68 percent of the displaced workers would be from the textile and apparel industries, and displaced workers would most likely move into services, wholesale and retail trade, and durable goods manufacturing industries. These figures are lower than those from the USITC's 2002 Import Restraints Study, which showed a total displacement of about 175,000 full-time workers with nearly 90 percent coming from the textile and apparel industries. Although there has been no major change in the U.S. tariff structure since the 2002 study, the Agreement on Textiles and Clothing expired in January 2005, and the United States has entered into a number of bilateral trade agreements. In response, the import-competing sectors have adjusted somewhat, and some of these sectors are expected to contract over the 2005–2011 period. These recent and expected future adjustments by import-competing industries are mainly responsible for the lower estimates of job transitions. To put these numbers into perspective, the U.S. civilian workforce currently has approximately 152 million workers, and approximately 7 million workers have been unemployed at any one time during recent months. Thus, the movement of workers represented by changes in import restraints is a very small share of the civilian workforce and a small share of total unemployed workers.

The DWS, which are supplements to the Current Population Survey (CPS) conducted biennially by the Bureau of the Census, provide information to assess the severity of the job-loss experience. The sample for these surveys is selected from individuals who are at least 20 years old, live in civilian households, and experience job loss during the preceding three years.³ The detailed follow-up questions are administered only to

2. USITC, *Import Restraints, Third Update 2002*. This report is referred to as the 2002 Import Restraints Study. Note that USITC, *Import Restraints, Fourth Update 2004*, did not have a chapter on labor market transitions.

3. The sample was restricted to those under the age of 65 for analytical reasons.

those reporting job losses from plant closures, slack work, or abolishment of position; voluntary unemployment and losses from self-employment are excluded. The two latest available surveys (2004 and 2006) are used, and they cover workers displaced from 2001 to 2005.⁴

This chapter uses these recent survey data to characterize the displaced workers population in 2011.⁵ Workers displaced from sectors with significant import restraints, as specified in chapter 6, were selected from the survey data for a separate subsample of “import restraints displaced workers.” This subsample was reweighted so that the number of job losses in each industry reflects the reduction in jobs in 2011 as a result of simultaneous removal of all significant U.S. import restraints, as estimated in the simulation analysis in this report. The subsample of import restraints displaced workers was then compared to the overall survey sample of displaced workers. Understanding the experience and characteristics of these import restraints displaced workers and how they differ from those of other displaced workers can serve to inform policies toward this vulnerable population.

Reason for and Location of Job Loss

Employment displacement due to removal of tariffs on imports tended to result from plant closures rather than layoffs of individuals, which is consistent with other studies such as the one by Riggs and Zarotiadis.⁶ For all displaced workers, plant closures and slack work accounted for similar proportions of displacements, and abolished positions accounted for somewhat less (table 7-1). In contrast, 58 percent of the job loss related to imports was due to plant closures, followed by slack work, with relatively few displacements due to abolished positions. Although Hurricane Katrina caused significant job loss in New Orleans and other Gulf locales, its national impact was too small to account for the differences in

4. The data correspond to the January 2004 and January 2006 CPS data files, which are available at USDOC, Bureau of the Census, “Current Population Survey: Basic Monthly CPS.”

5. The assumption that the experience characterized in the recent surveys will carry forward to 2011 is an approximation as the displacement experience may vary along the business cycle. Farber, “Job Loss in the United States, 1981–2001,” uses data from the DWS to analyze the rate of job loss over time.

6. Riggs and Zarotiadis, “Soft and Hard Within- and Between-Industry Changes of U.S. Skill Intensity: Shedding Light on Worker’s Inequality.”

Table 7-1
Reason for displacement and location of import restraints displaced workers and all workers, 2001–5, percent^a

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
<i>Reason for displacement</i>		
Plant closing	37.9	57.6 ***
Slack work	37.0	27.1 **
Abolished position	25.1	15.3 ***
Displacement due to Hurricane Katrina	0.6	0.0 ***
<i>Location of displacement</i>		
Northeast	17.6	13.7
Midwest	24.5	7.8 ***
South	31.8	61.6 ***
West	26.0	16.9 ***
<i>Third update 2002 (where comparable)</i>		
<i>Reason for displacement</i>		
Plant closing	24.8	58.2 ***
Slack work	21.4	29.7 ***
Abolished position	14.2	12.1 *

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 10 (*), 5 (**), and 1 (***) percent level.

^aTotals may not sum to 100 percent due to rounding.

displacement patterns between import restraints displaced workers and all other workers. Moreover, this distribution of reasons for lost jobs of import restraints displaced workers is very similar to that of 1995–99.⁷

The South had the largest share of all displaced workers and a much higher proportion of import restraints displaced workers (table 7-1). This result is not unexpected, given that the textile industry is predominantly located in the South. Similarly for 1995–99, import restraints displaced workers were concentrated in the Carolinas and other southern states. All displaced workers were found in roughly equal shares throughout the country with the Northeast having the lowest share. The Midwest had the lowest percentage of import restraints displaced workers.

7. USITC, *Import Restraints, Third Update 2002*, 186.

Personal and Employment Characteristics

As in the third update of this report, import restraints displaced workers, when compared to all displaced workers, were more likely to be older (table 7-2).⁸ Although import restraints displaced workers are somewhat more likely to be female, when compared to all displaced workers, the difference is not statistically significant. A significantly smaller portion of import restraints displaced workers in comparison with all displaced workers were white, and the share of whites in both all displaced workers and import restraints displaced workers is lower than that reported in the 2002 study. Blacks and Hispanics were more concentrated among import restraints displaced workers than among all displaced workers, although the difference was not statistically significant for Hispanics, and these shares were similar to those reported in the 2002 study. Marital status was similar for both groups, as it was in the previous study. Most import restraints displaced workers are U.S. citizens, and there are no significant differences in citizenship status between all displaced workers and the import restraints displaced workers.

The education difference was significant; a lower percentage of import restraints displaced workers had university degrees and a greater percentage had only a high school education or less in comparison to all displaced workers. These results are similar to those reported in the 2002 Import Restraints Study. The displacement of workers with low levels of education is consistent with an economy that is becoming more specialized in higher-skill jobs. Import restraints displaced workers were more likely to receive unemployment benefits than all workers (table 7-3). When displaced workers from both groups received benefits, almost half exhausted those benefits before finding another job.⁹ These results are similar to those reported in the 2002 Import Restraints Study. Jobs lost by import restraints displaced workers were more likely to include health insurance. For both categories of workers, lost jobs were less likely to be covered by a union in this study than in the 2002 Import Restraints Study, but the difference between the two groups is not significant. Import restraints displaced workers had longer job tenures before displacement, and these

8. USITC, *Import Restraints, Third Update 2002*.

9. In addition to regular unemployment assistance, import restraints displaced workers may be eligible for Trade Adjustment Assistance. Benefits may include training, income support, and allowances for expenses related to job search and relocation. See USDOL, Employment and Training Administration, "Trade Adjustment Assistance Fact Sheet."

Table 7-2
Attributes of all displaced workers and import restraints displaced workers

Attribute	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Mean age (years).....	39.5	42.8 ***
Percent female.....	43.0	50.9
Percent White.....	67.5	56.6 **
Percent Black.....	13.1	24.6 **
Percent Hispanic.....	13.2	16.1
Percent married.....	54.4	49.6
Percent citizens.....	91.3	87.9
Percent naturalized citizens.....	5.1	4.0
Percent with high school or less.....	10.0	26.2 ***
Percent with university degree(s).....	26.4	6.3 ***
<i>Third update 2002 (where comparable)</i>		
Mean age (years).....	38.8	42.1 ***
Percent female.....	46.8	60.2
Percent White.....	82.3	74.0 ***
Percent Black.....	13.2	19.4 ***
Percent with high school or less.....	14.0	33.8 ***
Percent with university degree(s).....	22.0	8.1 ***

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 5 (**) and 1 (***) percent level.

Table 7-3
Job characteristics and unemployment experience

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Percent that moved after job loss	13.1	14.1
Percent that received unemployment benefits ..	48.3	61.9 ***
Percent that exhausted benefits	44.3	43.0
Percent that lost a job covered by union	9.6	7.1
Percent that lost a job with health insurance ...	55.0	69.0 ***
Length of tenure at job lost (years)	4.8	9.1 ***
Mean completed spell of unemployment (weeks)	15.1	16.2
Percent finding some job after displacement ...	74.1	75.5
<i>Third update 2002 (where comparable)</i>		
Percent that moved after job loss	14.4	10.5 ***
Percent that received unemployment benefits ..	38.3	63.8 ***
Percent that lost a job covered by union	9.4	11.8 *
Length of tenure at job lost (years)	4.9	7.1 ***
Mean completed spell of unemployment (weeks)	10.5	14.0 ***
Percent finding some job after displacement ...	80.4	64.0 **

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 10 (*), 5 (**), and 1 (***) percent level.

results are similar to the previous study. Mean periods of unemployment tended to last 15 to 16 weeks for both groups of workers. In contrast to the 2002 study, the differences between all displaced workers and import restraints displaced workers are smaller regarding length of unemployment and finding jobs after unemployment. The 2001–05 data show that the import restraints displaced workers were equally successful at finding some job after displacement as all displaced workers.

Import restraints displaced workers earned less than all displaced workers before displacement and incurred greater percentage losses in salary between their lost full-time job and their current full time job (table 7-4). The results contrast sharply with the 2002 study using 1995–99 data, where all displaced workers and import restraints displaced workers found jobs that paid, respectively, 8.8 percent and 4.5 percent more than their previous jobs. Consistent with the trend of more educated workers

Table 7-4
Earnings

	All displaced workers	IR displaced workers ^a
<i>Fifth update 2007</i>		
Median percentage change in earnings	−4.9	−10.7
From full-time to full-time	−4.5	−10.7
Median real weekly earnings (lost full-time job, real 1982–4 dollars)	326.1	245.8
Median real weekly earnings (current full-time job, real 1982–4 dollars)	302.6	216.0
Median family annual income bracket at survey (thousand current 2001–5 dollars)	40–50	25–30

Source: DWS, BLS, USDOL, and USITC estimates.

^aStandard errors for median not computed.

^bEarnings were not reported in a comparable format in the third update of this report.

earning a wage premium, import restraints displaced workers, whose level of education was lower (table 7-2), were earning less and were less able to find comparable-paying jobs after displacement in comparison to all displaced workers. Households of both groups of displaced workers tended to have a wage earner in addition to the displaced worker. Taken together, these results suggest that all workers had more difficult transitions during 2001–05 than 1995–99 and that import restraints displaced workers, in particular, tried harder to find jobs, even if they paid less.

The current labor force status of import restraints displaced workers was generally similar to that of all displaced workers (table 7-5). About two-thirds of both groups had found other employment by the time of the survey, and 13 percent were not in the labor force at the time of the survey. A lower percentage of import restraints displaced workers than all displaced workers found employment in the same sector, which may be associated with their sharper decline in post-displacement earnings. Overall, displaced workers were reemployed in the other services and wholesale and retail trade sectors more than in any other sectors (table 7-6). The third largest absorbing sector was construction for all displaced workers and durable manufacturing for import restraints displaced workers. Compared to all displaced workers, import restraints displaced workers were less likely to be reemployed in agriculture; mining and extractive industries;

Table 7-5
Current labor force status at survey time, percent

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Employed at survey time.....	66.9	68.7
From full time to full time	69.4	61.1
Same industry	26.8	11.4 ***
Same sector	51.7	29.0 ***
Unemployed at survey time.....	20.0	17.9
Not in labor force at survey time	13.1	13.4
<i>Third update 2002 (where comparable)</i>		
Employed at survey time.....	72.3	59.2 ***
Unemployed at survey time.....	10.4	9.9 ***
Not in labor force at survey time	14.8	26.7 ***

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 1 (***) percent level.

nondurable manufacturing; and finance, insurance, and real estate.

Review of Literature

The United States is commonly believed to have relatively more abundant capital and highly skilled workers than most other countries. Basic international trade theory predicts that the United States will export goods that use its abundant factors intensively and import goods that use other factors intensively. A commonly cited implication is that trade liberalization may lower the wages of less-skilled workers who produce goods that compete with imports made by low-paid foreign workers. An important fact about the U.S. labor market is that wages for skilled and less-skilled workers have diverged during the past three decades.

The earliest and most basic international trade theories predicted that trade would equalize wages across countries.¹⁰ However, these theories assumed that all countries have identical technologies, that all countries

10. Davis and Mishra in “Stolper-Samuelson is Dead” summarize reasons why this early theory may not be valid.

Table 7-6
Sectors absorbing displaced workers, percent

	All displaced workers	IR displaced workers
<i>Fifth update 2007</i>		
Agriculture, forestry, fishery	0.2	0.0 ***
Mining, extractive industries	0.5	0.0 ***
Construction	12.2	7.3
Non-durable manufacturing	3.4	0.5 ***
Durable manufacturing	8.7	14.8
Transportation, communications, utilities	6.1	4.0
Wholesale and retail trade	15.8	17.9
Finance, insurance, real estate	8.8	3.2 ***
Other services	44.3	52.3
<i>Third update 2002 (where comparable)^a</i>		
Agriculture, forestry, fishery	—	2.8
Mining, extractive industries	—	0.0
Construction	—	2.7
Non-durable manufacturing	—	6.2
Durable manufacturing	—	8.9
Transportation, communications, utilities	—	5.1
Wholesale and retail trade	—	31.5
Finance, insurance, real estate	—	4.0
Other services	—	38.5

Source: DWS, BLS, USDOL, and USITC estimates.

Note: Subgroup mean significantly different at 1 (***) percent level.

^aValues for sectors absorbing all workers were not reported in the third update of this report, so it cannot be determined whether values for import restraints displaced workers were significantly different in that report.

produce all goods, and that capital and labor are fully employed and free to move from one sector to another within a country.¹¹ More recent theories, which have allowed international technology and consumption differences and the presence of some goods that are not traded, have accorded well with empirical evidence.¹² These more recent theories imply that wages would not be equalized across countries while these technology differences persist, although some convergence might occur.

Skill Premium

Since the early to mid-1970s, college-educated workers in the United States have earned increasingly more than those without a college education, and an increasing portion of the workforce has attended and completed college.¹³ For example, between 1970 and 1995, real wages of those with at least 16 years of education rose by 3.4 percent, while the real wages of full-time U.S. workers with 12 years of education fell by 13.4 percent, and the real wages of those with less than 12 years of education fell by 20.2 percent.¹⁴ These trends have continued. Males with a high school diploma earned 33 percent more than males without a high school diploma, and those with a bachelor's degree earned 104 percent more than those without a diploma in 1995; the same ratios rose, respectively, to 36 percent and 118 percent in 2004.¹⁵

These facts suggest that the demand for skilled labor may have increased relative to the demand for less-skilled labor in the United States. The literature reports that technical change, such as the increased use

11. USITC, *Import Restraints, Third Update 2002*, 170–2, discusses the literature regarding the validity of assumptions and testing the most basic models. For example, it cites literature showing slow convergence of prices after complete trade liberalization and that workers' compensation often reflects skills that are industry-specific, which prevents them from being reemployed in other industries at a similar wage.

12. Davis and Weinstein, "An Account of Global Factor Trade."

13. Ingram and Neuman, "The Returns to Skill," 2. These authors argue that education alone is not a good indicator of skill and find that a model that includes observable measures of skill in addition to education performs well.

14. Feenstra and Hanson, "Global Production Sharing and Rising Inequality: A Survey of Trade and Wages," 2. Also, real wages are wages that have been adjusted to take inflation into account.

15. These figures are based on the median annual income of full-time workers who are at least 25 years old (USDOC, Bureau of the Census, "Current Population Reports: Consumer Income Reports 1946–2005").

of computers, can increase the demand for skilled labor, and automation may reduce the demand for less-skilled labor. Increased trade may allow an economy with abundant skilled labor to specialize in goods produced with skilled labor while importing more goods produced with less-skilled labor. This would increase the demand for skilled labor relative to less-skilled labor.¹⁶ The literature has not reached a clear consensus on whether technical change or increased trade is primarily responsible for the increase in wage inequality.¹⁷

Katz and Autor review a number of articles and conclude that technical change appears to explain the relative demand shifts favoring skilled workers better than international trade.¹⁸ An argument in favor of the technical change explanation is that the magnitude of trade flows, especially from low-wage developing countries, is too small to account for the observed wage changes. Another argument is that the prices of low-skill-intensive goods, such as apparel, have either fallen only slightly or have been relatively stable, whereas larger price movements would be expected to account for the movement in wages.

Feenstra and Hanson review the literature on trade and wage inequality and conclude that the data have often been misinterpreted because trade in intermediate inputs is ignored.¹⁹ Many firms break up the production process and transfer less-skilled jobs to low-wage countries and high-skilled activities to high-wage countries. Trade in inputs can have a similar effect on labor demand as technical change favoring skilled workers; both

16. USITC, *The Impact of Trade Agreements*, 114–25, summarizes a large amount of literature related to labor and trade. That literature suggests that trade policy changes generally have no measurable effect on the U.S. labor market but that overall changes in the level and composition of U.S. trade may have contributed to wage inequality.

17. Many different supply and demand factors influence wage levels. One line of investigation looks at the effects of immigration on wages. Although many studies have found little or no effect, Borjas, “The Labor Demand Curve Is Downward Sloping,” finds that an increase in the supply of immigrant workers reduces wages. His model looks at supply shifts in different education-experience combinations. Because immigrants tended to have low education levels during the 1980s and 1990s, this is another possible explanation of the growing wage disparity between different skill levels.

18. Katz, Lawrence, and Autor, “Changes in the Wage Structure and Earnings Inequality,” 1539.

19. Feenstra and Hanson, “Global Production Sharing and Rising Inequality: A Survey of Trade and Wages.” Although the argument for analyzing intermediate inputs remains important, the fact that import’s share of total intermediate inputs for the United States increased from 4.1 percent to 8.2 percent between 1974 and 1993 suggests that this effect may not be very large.

shift demand away from less-skilled jobs and raise the demand for higher-skilled jobs. Trade in intermediate inputs can account for high prices of skill-intensive goods and employment shifts within industries toward skilled workers that some researchers have attributed to technical change.

Several empirical studies have separated or decomposed the employment changes of relatively less-skilled workers into within-industry and between-industry categories. The argument is that international trade will cause industries to expand or contract, which will result in workers changing industries. New technology, on the other hand, would increase the ratio of more-skilled to less-skilled workers employed within each sector. Although this reasoning may generally be correct, it is plausible that an industry may respond to import competition by upgrading its technology, which could result in a greater proportion of skilled workers, or that workers may be motivated to upgrade their own skills to qualify for higher-paying jobs in other industries. Early studies of this type found that within-industry changes dominated between-industry changes and concluded that trade was not the main reason for the wage and employment movements.²⁰ Riggs and Zarotiadis carried out the latest of these types of studies and used more detailed plant-level data than the previous studies.²¹ Their key findings are that the data show increasing specialization and skill intensity in all sectors and that the entry and exit of plants indicate that job turnover was greater than the earlier studies reported. Although the between-industry shifts remain larger than the within-industry shifts, the difference is small. In contrast to the early studies, the Riggs and Zarotiadis study does not clearly favor the trade or the technical change explanation.

Autor, Katz, and Kearney compute wage differentials that show that since 1988, the wage gap between the median and highest-paid workers has increased much more than the gap between the median and the lowest-paid workers.²² They interpret these changes as resulting from the increasing use of the computer, which complements high-skilled workers involved in abstract reasoning and problem solving, but which

20. Berman, Bound, and Griliches, "Changes in the Demand for Skilled Labor within U.S. Manufacturing."

21. Riggs and Zarotiadis, "Soft and Hard Within- and Between-Industry Changes of U.S. Skill Intensity: Shedding Light on Worker's Inequality." This decomposition methodology was first reported in Berman, Bound, and Griliches, "Changes in the Demand for Skilled Labor within U.S. Manufacturing."

22. Autor, Katz, and Kearney, "Measuring and Interpreting Trends in Economic Inequality."

substitutes for middle-skilled workers who perform routine repetitive tasks. There is a low-skilled manual labor category that is not directly affected by computerization. These authors show that the wage gap has more subtleties than previously acknowledged, but they only consider the technical change interpretation. Interpretations involving international trade are also plausible. For example, increased imports produced with less-skilled labor could contribute to the wage gap between skilled and less-skilled labor. But there could be a type of less-skilled labor that works in sectors whose output is not traded, and imports do not affect these workers.

Other Studies

Economists have extended the basic theory to account for other frequently observed phenomena. In a model with skilled and less-skilled labor and international capital flows, Eckel analyzes how labor markets adjust to changes in international trade when wages cannot fully adjust.²³ He finds that unemployment can result, and the severity of unemployment depends upon the degree of wage rigidity. In contrast to many models that assume full employment, this model is more consistent with observable phenomena, although unemployment could also result from reasons other than wage rigidities.

Bahmani-Oskooee and Chakrabarti use time-series techniques to examine whether employment and wages in the U.S. manufacturing sectors are related to imports.²⁴ They find a significant positive relationship between employment levels and unit values of imports in about half of the manufacturing sectors that they examined. They interpret higher unit values as indicating that imports exert less pressure on employment. While their interpretation may be correct, other explanations are conceivable. For example, the product mix in a sector could have shifted toward higher-value items, which would not appear in their aggregated (two-digit HTS) data.

Levinsohn and Petropoulos use plant-level data to investigate the state of the U.S. textile and apparel industry prior to the expiration of the

23. Eckel, "Labor Market Adjustments to Globalization," 173.

24. Bahmani-Oskooee and Chakrabarti, "Import Competition, Employment and Wages in U.S. Manufacturing."

Agreement on Textiles and Apparel.²⁵ During the 1980s and 1990s, while import competition increased, many plants closed; jobs disappeared and real wages declined. During this time, productivity increased substantially in the textile industry. Most of the increase was attributed to gains within existing plants, although the exit of older plants and entry of more modern plants accounted for some of the increase. Firms with low-productivity plants, large inventories, and more expensive wage bills were most likely to exit. Levinsohn and Petropoulos conclude that existing firms can adapt to new technology. Since 2001, more firms have exited the industry, and many of the remaining firms have primarily become importers.

25. Levinsohn and Petropoulos, "Creative Destruction or Just Plain Destruction: The U.S. Textile and Apparel Industries since 1972." Although this 2001 article is dated, more recent articles on the same topic could not be identified. The textile and apparel sector is noteworthy because it has experienced the largest impact from import competition.

Appendix A

Report History and Request Letter

Report History

This report updates previous Commission investigations of the economic effects of significant U.S. import restraints. The Commission instituted the investigation in 1992 after receiving a letter from the USTR requesting an investigation under section 332(g) of the Tariff Act of 1930. The original report was completed in November 1993. The first update report was submitted in December 1995, the second update in May 1999, the third update in June 2002, and the fourth update in June 2004. The USTR request underlying this series of reports seeks to have the Commission analyze the economic effects of removing certain tariffs, tariff-rate quotas, or other measures affecting U.S. imports. Neither the request nor this report addresses non-economic considerations. Nothing in the report should be construed as commentary on the legality of any measure covered in the text, in the economic model, or in the policies underlying these measures. As requested by USTR, none of the reports in this series includes import restraints resulting from final antidumping or countervailing duty investigations, section 337 or section 406 investigations, or section 301 actions.

In the original 1992 request letter from the USTR (see below), the USITC was asked to examine the removal of individual import restraints in a partial equilibrium framework and examine the simultaneous removal of all import restraints in a general equilibrium framework. In the 1993 study, after consultations with the USTR outlining the benefits of a general equilibrium approach over a partial equilibrium approach and coupled with the USTR's desire to compare results from simulations of individual restraint removal with the results of simultaneous liberalization of all restraints in a consistent framework, the USITC proceeded to analyze most of the significant U.S. import restraints in a general equilibrium approach. The general equilibrium approach has been used exclusively in this update.

THE UNITED STATES TRADE REPRESENTATIVE
Executive Office of the President
Washington, D.C. 20506

Chairman 718

MAY 15 1992

RECEIVED
OFFICE OF THE SECRETARY
U.S. INTERNATIONAL TRADE COMMISSION



The Honorable Donald E. Newquist
Chairman
U.S. International Trade Commission
500 E Street, S.W.
Washington, D.C. 20436

Dear Mr. Chairman,

The Commission's recent series of reports on the economic effects of significant U.S. import restraints (USITC publication 2222, dated October 1989; publication 2314, dated September 1990; and publication 2422, dated September 1991), prepared pursuant to a request from the Senate Committee on Finance dated September 12, 1988, has been an excellent source of objective, balanced information for the entire trade policy community. An understanding and appreciation of the economic implications of restraints imposed on trade are critical to any informed assessment of the trade policy options that confront the President and the Congress.

We would find it useful to have periodic updates of the types of assessments that the Commission has provided in its reports for the Finance Committee. Therefore, under authority delegated by the President and pursuant to section 332(g) of the Tariff Act of 1930, as amended, I request that the Commission periodically provide an updated assessment of the economic effects of significant U.S. import restraints. Each updating report should include quantitative assessments of the restraints' effects on U.S. consumers, on the activities of U.S. firms, on the income and employment of U.S. workers, and on the net economic welfare of the United States. The reports also should continue the broad analytical frameworks used in the original reports, namely partial equilibrium frameworks for the analysis of liberalization in individual sectors and a general equilibrium framework for assessment of the economy-wide effects of the simultaneous liberalization of all sectors covered.

With the exceptions noted below, the reports should consider the effects of all significant restraints on U.S. imports of goods and services whether they result from an act of Congress, an action taken under the fair trade laws of the United States (such as section 201 investigations), an international agreement, or voluntary export restraints by foreign nations. The reports should not include import restraints resulting from final

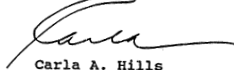
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antidumping or countervailing duty investigations, section 337 or 406 investigations, or section 301 actions.

I would appreciate receiving the first updating report 18 months after receipt of this request. Subsequent reports should be provided thereafter at intervals of approximately two years until otherwise instructed.

In view of the outstanding instruction to the Commission on the security classification of reports prepared by the Commission at the request of the U.S. Trade Representative, I request that all reports on this investigation be made available to the public at the same time they are submitted to my office.

The Commission's assistance in this matter is greatly appreciated.

Sincerely,



Carla A. Hills

Appendix B

Federal Register Notice

pygargus) taken from a captive herd in the Republic of South Africa, for the purpose of enhancement of the survival of the species.

Applicant: Robert E. Scott, Dallas, TX, PRT-118505.

The applicant requests a permit to import the sport-hunted trophy of one male bontebok (*Damalisca pygargus pygargus*) taken from a captive herd in the Republic of South Africa, for the purpose of enhancement of the survival of the species.

Applicant: Oscar Thomas Fowler, King, NC PRT-118400.

The applicant requests a permit to import the sport-hunted trophy of one male bontebok (*Damalisca pygargus pygargus*) taken from a captive herd in the Republic of South Africa, for the purpose of enhancement of the survival of the species.

Marine Mammals

The public is invited to comment on the following applications for a permit to conduct certain activities with marine mammals. The application was submitted to satisfy requirements of the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 *et seq.*), and the regulations governing marine mammals (50 CFR Part 18). Written data, comments, or requests for copies

of the complete applications or requests for a public hearing on these applications should be submitted to the Director (address above). Anyone requesting a hearing should give specific reasons why a hearing would be appropriate. The holding of such a hearing is at the discretion of the Director.

Applicant: Timothy D. Schnell, Rancho Santa Fe, CA, PRT-120466.

The applicant requests a permit to import a polar bear (*Ursus maritimus*) sport hunted from the Lancaster Sound polar bear population in Canada for personal, noncommercial use.

Dated: March 31, 2006.

Michael L. Carpenter,
Senior Permit Biologist, Branch of Permits,
Division of Management Authority.
[FR Doc. E6-5747 Filed 4-17-06; 8:45 am]
BILLING CODE 4310-55-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Issuance of Permits

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of issuance of permits for endangered species.

SUMMARY: The following permits were issued.

ADDRESSES: Documents and other information submitted with these applications are available for review, subject to the requirements of the Privacy Act and Freedom of Information Act, by any party who submits a written request for a copy of such documents to: U.S. Fish and Wildlife Service, Division of Management Authority, 4401 North Fairfax Drive, Room 700, Arlington, Virginia 22203; fax 703/358-2281.

FOR FURTHER INFORMATION CONTACT: Division of Management Authority, telephone 703/358-2104.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on the dates below, as authorized by the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Fish and Wildlife Service issued the requested permit(s) subject to certain conditions set forth therein. For each permit for an endangered species, the Service found that (1) The application was filed in good faith, (2) the granted permit would not operate to the disadvantage of the endangered species, and (3) the granted permit would be consistent with the purposes and policy set forth in Section 2 of the Endangered Species Act of 1973, as amended.

ENDANGERED SPECIES

Permit No.	Applicant	Receipt of application	Federal Register notice	Permit issuance date
MA095827-0 104074	Gracia P. Syed U.S. Fish and Wildlife Service, Mexican Wolf Re-introduction Project, Region 2.	70 FR 1455, January 7, 2005 70 FR 71554, November 29, 2005		February 9, 2005, March 8, 2006.

Dated: March 31, 2006.
Michael L. Carpenter,
Senior Permit Biologist, Branch of Permits,
Division of Management Authority.
[FR Doc. E6-5746 Filed 4-17-06; 8:45 am]
BILLING CODE 4310-55-P

INTERNATIONAL TRADE COMMISSION

(Investigation No. 332-325)

The Economic Effects of Significant U.S. Import Restraints: Fifth Update

AGENCY: United States International Trade Commission.

ACTION: Notice of fifth update report and scheduling of public hearing.

SUMMARY: The Commission has announced the schedule for its Fifth update report in investigation No. 332-

325, The Economic Effects of Significant U.S. Import Restraints, and has established deadlines for the submission of requests to appear at the hearing and for the filing of written submissions as set forth below. The investigation was requested by the Office of the U.S. Trade Representative (USTR) in May 1992. That request called for an initial investigation and subsequent updates, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

DATES: *Effective Date:* April 7, 2006.
FOR FURTHER INFORMATION CONTACT: Alan Fox, Project Leader (alan.fox@usitc.gov, or 202-205-3267), or Sandra Rivera, Deputy Project Leader (sandra.rivera@usitc.gov, or 202-205-3007) in the Commission's Office of Economics. For information on the legal aspects of this investigation, contact William Gearhart of the Office of the General Counsel

(william.gearhart@usitc.gov, or 202-205-3091). The media should contact Margaret O'Laughlin, Office of External Relations (202-205-1819; margaret.oloughlin@usitc.gov).

Background: The Commission instituted this investigation following receipt on May 15, 1992 of a request from the USTR. The request asked that the Commission conduct an investigation assessing the quantitative economic effects of significant U.S. import restraints on the U.S. economy, and prepare periodic update reports following the submission of the first report. The first report was delivered to the USTR in November 1993, the first update in December 1995, the second update in May 1999, the third update in June 2002, and the fourth update in June 2004.

In this fifth update, the Commission will assess the economic effects of

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significant tariff and non-tariff U.S. import restraints on U.S. consumers, on the activities of U.S. firms, on the income and employment of U.S. workers, and on the net economic welfare of the United States. The assessment will not include import restraints resulting from final antidumping or countervailing duty investigations, section 337 and 406 investigations, or section 301 actions.

The initial notice of institution of this investigation was published in the Federal Register of June 17, 1992 (57 FR 27063).

Public Hearing: A public hearing in connection with the investigation will be held at the U.S. International Trade Commission Building, 500 E Street, SW., Washington, DC, beginning at 9:30 a.m. on July 13, 2006. All persons shall have the right to appear, by counsel or in person, to present information and to be heard. Requests to appear at the public hearing should be filed with the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, no later than 5:15 p.m., June 2, 2006. Any prehearing briefs (original and 14 copies) should be filed not later than the close of business, June 8, 2006; the deadline for filing post-hearing briefs or statements is the close of business, August 11, 2006. In the event that, as of the close of business on June 2, 2006, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Secretary to the Commission (202-205-2000) after June 5, 2006, to determine whether the hearing will be held.

Written Submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to submit written statements concerning the matters to be addressed by the Commission in its report on this investigation. To be assured of consideration by the Commission, written statements relating to the Commission's report should be submitted to the Commission at the earliest practical date and should be received no later than 5:15 p.m., June 16, 2006. All written submissions must conform with the provisions of section 201.8 of the Commission's Rules of Practice and Procedure (19 CFR 201.8). Section 201.6 of the rules requires that a signed original (or copy designated as an original) and fourteen (14) copies of each document be filed. In the event that confidential treatment of the document is requested, at least four (4) additional copies must be filed, in which the confidential business information must be deleted (see the

following paragraph for further information regarding confidential business information). The Commission's rules do not authorize filing submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the rules (see Handbook for Electronic Filing Procedures, http://hotdocs.usitc.gov/pubs/electronic_filing_handbook.pdf). Persons with questions regarding electronic filing should contact the Secretary (202-205-2000 or edis@usitc.gov).

Any submissions that contain confidential business information must also conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the "confidential" or "nonconfidential" version, and that the confidential business information be clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available in the Office of the Secretary for inspection by interested parties.

USTR requested that all reports in this series be released in their entirety to the public. Accordingly, the Commission intends to prepare only a public report in this investigation. The report that the Commission sends to the USTR and make available to the public will not contain confidential business information. Any confidential business information received by the Commission in this investigation and used in preparing the report will not be published in a manner that would reveal the operations of the firm supplying the information.

Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

List of Subjects

U.S. Import Restraints, Nontariff measures (NTM), Tariffs, Imports.

Issued: April 12, 2006.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

FR Doc. E6-5787 Filed 4-17-06; 8:45 am]

BILLING CODE 7020-02-

INTERNATIONAL TRADE COMMISSION

[Inv. No. 337-TA-548]

In the Matter of Certain Tissue Converting Machinery, Including Rewinders, Tail Saws, Trim Removers, and Components Thereof; Notice of a Commission Determination Not To Review an Initial Determination Terminating the Investigation on the Basis of a Settlement Agreement

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination ("ID") of the presiding administrative law judge ("ALJ") granting the joint motion of complainants Fabio Perini North America, Inc. and Fabio Perini S.p.A. and respondent Chan Li Machinery Co., Ltd. to terminate the above-captioned investigation on the basis of a settlement agreement.

FOR FURTHER INFORMATION CONTACT: Jonathan J. Engler, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone 202-205-3112. Copies of the public version of the ID and all nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone 202-205-2000. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-205-1810. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. **SUPPLEMENTARY INFORMATION:** This investigation was instituted by the Commission based on a complaint filed by Fabio Perini North America, Inc. of Green Bay, Wisconsin. 70 FR 46884

Appendix C

List of Written Submissions

Written submissions for Investigation 332-325

Receipt Date	Submitted by	On behalf of
9/20/06	Mitchell J. Cooper (Law Offices of Mitchell J. Cooper)	Rubber and Plastic FootwearManufacturers Association
8/16/06	Mark Dopp (American Meat Institute)	American Meat Institute
8/15/06	Chuck Kiker (R-CALF USA)	R-CALF USA
8/11/06	Rolf Marshall (Preston Gates Ellis & Rouvelas Meeds LLP)	Maritime Cabotage Task Force
8/11/06	Laurie Bryant (Meat Importers Council of America, Inc.)	Meat Importers Council of America, Inc.
8/11/06	Kevin M. Burke (American Apparel & Footwear Association)	American Apparel & Footwear Association
8/10/06	John McPeak (M-I SWACO)	M-I SWACO
6/16/06	Kendra S. Lockhart (American Sugar Alliance)	Jack Roney
6/16/06	Joseph A Black (The Cullen Law Firm, PLLC)	Owner-Operator Independent Drivers Association, Inc.
6/16/06	Chuck Kiker (Stewart and Stewart)	R-CALF USA
6/14/06	Chuck Kiker (R-CALF USA)	R-CALF USA
6/2/06	Joseph A. Black (The Cullen Law Firm, PLLC)	Owner-Operator Independent Drivers Association, Inc.
6/2/06	Richard Pasco (Sweetener Users Association)	Sweetener Users Association
5/26/06	Kendra S. Lockhart (American Sugar Alliance)	Jack Roney
5/15/06	John Newcaster (M-I SWACO)	M-I SWACO
5/11/06	John McPeak (M-I SWACO)	M-I SWACO

Source: U.S. International Trade Commission Docket Report.

Appendix D

The USITC Modeling Framework

Introduction

This study employs the USAGE-ITC applied general equilibrium (AGE) model to analyze the effects of significant U.S. import restraints on the U.S. economy.¹ USAGE-ITC is a dynamic AGE model of the U.S. economy distinguishing 522 commodities, 520 industries, 51 domestic regions and 23 foreign regions.

The distinguishing features of an AGE approach are related to the combination of scope and detail afforded by the framework: an economy-wide focus coupled with an explicit, detailed modeling of multi-sectoral linkages, and recognition of the interactions between all flows in the economy. For example, AGE models consider market interactions between producers and consumers for produced goods and services, explicitly model upstream and downstream production and consumption linkages, and address competition among industries for primary factors (e.g., land, labor and capital), and income transfers associated with quotas and tariffs.

The USAGE-ITC framework is similar to the framework employed in previous reports. Many of the behavioral and structural parameters of the protected sectors are updated, and some innovations in the framework structure have been incorporated.² The most important changes include the dynamic mechanisms contained in the current USAGE-ITC framework and the explicit modeling of TRQs.

Overview of the USAGE-ITC Framework

The USAGE-ITC framework has three components: (a) input-output (I-O) accounts for 520 industries and 522 commodities, (b) behavioral parameters, and (c) a system of equations that constitute the model specification or “theory.” The I-O accounts specify the transactions among

1. The USAGE-ITC framework has been recently developed at the Centre of Policy Studies, Monash University in collaboration with the USITC. For a complete specification of the USAGE-ITC framework see Dixon and Rimmer, “USAGE-ITC: Theoretical Structure.” For more detail on the AGE approach to economic analysis, see Dixon and Rimmer, *Dynamic General Equilibrium Modelling for Forecasting and Policy*.

2. Many of the import substitution elasticities, which describe the degree of substitutability between imported and domestic products, were scrutinized and adjusted when necessary by USITC staff based on industry knowledge and comparisons between U.S. produced products and imports.

all economic agents in the U.S. economy for 2005 (the base year in this study), derived from I-O accounts for 498 industries and 40 types of final demand (i.e., imports, exports, private and government consumption and investment expenditures, and inventory changes) published by the BEA, USDOC.³ While the I-O accounts provide information on the initial equilibrium of the U.S. economy, a set of elasticities (i.e., behavioral parameters) help the framework determine how the economy would respond to a policy change.⁴ Examples of the types of elasticities used by USAGE-ITC are:

1. Elasticities of substitution between imported and domestic goods,
2. Elasticities of import supply,
3. Elasticities of export demand,
4. Elasticities of substitution between inputs in production, and
5. Income elasticities.

Where possible, the USITC has estimated some of these parameters using time series data, and otherwise, relied on published studies for estimates. With the exception of textiles and apparel, the elasticities of substitution between imported and domestic goods (i.e., the Armington elasticities) are documented in Donnelly *et al.*⁵ The Armington elasticities for the meat packing plants sector and for the textiles and apparel sectors are based on Hertel *et al.*⁶ The final component of the USAGE-ITC framework is the system of equations that model the U.S. economy. These equations characterize three general conditions that, once solved simultaneously, represent an Arrow-Debreu competitive general equilibrium.⁷

3. The 520 industries and 522 commodities in USAGE-ITC are derived from the 498 industries and 40 final demands found in the BEA I-O accounts. See Dixon and Rimmer, "MONASH-USA: Creating a 1992 Benchmark Input-Output Database."

4. An elasticity specifies the percentage change that occurs in an economic variable in response to a 1 percent change in another economic variable. For example, an income elasticity of demand for a good is the percentage change in demand for that good that occurs in response to a 1 percent change in household income.

5. See Donnelly, Johnson, Tsigas and Ingersoll, "Revised Armington Elasticities of Substitution for the USITC Model."

6. The Armington elasticity for the beef packing plants sector is the lower bound, while the textiles and apparel elasticities are the mid-point estimates. See Hertel, Hummels, Ivanic and Keeney, "How Confident Can We Be in CGE-Based Assessments of Free Trade Agreements?"

7. See Debreu, *The Theory of Value*.

First, all constant returns activities must earn zero real economic profits at the margin, and all the production technologies and preferences are derived from theoretical formulations constrained by these zero-profit conditions.⁸ Second, the market for each product must clear such that supply equals demand. The third general condition is that income must balance (i.e., income is exhausted on final demand and savings).

Dynamic mechanisms in the USAGE-ITC model

The USAGE-ITC model contains four dynamic mechanisms which link successive years:

1. capital at the start of year t equals capital at the end of year $t - 1$;
2. net foreign liabilities at the start of year t equal net foreign liabilities at the end of year $t - 1$;
3. public sector debt at the start of year t equals public sector debt at the end of year $t - 1$; and
4. the deviation in the real wage rate away from its forecast path in year t caused by a policy shock equals the deviation in year $t - 1$ plus a term reflecting the gap in year t between the employment deviation and the deviation in labor supply.⁹

In addition, the following six assumptions underlie the simulations in this report:

1. The removal of significant import restraints has no effect on real national savings (household savings plus the public sector surplus divided by the price deflator for investment). Thus, it is assumed that the quantity of capital owned by U.S. residents is unaffected by the policy change.

8. Using the analogy in duality theory between cost and expenditure functions, all preferences are captured in a zero-profit condition on the activity that produces utility or welfare.

9. For a more detailed discussion of the dynamic mechanisms in the USAGE-ITC model see Dixon and Rimmer, "Mini-USAGE: Reducing Barriers to Entry in Dynamic CGE Modelling," and Dixon and Rimmer, *Dynamic General Equilibrium Modelling for Forecasting and Policy*.

2. Real government expenditures are not affected by the simulation. Thus, under assumptions 1 and 2, movements in real private consumption are interpreted as movements in economic welfare.
3. Real private consumption is related to real disposable income. The government adjusts the tax rate on labor income to ensure that the policy-induced movement in real private consumption is consistent with maintenance of real national savings.
4. Real wage rates adjust sluggishly so that the policy has no effect on aggregate employment in the long run.
5. The policy has no effect on technology or consumer preferences.
6. The policy has no effect on the aggregate price index for private consumption; that is, the aggregate price index for private consumption is the numeraire price.¹⁰

Specification of the USAGE-ITC Model

The following sections describe briefly the four key components of the USAGE-ITC model: final demand behavior, production technology, factor supplies, and the trade equilibrium.¹¹

Final Demand Behavior

The USAGE-ITC model considers three separate components of domestic final demand: household consumption, government demand, and investment demand. Household consumption is derived from a linear expenditure system (LES) of commodity demands which is based on the Stone-Geary or Klein-Rubin utility function.¹² The LES is a generalization of the Cobb-Douglas utility function in which the origin is translated such that income elasticities can differ from unity. While the income expansion paths are linear, the displaced origin allows preferences to be

10. The numeraire price is the price relative to which all other prices and income are measured in this analysis.

11. For a complete specification of the USAGE-ITC framework see Dixon and Rimmer, "USAGE-ITC: Theoretical Structure."

12. For an introduction to the LES, see Layard and Walters, *Microeconomic Theory*, ch. 5; Deaton and Muellbauer, *Economics and Consumer Behavior*, ch. 3; Dervis, de Melo, and Robinson, *General Equilibrium Models for Development Policy*, app. A.5; Silberberg, *The Structure of Economics*, ch. 11; and Chung, *Utility and Production Functions*, ch. 2.

nonhomothetic.¹³ Practically, this means that the model is able to allow consumers to change their relative preferences for goods and services at different levels of income. In the specification of government demand, real government spending is exogenous and fixed. This assumption is imposed on the model to reflect the belief that trade policy changes do not directly influence the spending behavior of governments. Exogenous real government spending is accommodated by endogenously adjusting government transfers to households such that changes in government revenues are compensated via a tax. In modeling investment demand, investors (or “capital creators”) in an industry are assumed to choose their input mix to minimize the costs of producing capital subject to a constant-returns-to-scale capital-creation function. The only prices affecting the demand for domestic and imported inputs to capital creation are the prices of these inputs.¹⁴

Production Technology

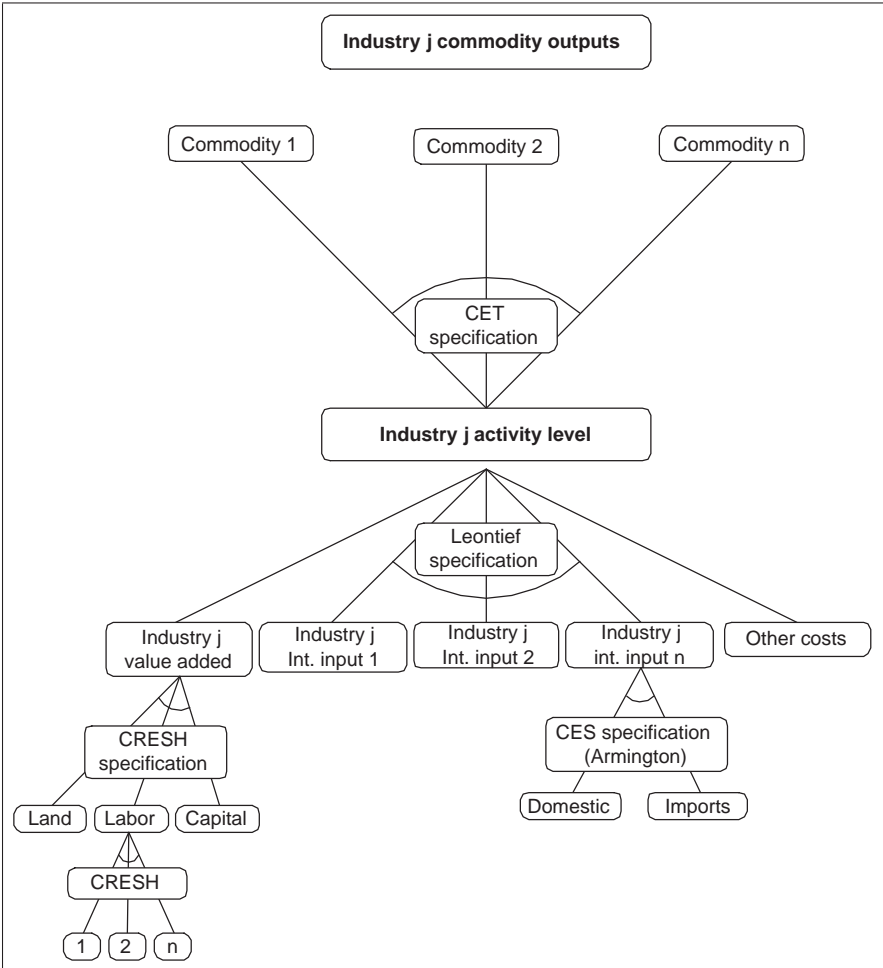
Production technologies are modeled using nested combinations of CRESH (i.e., constant ratios of elasticities of substitution, homothetic), CES (constant elasticity of substitution), Cobb-Douglas, and Leontief functions. Figure D-1 illustrates these relationships.

At the lower half of figure D-1, a primary factor composite and intermediate goods composites are combined to produce output of a given commodity. At this level, it is assumed that the primary factor bundle and the intermediate goods composite are combined in close to fixed proportions (i.e., close to a Leontief specification), reflecting assumptions regarding the technical constraints on their substitutability in production. This is handled by setting the relevant substitution elasticities to relatively small values. Each intermediate goods composite is created via an Armington (CES) nest of the domestic and foreign sources. The primary factor composite is created in the “value-added nest,” where land, capital

13. Homothetic preferences imply that the ratio of consumption of any two goods is the same for all income levels, i.e. the income expansion paths are linear and they pass through the origin; and the income elasticities are unitary (see Silberberg, *The Structure of Economics*). Preferences that do not have this property are known as nonhomothetic preferences.

14. Unlike current production, for capital creation there are no inputs of primary factors. The use of primary factors in capital creation is recognized via inputs of construction and other investment-related services.

Figure D-1
Production in the USAGE-ITC model



and labor substitution possibilities are based on the CRESH specification.¹⁵ Capital and labor units are the results of nesting functions of investment goods and occupations respectively, while investment goods flow through from an Armington (CES) nest of the foreign and domestic sources. At the upper half of figure D-1, it is assumed that domestic outputs of commodity i produced by industry j are supplied based on a CRETH (constant ratios of elasticities of transformation, homothetic) specification.¹⁶ The resulting combinations and relative outputs of commodities by an industry informs the notion of an industry “activity” level. This is strictly distinct from the concept of “output” only in cases where industries can make multiple products.

Factor Supplies

The supply of primary factors of production—land, labor and capital—is changing from year to year because of investment or exogenous changes which are reflected in the baseline.

Trade Equilibrium

For each commodity in USAGE-ITC, there is a distinction between two varieties. There is a domestic variety (DD_i) destined for domestic consumption and exports and an imported variety (IM_i) destined for domestic consumption.¹⁷ In each case, the substitution possibilities between the domestic and the imported variety (i.e., the degree of product differentiation) is specified with a CES (i.e., constant elasticity of substitution) substitution parameter, σ_{D_i} . Figure D-2 summarizes the structure of product differentiation which is popularly known as an Armington aggregation.¹⁸ The resulting output is the composite commodity A_j , which is available for domestic absorption.¹⁹ The sourcing of imports

15. See Hanoch, “CRESH Production Functions.”

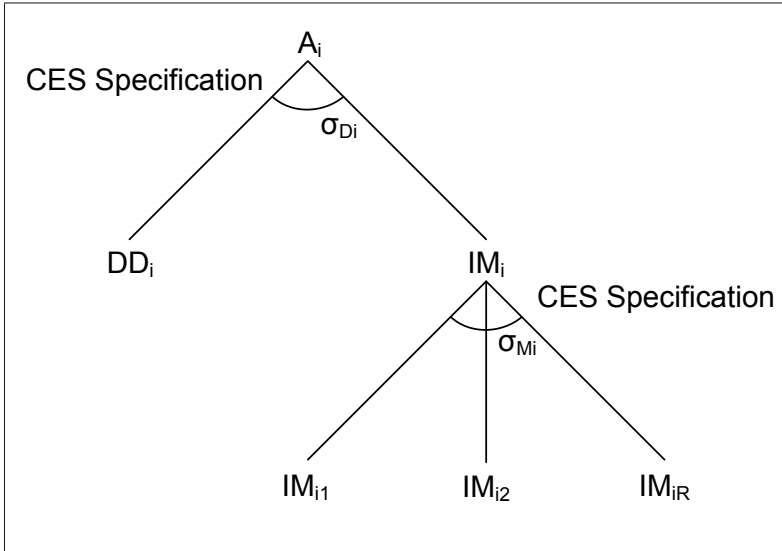
16. Dixon, Vincent and Powell, “Factor Demand and Product Supply Relations in Australian Agriculture.”

17. The treatment of traded goods follows de Melo and Robinson, “Product Differentiation and the Treatment of Foreign Trade in Computable General Equilibrium Models of Small Economies.”

18. The CES elasticity σ is often referred to as the “Armington” elasticity (see Armington, “A Theory of Demand for Products Distinguished by Place of Production”).

19. Domestic absorption is the total of both intermediate and final demand for a product.

Figure D-2
Commodity differentiation and sourcing of imports



is modeled in a similar fashion. Substitution possibilities among imports from various sources (IM_{ir} , $r = 1, \dots, R$; $R = 23$), are determined with a CES substitution parameter, σ_{Mi} .

Figure D-2 establishes the sourcing of demands in the United States, by commodity. The modeling of trade equilibrium is completed by defining constant elasticity export demand and import supply functions. By defining these functions, the model characterizes the rest of the world. Exports generate foreign exchange from the rest of the world and foreign exchange is used to purchase imports.

Capital

Capital stock in industry i at the end of year t , $K1_i(t)$, equals capital stock at the start of year t , $K0_i(t)$, depreciated (at a rate D_i) plus investment in year t for industry i , $I_i(t)$:

$$K1_i(t) = K0_i(t) \times [1 - D_i] + I_i(t).$$

In USAGE-ITC, investment in year t for industry i , $I_i(t)$, is a function of the expected rate of return in industry i . The expected rate of return is determined as a function of the rental and asset prices of i 's capital in year t .

Net foreign liabilities

Net foreign liabilities at the end of year t , $NFL1(t)$, equal net foreign liabilities at the start of year t , $NFL0(t)$, plus the current account deficit for year t , $CADEF(t)$:

$$NFL1(t) = NFL0(t) + CADEF(t).$$

The current account deficit for year t is imports less exports plus interest payments for foreign liabilities less exports of royalties and less net transfers from foreigners to U.S. residents. In USAGE-ITC all foreign liabilities are debt repayable in U.S. currency. In calculating interest charges on the foreign debt, we apply an interest rate to the start-of-year foreign debt.

Public sector debt

Public sector debt at the end of year t , $PSD1(t)$, equals public sector debt at the start of year t , $PSD0(t)$, plus the public sector deficit for year t , $GOVDEF(t)$:

$$PSD1(t) = PSD0(t) + GOVDEF(t).$$

In calculating net interest on public sector debt, we apply an interest rate to the start-of-year public sector debt.

Wage determination in policy runs

In USAGE-ITC, real wages are sticky in the short run and flexible in the long run. In this case, favorable shocks generate short-run gains in aggregate employment and long-run gains in real wages.

More specifically, in USAGE-ITC simulations, the deviation in the real wage rate from its baseline forecast level increases at a rate which is proportional to the deviation in aggregate hours of employment from its baseline forecast level:

$$\left\{ \frac{W^p(t)}{W^f(t) - 1} \right\} = \left\{ \frac{W^p(t-1)}{W^f(t-1) - 1} \right\} + \alpha \times \left\{ \frac{E^p(t-1)}{E^f(t-1)} - 1 \right\}$$

where $W^p(t)$ and $W^f(t)$ are the real before-tax wage rate in the policy and forecast runs in year t ; $E^p(t)$ and $E^f(t)$ are aggregate employment

in the policy and forecast runs in year t ; and α is a positive parameter. The coefficient of proportionality, α , is chosen so that the employment effects of a shock to the economy are largely eliminated after 5 years. This model of wage determination is consistent with conventional macroeconomic modeling in which the NAIRU (non-accelerating inflation rate of unemployment) is either exogenous or only weakly dependent on real wage rates.²⁰

Significant Import Restraint Analysis with USAGE-ITC

The dynamic AGE analysis considers the effects of removing significant U.S. import restraints relative to a forecast which incorporates expected changes in the United States over six years. USAGE-ITC is calibrated to 2005 data with the significant import restraints in place.²¹ Simulation of significant import restraint removal is accomplished by setting the relevant tariffs (and/or the tariff-equivalents of quotas), TRQ rates and remaining TRQs to zero and solving the model for new equilibrium prices and quantities. A comparison of the new equilibrium prices and quantities to the baseline prices and quantities gives estimates of the economic effects of removing the significant import restraints.

The USAGE-ITC model is solved for 519 industries and 521 commodities and simulated effects are reported for certain sectors and commodities. To provide a summary of effects on the broad structure of the U.S. economy, effects are also reported for the following nine aggregates:²²

1. Agriculture, forestry, and fishing;
2. Mining and mineral resources;
3. Construction;
4. Nondurable manufacturing;

20. If U^* is the NAIRU and U is the observed unemployment rate, the NAIRU theory postulates that: if $U < U^*$ for a few years, inflationary expectations rise, so that the inflation rate tends to accelerate; if $U > U^*$ for a few years, inflationary expectations fall, so that the inflation rate tends to slow; and if $U = U^*$, the inflation rate tends to stay the same.

21. Tariffs are taken from official statistics compiled by the USDOC; USITC staff estimated the tariff equivalents of quotas.

22. The nine aggregates cover all industries and commodities in USAGE-ITC, i.e., the nine aggregates include the sectors with significant import restraints.

5. Durable manufacturing;
6. Transportation, communication, and utilities;
7. Wholesale and retail trade;
8. Finance, insurance, and real estate; and
9. Personal, business and public services.

For the purposes of this report, the main outputs of the USAGE-ITC model reported are the equilibrium prices and quantities computed in solving the system of equations. The model also calculates a measure of the economic welfare change due to trade liberalization. Under the assumptions stated earlier, the change in real private consumption provides a valid measure of the welfare impact of the policy change.

USAGE-ITC Data and Parameters

The USAGE-ITC data are based on (a) 2005 national income and product accounts data published by the Bureau of the Census, (b) the 1992 BEA I-O accounts, (c) 2005 trade flows from the USDOC, (d) the final text of free trade agreements provided by the USTR, and (e) 2005 tariffs on U.S. exports from the UNCTAD TRAINS database and WTO statistics.²³ The other major inputs into the USAGE-ITC model are the elasticity parameters discussed earlier.

A quantitative analysis of the removal of significant U.S. import restraints requires measures of the magnitudes of these restraints. Among these restraints, tariffs are readily quantifiable. For each sector, an average ad valorem rate is calculated using import data and estimated duties collected by the U.S. Treasury from official statistics of the DOC.

The current version of USAGE-ITC explicitly models most U.S. TRQs. All three instruments of a TRQ are modeled: the quota level as well as the in-quota and over-quota tariff rates. The commodities with explicit TRQs are raw cane and refined sugar, butter, cheese, dry dairy products, concentrated and evaporated dairy products, ice cream, and ethanol.

23. For a complete discussion of the data, see Dixon and Rimmer, "MONASH-USA: Creating a 1992 Benchmark Input-Output database"; Dixon and Rimmer, "USAGE-ITC: Creating historical shocks for 1992 to 1998"; and Dixon, Rimmer and Tsigas, "Creating a USAGE-ITC database for 2002."

For other quotas or TRQs, the tariff equivalent of the TRQ has been estimated, namely, a tariff equivalent that has the same effect on prices and quantities as the quota or the TRQ.²⁴ The techniques used in this study to quantify the price gaps associated with a particular binding quota or TRQ are the price-gap method and an approach that makes use of license prices.²⁵

If the demand for imports is close to the trigger quantity that requires the over-quota duty rate, the economic agent who owns the right to trade at the in-quota tariff rate could earn rents by charging higher prices. Removal of the TRQ would then transfer rents from those agents to the users of the commodity in the form of lower prices. Market conditions, such as the degree of competition and market power, as well as the ownership of rights to trade at the in-quota tariff rate, determine who earns economic rents.²⁶ Based on research findings and earlier USITC work, it is assumed that rents due to the butter and cheese TRQs are shared equally between U.S. and foreign traders and that foreign traders capture TRQ rents due to all other TRQs.²⁷ The assumption that foreign traders capture some or all TRQ rents is implemented in the USAGE-ITC model as a tax levied by foreign governments on exports to the United States. It is also assumed that U.S. import tariff rates are equal to those observed in 2005 trade statistics. The combined direct price impact of TRQ rents and the U.S. tariff rate is a price gap based on U.S. and world prices for 2005. The relationship between price gap, U.S. import tariff and TRQ rents is that $(1 + \text{price gap}/100) = (1 + \text{U.S. import tariff}/100) \times (1 + \text{rate of TRQ rents}/100)$.

24. If the over-quota import tariff rate of a TRQ is prohibitive, the over-quota rate cannot be used in the model because it would overstate the effects of the TRQ.

25. These techniques are described in detail in USITC, *Import Restraints, Second Update 1999*, app. F.

26. See Boughner, Gorter, and Sheldon, "The Economics of Two-Tier Tariff-Rate Import Quotas in Agriculture."

27. USITC, *Import Restraints, Second Update 1999*, 52–53; USITC, *Import Restraints, First Biannual Update 1995*, 4–9; Hornig, Boisvert, and Blandford, "Explaining the Distribution of Quota Rents for U.S. Cheese Imports"; and Hornig, Boisvert, and Blandford, "Quota Rents and Subsidies: The Case of U.S. Cheese Import Quotas."

Setting the exogenous variables in the forecast simulation for 2005 to 2011

In creating a forecast for the period 2005–11, we start with a complete dataset (values for every model variable) for 2005. Then we apply shocks to exogenous variables to represent movements from their 2005 values to their forecast values for 2011. The exogenous variables that are shocked in our 2005–2011 forecast simulation can be partitioned into the following groups:

1. *Macro variables.* Our shocks for these variables are derived from forecasts made by U.S. government agencies.
2. *Technology and consumer preferences.* Our shocks for these variables are obtained from extrapolations from historical simulations.
3. *Shifts in foreign demand curves for U.S. products and foreign-currency prices for U.S. imports.* Our shocks for these variables are derived mainly from extrapolations from historical simulations.
4. *Interest, dividend and revaluation rates for U.S. foreign assets and liabilities.* Our shocks for these variables are derived from extrapolations from historical simulations.

Macro variables

The macro assumptions underlying our baseline forecasts for 2005–11 are based on forecasts from USDA, BLS, EIA, and the Congressional Budget Office (CBO). For variables for which forecasts are provided by more than one agency, there is a high degree of consensus.

For the USAGE-ITC baseline we use the CBO forecast for real GDP growth. We prefer this to the other available forecasts because it is the most recently produced (August 2005). For a similar reason we use the CBO forecast for consumer prices.

BLS provides forecasts for the major expenditure components of GDP ($C + I + G + X - M$). We adopt the BLS forecasts for these variables after scaling them to be compatible with the CBO forecast for GDP.

Incorporating these various types of data to establish the 2011 baseline projection has important implications for other aspects of the baseline projection. For example, forecasts of export and import growth, combined

with consensus assumptions concerning rates of world economic growth and other factors such as the U.S. current account, imply a 20 percent real depreciation in the dollar over the 6-year period of the projection.

With regard to employment, the ideal variable for USAGE-ITC is hours worked. The CBO forecasts 6.52 percent growth in potential hours worked and a decline in the unemployment rate from 5.525 percent in 2005 to 5.2 percent in 2010. We interpret these forecasts as meaning that hours of employment will grow by 6.89 percent.²⁸

For population growth we adopt the USDA forecast (5.75 percent) in preference to the BLS forecast (5.59 percent). The USDA forecast refers to our particular period, 2005 to 2011 whereas the BLS forecast shown in table 3.1 is a scaled version of a forecast that was developed by the BLS for the period 2002 to 2012.

For the import price of crude oil, we adopt the EIA forecast (−16.17 percent) in preference to the USDA forecast (−11.87 percent) on the grounds that the EIA forecast was developed more recently (July 2005) than the USDA forecast (October 2004).

We take our forecast for world GDP growth from the USDA. We did not find forecasts for this variable from the other Federal agencies.

None of the agencies appears to forecast the terms of trade (the ratio of export to import prices). BEA data for 1992 to 2004 show that the U.S. terms of trade move little from year to year.²⁹ Over this period, the terms of trade improved by 3 percent, about 0.25 percent a year. We assume that this trend will continue. Thus, we assume that the terms of trade will improve by 1.5 percent over the 6-year period 2005 to 2011.

In addition to the macro variables shown in table 3.1, we introduce in our forecasts trends in relative wage rates across industries. These are based on observed movements between 1998 and 2004.

28. Assuming potential employment in 2005 is 100, then potential employment in 2010 is 106.52. Actual employment in 2004 is 94.475 ($= 100 \times (1 - 0.05525)$) and actual employment in 2010 is 100.98 ($= 106.52 \times (1 - 0.052)$). Thus, actual employment grows from 94.475 to 100.98, a growth of 6.89 percent.

29. See USDOC, BEA, "Table 1.1.4. Price Indexes for Gross Domestic Product."

Technology and consumer preferences, exports and imports

USAGE-ITC contains many technology and preference variables. Technology variables in USAGE-ITC are predominantly of the input- or output-augmenting/saving type. Nearly all of the USAGE-ITC technology and preference variables are treated exogenously in the 2005–11 forecast simulation and are given the same movements that they had, either endogenously or exogenously, in our historical simulation for 1998 to 2005. Technology and preference variables that were given non-zero shocks in 2005 to 2011 are listed in table D-1. The first of these, $a1prim(j)$, imparts a uniform shock in industry j 's production function. Biases in industry j 's primary-factor-saving technical change are introduced via $f_twistlk(j)$. The $a0ci(i, j)$ variables refer to shocks to the $A0$ variables in j 's production function. In our historical simulations we have only aggregate data on the use of commodity i as a margin service and as an input to current production and capital creation. Consequently, our historical simulations reveal only a single value for commodity- i -using technical change which is projected forward from 2005 to 2011 through shocks to the USAGE-ITC variable $ac(i)$. The variables $a3com(i)$ refer to shocks to the $A3$ variables in the household utility function. Shocks to $impftwist(i)$ impart biases in commodity- i -using technical change throughout the economy in favor of the imported variety of commodity i and against the domestic variety.

Import prices

In our forecast simulation for 2005–11, we assume for most commodities that the percentage changes in foreign-currency import prices will be the same as for the period 1998–2004. For petroleum products, we use the EIA projection that foreign-currency import prices will fall by 16.17 percent between 2005 and 2010.³⁰

The balance of payments, and foreign assets and liabilities

USAGE-ITC identifies three types of foreign assets: U.S. credits repayable by foreigners in U.S. dollars; U.S. credits repayable by foreigners in foreign currency; and U.S. holdings of foreign equity. In our forecasts

30. EIA, *International Energy Outlook 2005*, table 30.

Table D-1
Shocked technology and preference variables in the 2005–11 forecast simulation

USAGE-ITC variable	Domain ^a	Description
$a1_{prim}(j)$	$j \in \text{IND}$	Primary-factor-saving technical change in industry j
$f_twistlk(j)$	$j \in \text{IND}$	Shift in industry j towards the use of labor and away from the use of capital
$a0ci(i, j)$	$i \in \text{COM}, j \in \text{IND}$	Output- i -augmenting technical change in industry j
$ac(i)$	$i \in \text{COM}$	Input- i -saving technical change in production, capital creation and margin use throughout the economy
$a3com(i)$	$i \in \text{COM}$	Preference shift against commodity i
$impftwist(i)$	$i \in \text{COM}$	Shift throughout the economy towards the use of imported commodity i and away from domestic commodity i

^aIND is the set of all industries and COM is the set of all commodities.

for 2005 to 2011, we assume that total U.S. foreign assets will grow in relation to U.S. GDP in the same way as they did between 1998 and 2005 and that the shares of each of the three types of assets will remain at their 2005 levels.

Similarly, USAGE-ITC identifies three types of foreign liabilities: U.S. debts repayable in U.S. dollars; U.S. debts repayable in foreign currency; and foreign holdings of U.S. equities. Foreign holdings of U.S. equities are identified by industry. With accumulation of foreign assets already tied down in relation to GDP, our forecast for the movement between 2005 and 2011 in total U.S. foreign liabilities is determined largely by current account deficits, which are, in turn, determined largely by exports and imports and by dividend and interest payments on debts, credits and equities. As with the split of assets, we assume that the split of liabilities between the three different types will remain as it was in 2005.

In our forecasts for 2005–11, we assume that interest rates on all U.S. credits and debts will remain at their 2005 levels. For the rate of dividends on U.S. -owned foreign equity, we assume the same movement for 2005–11 as occurred over the period 1998–2004. The rate of dividends on foreign-owned equity in the United States is largely endogenous in USAGE-ITC, determined by the profitability of U.S. industries in which foreigners hold equity. However, we introduce exogenous variables that

allow for differences between the profitability of foreign and domestic investments in each U.S. industry. In our 2005–11 forecasts we assume that these exogenous variables move in the same way as they did over the period 1998–2005.

Foreign assets accumulate not only through new U.S. lending and investment, but also through revaluation effects (changes in the values of existing assets). USAGE-ITC handles revaluation effects arising from exchange rate changes endogenously. Two further revaluation effects operate on the value of U.S. equity assets: general asset inflation in foreign countries, and accumulation of goodwill specific to U.S. assets in foreign countries. Both these effects are handled exogenously. We assume that they will operate in 2005–11 as they did from 1998 through 2004. Our treatment of revaluations affecting U.S. foreign liabilities is symmetrical to our treatment of revaluations affecting U.S. foreign assets.

Detailed Baseline Projections and Simulation Results

Tables D-2 through D-33 present model baseline values for 2005 and projections for 2011 before liberalization for employment, output, imports, and exports for the model sectors analyzed in this study. Results for employment effects are reported by industry, with the wage bill in millions of 2005 dollars given for the 2005 baseline and the 2011 baseline projection. Output, imports and exports are reported by commodity, with the values given in millions of 2005 dollars for the 2005 baseline and the 2011 baseline projection. Reporting by industry in the case of employment and by commodity in the case of imports, exports, and output is necessary because industries may produce more than one commodity and commodities may be produced by more than one industry.

There are several reasons for discrepancies between 2005 model baseline values and 2005 values presented in “Summary data” tables in the body of the report.³¹ First, summary data are reported by NAICS sector, but model sectors are based on an earlier BEA classification

31. 2011 projected baseline values may also not be comparable to 2005 summary data values because the 2011 projection is based on (a) 2005 model baseline values, and (b) historical sectoral trends that are consistent with macroeconomic projections from other government agencies.

system, and the two classification systems may include different products. This discrepancy is particularly apparent in some not elsewhere classified sectors such as edible fats and oils n.e.c. Second, values for model sectors may have been adjusted to more accurately reflect overall U.S. productive capacity if 2005 values were unusually high or low due shocks that did not permanently affect output. This has been done, for example, in certain sugar sectors for which output was temporarily reduced in 2005 due to Hurricane Katrina. Third, comprehensive 2005 data were not available in the summer of 2006 when the 2005 model baseline was calculated, so 2005 model values are based on trends in historical data through 2004. Because of this, 2005 baseline values may differ from summary data if actual 2005 values are not well approximated by the trend through 2004. This affects textile mill and textile product sectors, for example, for which actual U.S. production fell considerably in 2005 relative to 1998–2004 trends.

Percent changes from 2005–11 are given for the scenarios before and after liberalization. The relative effect of liberalization is shown in the final column. The values for the 2011 baseline projection in column 3 are identical to those found in the body of the text. The percent changes in columns 4 and 5 for pre- and post-liberalization for output, imports, and exports are identical to those used to construct the figures in chapters 2 through 4. Finally, the percent changes in column 6 are identical to those shown in the simulation results tables in the body of the report.

Each group of tables reports the results for one simulation. The groupings follow the order of appearance in chapters 2–4.

Table D-2
Employment in sugar:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Sugarcane	66	55	-15.7	-62.2	-55.1
Sugarbeets	392	358	-8.5	-50.2	-45.5
Raw cane sugar	136	136	-0.5	-43.1	-42.8
Refined cane sugar	386	402	4.3	46.0	40.0
Refined beet sugar	590	592	0.3	-35.5	-35.7
Cereal breakfast foods	1,514	1,329	-12.3	-10.6	1.9
Prepared flour mixes and doughs	922	824	-10.6	-9.2	1.5
Chocolate and cocoa products	686	608	-11.4	-5.0	7.2
Candy and other confectionery products	2,992	2,837	-5.2	-5.4	-0.2

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-3
Output of sugar:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Sugarcane	1,131	1,303	15.3	-26.4	-36.2
Sugarbeets	2,818	3,200	13.5	-21.7	-31.0
Raw cane sugar	1,821	2,021	11.0	-29.9	-36.8
Refined cane sugar	4,492	5,187	15.5	61.7	40.0
Refined beet sugar	4,918	5,370	9.2	-25.7	-32.0
Cereal breakfast foods	9,964	10,041	0.8	2.4	1.6
Prepared flour mixes and doughs	5,513	5,455	-1.1	0.1	1.2
Chocolate and cocoa products	2,496	2,932	17.4	23.8	5.4
Candy and other confectionery products	18,103	20,676	14.2	15.1	0.8

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-4
Imports of sugar:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Raw cane sugar	638	1,043	63.3	521.7	280.6
Refined cane sugar	46	124	167.7	1,648.9	553.2
Refined beet sugar	23	23	0.0	848.8	848.8
Cereal breakfast foods	304	242	-20.2	-20.4	-0.3
Prepared flour mixes and doughs	162	114	-29.4	-30.3	-1.2
Chocolate and cocoa products	1,819	2,950	62.2	63.1	0.6
Candy and other confectionery products	1,803	2,050	13.7	11.4	-2.1

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-5
Exports of sugar:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Raw cane sugar	127	243	91.0	295.9	107.2
Refined sugar	237	407	71.9	325.5	147.5
Cereal breakfast foods	577	1,202	108.3	135.3	12.9
Prepared flour mixes and doughs	123	179	45.6	88.4	29.4
Chocolate and cocoa products	688	1,017	47.8	66.5	12.6
Candy and other confectionery products	461	545	18.2	34.9	14.2

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-6
Employment in dairy:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Creamery butter	80	74	-7.6	-43.0	-38.3
Dry, condensed, and evaporated dairy products	1,065	966	-9.3	-14.9	-6.2
Fluid milk	4,069	3,687	-9.4	-10.6	-1.4
Natural, processed, and imitation cheese	1,907	1,725	-9.5	-12.4	-3.2
Ice cream and frozen desserts	1,297	1,284	-1.0	-1.2	-0.2
Dairy farm products	3,855	3,684	-4.4	-6.7	-2.3
Feed grains	3,095	3,113	0.6	0.0	-0.6
Prepared feeds n.e.c.	1,827	1,800	-1.5	-1.9	-0.3

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-7
Output of dairy:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Creamery butter	2,406	2,835	17.8	-8.0	-21.9
Dry milk	7,313	8,524	16.6	10.3	-5.3
Condensed and evaporated dairy products	5,701	6,594	15.7	10.0	-4.9
Concentrated milk protein products	266	335	26.0	24.2	-1.4
Fluid milk	35,497	40,153	13.1	11.6	-1.4
Natural, processed, and imitation cheese	31,362	36,296	15.7	12.6	-2.7
Ice cream and frozen desserts	9,625	11,282	17.2	16.9	-0.3
Dairy farm products	35,969	42,515	18.2	15.6	-2.2
Yellow corn	59,463	75,458	26.9	26.4	-0.4
Other feed grains	3,849	5,011	30.2	29.7	-0.4
Prepared feeds n.e.c.	25,998	30,075	15.7	15.4	-0.2

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-8
Imports of dairy:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Creamery butter	179	246	37.2	559.9	380.8
Dry milk	381	530	39.1	185.2	105.1
Condensed and evaporated dairy products	297	420	41.4	166.1	88.3
Concentrated milk protein products	14	14	3.0	2.3	-0.6
Fluid milk	18	18	-1.1	-9.4	-8.4
Natural, processed, and imitation cheese	936	1,574	68.1	263.3	116.1
Ice cream and frozen desserts	19	33	73.4	350.5	159.8
Dairy farm products	98	83	-15.5	-17.8	-2.7
Yellow corn	469	333	-28.9	-29.5	-0.9
Other feed grains	51	36	-30.2	-30.6	-0.7
Prepared feeds n.e.c.	325	254	-22.0	-22.3	-0.5

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-9
Exports of dairy:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Creamery butter	24	20	-15.6	20.5	42.7
Dry milk	715	896	25.3	31.3	4.7
Condensed and evaporated dairy products	333	422	26.7	31.7	4.0
Concentrated milk protein products	74	104	40.9	38.4	-1.8
Fluid milk	134	300	123.0	135.6	5.7
Natural, processed, and imitation cheese	458	746	62.9	199.5	83.9
Ice cream and frozen desserts	163	185	13.8	14.5	0.6
Dairy farm products	65	79	21.7	24.3	2.2
Yellow corn	5,400	7,727	43.1	43.4	0.2
Other feed grains	943	1,328	40.8	41.0	0.2
Prepared feeds n.e.c.	915	1,632	78.3	78.6	0.2

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-10
Employment in tobacco:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Tobacco stemming and redrying	335	357	6.6	3.2	-3.2
Cigarettes	3,227	2,786	-13.7	-13.7	0.0
Cigars	165	187	13.3	13.6	0.2
Chewing and smoking tobacco and snuff ..	227	161	-29.2	-28.9	0.4
Tobacco farming	532	562	5.7	4.2	-1.4

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-11
Output of tobacco:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Tobacco stemming and redrying	4,891	6,188	26.5	23.5	-2.4
Cigarettes	19,961	17,852	-10.6	-10.5	0.1
Cigars	399	504	26.3	26.6	0.3
Chewing and smoking tobacco and snuff	1,519	1,368	-9.9	-9.5	0.5
Tobacco farming	4,139	5,183	25.2	23.7	-1.2

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-12
Imports of tobacco:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Tobacco stemming and redrying	602	431	-28.3	0.0	39.5
Cigarettes	309	267	-13.5	-4.3	10.7
Cigars	523	646	23.6	23.8	0.2
Chewing and smoking tobacco and snuff ...	26	13	-49.4	-47.1	4.6
Tobacco farming	0	0	—	—	—

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-13
Exports of tobacco:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Tobacco stemming and redrying	1,869	3,318	77.5	81.0	1.9
Cigarettes	2,116	1,773	-16.2	-15.3	1.1
Cigars	18	25	39.3	41.8	1.8
Chewing and smoking tobacco and snuff ..	613	687	12.0	13.1	1.0
Tobacco farming	0	0	—	—	—

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-14
Employment in tuna:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Canned and cured fish and seafoods	220	189	-14.1	-21.3	-8.5
Commercial fishing	1,655	2,465	48.9	48.9	0.0
Prepared fresh or frozen fish and seafoods	1,631	1,653	1.3	1.4	0.1
Metal cans	1,997	1,664	-16.7	-16.7	0.0
Canned specialties	1,117	879	-21.3	-21.3	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-15
Output of tuna:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Tuna packed in oil	115	127	10.4	-10.9	-19.3
Tuna packed in water	656	757	15.4	-1.3	-14.5
Canned and cured fish and seafoods n.e.c.	1,215	1,545	27.2	25.8	-1.1
Commercial fishing	6,672	12,332	84.8	84.8	0.0
Prepared fresh or frozen fish and seafoods	16,887	24,131	42.9	42.9	0.0
Metal cans	15,467	17,380	12.4	12.3	0.0
Canned specialties	7,987	8,195	2.6	2.6	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-16
Imports of tuna:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Tuna packed in oil	109	150	37.7	71.6	24.6
Tuna packed in water	1,039	1,447	39.3	54.7	11.1
Canned and cured fish and seafoods n.e.c.	1,006	1,434	42.6	42.8	0.2
Commercial fishing	11,368	15,667	37.8	37.3	-0.4
Metal cans	116	102	-12.8	-12.8	0.0
Canned specialties	104	82	-21.2	-21.2	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-17
Exports of tuna:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Tuna packed in water	8	12	56.2	63.3	4.6
Canned and cured fish and seafoods n.e.c. ...	534	806	51.1	49.0	-1.4
Commercial fishing	2,691	5,348	98.8	99.6	0.4
Prepared fresh or frozen fish and seafoods ...	24	27	14.2	14.1	-0.1
Metal cans	127	178	40.3	40.3	0.0
Canned specialties	155	233	50.4	50.2	-0.1

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-18
Employment in ethyl alcohol:
Projected baseline and effect of liberalization, 2005–11^a

Industry	Baseline wage bill ^b		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Dry corn milling	1,641	3,146	91.8	88.9	-1.5
Wet corn milling	1,103	954	-13.4	-13.5	-0.1
Feed grains	3,095	3,113	0.6	0.5	-0.1

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aEthyl alcohol is produced by two industries, dry corn milling and wet corn milling.

^bWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-19
Output of ethyl alcohol:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Ethyl alcohol	7,352	14,706	100.0	97.6	-1.2
HFCS	4,211	4,435	5.3	5.3	0.0
Glucose	1,479	1,575	6.5	6.5	0.0
Dextrose	374	385	2.9	2.9	0.0
Dextrin	69	72	4.5	4.5	0.0
Starch	519	539	3.9	3.9	0.0
Modified starch	849	900	6.0	6.0	0.0
Other wet corn milling	417	480	15.0	15.0	0.0
Yellow corn	59,463	75,458	26.9	26.8	-0.1
Barley, sorghum, and oats	3,849	5,011	30.2	30.2	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-20
Imports of ethyl alcohol:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Ethyl alcohol	401	817	103.6	160.1	27.8
HFCS	99	78	-20.7	-20.7	0.0
Glucose	53	45	-16.2	-16.2	0.0
Dextrose	7	6	-20.3	-20.3	0.0
Dextrin	0	0	—	—	—
Starch	4	3	-23.1	-23.1	0.0
Modified starch	6	5	-21.4	-21.4	0.0
Other wet corn milling	197	170	-13.8	-13.8	0.0
Yellow corn	469	333	-28.9	-28.9	-0.1
Barley, sorghum, and oats	51	36	-30.2	-30.1	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-21
Exports of ethyl alcohol:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Ethyl alcohol	151	380	152.0	153.5	0.6
HFCS	511	597	16.8	16.7	-0.1
Glucose	153	179	16.4	16.3	0.0
Dextrose	0	0	—	—	—
Dextrin	26	29	11.2	11.2	0.0
Starch	110	128	17.1	17.0	0.0
Modified starch	308	357	16.0	16.0	0.0
Other wet corn milling	234	261	11.6	11.6	0.0
Yellow corn	5,400	7,727	43.1	43.1	0.0
Barley, sorghum, and oats	943	1,328	40.8	40.8	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-22
Employment in beef:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Beef cattle	4,414	4,190	-5.1	-5.4	-0.4
Other meat animals	1,890	1,833	-3.1	-3.4	-0.4
Meat packing plants	6,661	6,358	-4.5	-4.9	-0.4
Feed grains	3,095	3,113	0.6	0.4	-0.2
Prepared feeds n.e.c.	1,827	1,800	-1.5	-1.6	-0.1

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib’n.”

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-23
Output of beef:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Beef cattle	60,599	73,244	20.9	20.5	-0.3
Other meat animals	25,951	31,668	22.0	21.6	-0.3
Beef packing plants	46,327	50,977	10.0	9.7	-0.3
Other meat packing plants	38,990	43,115	10.6	10.4	-0.2
Yellow corn	59,463	75,458	26.9	26.8	-0.1
Other feed grains	3,849	5,011	30.2	30.0	-0.1
Prepared feeds n.e.c.	25,998	30,075	15.7	15.6	-0.1

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib’n.”

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-24
Imports of beef:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Beef cattle	1,523	1,191	-21.8	-22.2	-0.5
Other meat animals	843	661	-21.6	-22.0	-0.5
Beef packing plants	2,850	2,801	-1.7	13.6	15.6
Other meat packing plants	2,399	2,379	-0.8	-0.6	0.2
Yellow corn	469	333	-28.9	-29.0	-0.2
Other feed grains	51	36	-30.2	-30.3	-0.1
Prepared feeds n.e.c.	325	254	-22.0	-22.1	-0.2

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-25
Exports of beef:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Beef cattle	246	295	20.1	22.1	1.7
Other meat animals	101	124	22.1	24.1	1.7
Beef packing plants	2,812	3,512	24.9	30.7	4.7
Other meat packing plants	3,574	4,436	24.1	21.0	-2.5
Yellow corn	5,400	7,727	43.1	43.1	0.1
Other feed grains	943	1,328	40.8	40.9	0.0
Prepared feeds n.e.c.	915	1,632	78.3	78.3	0.0

Source: USITC estimates.

Note: Liberalization is abbreviated as “lib'n.”

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-26
Employment in textiles and apparel:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Broadwoven fabric mills	4,781	3,455	-27.7	-38.2	-14.5
Narrow fabric mills	428	352	-17.8	-51.2	-40.6
Nonwoven fabrics	848	551	-35.0	-34.6	0.7
Knit outerwear mills	480	154	-68.0	-76.3	-26.0
Knit underwear and nightwear mills	131	51	-61.1	-66.4	-13.8
Knitting mills n.e.c.	60	31	-48.3	-50.5	-4.3
Knit fabric mills	811	417	-48.5	-65.3	-32.6
Yarn mills and textile finishing n.e.c.	2,277	1,584	-30.4	-44.1	-19.7
Thread mills	145	91	-37.1	-55.3	-28.8
Carpets and rugs	2,172	1,600	-26.3	-26.4	0.0
Coated fabrics, not rubberized	536	454	-15.3	-26.5	-13.3
Tire cord	205	142	-30.8	-31.4	-0.8
Cordage and twine	244	180	-26.4	-26.6	-0.3
Textile goods n.e.c.	845	595	-29.6	-29.3	0.4
Curtains and draperies	670	460	-31.4	-34.6	-4.7
Housefurnishings n.e.c.	1,756	1,190	-32.2	-29.5	4.0
Textile bags	369	266	-28.1	-29.8	-2.5
Canvas and related products	502	347	-31.0	-32.7	-2.5
Pleating and stitching	371	259	-30.1	-38.4	-11.9
Auto applique and trim	2,845	2,168	-23.8	-24.5	-0.9
Embroideries	196	130	-33.7	-34.0	-0.5
Fabricated textile products n.e.c.	1,216	826	-32.1	-31.5	0.8
Women's hosiery, except socks	330	163	-50.6	-49.2	2.8
Hosiery n.e.c.	550	265	-51.8	-54.1	-4.8
Apparel made from purchased materials	6,169	2,841	-54.0	-56.1	-4.7
Cotton	1,564	1,445	-7.6	-13.9	-6.8
Cellulosic manmade fibers	857	715	-16.6	-20.7	-4.9
Synthetic fiber	3,591	3,068	-14.6	-16.7	-2.5
Textile machines	853	589	-31.0	-32.7	-2.5
Public building furniture	2,239	2,803	25.2	26.5	1.1

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-27
Output of textiles and apparel:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Broadwoven fabric mills	29,008	30,216	4.2	-6.1	-9.8
Narrow fabric mills	1,433	1,762	23.0	-24.6	-38.7
Nonwoven fabrics	4,580	4,550	-0.7	-0.6	0.1
Knit fabric mills	5,877	5,100	-13.2	-40.3	-31.2
Yarn mills and textile finishing n.e.c.	9,661	8,662	-10.3	-27.3	-18.9
Thread mills	808	681	-15.7	-38.1	-26.6
Carpets and rugs	15,093	16,211	7.4	7.4	0.0
Coated fabrics, not rubberized	2,258	2,756	22.0	7.5	-11.9
Tire cord	1,281	1,334	4.2	3.5	-0.7
Cordage and twine	906	970	7.1	6.6	-0.5
Textile goods n.e.c.	2,895	3,163	9.2	8.7	-0.5
Curtains and draperies	1,596	1,607	0.7	-3.2	-3.9
Housefurnishings n.e.c.	8,775	8,625	-1.7	-2.0	-0.3
Textile bags	880	864	-1.9	-4.2	-2.4
Canvas and related products	1,321	1,303	-1.4	-3.6	-2.3
Pleating and stitching	900	918	2.0	-8.1	-9.9
Auto applique and trim	7,681	7,559	-1.6	-2.4	-0.8
Embroideries	316	282	-10.8	-11.2	-0.5
Fabricated textile products n.e.c.	3,980	3,955	-0.6	-0.2	0.5
Women's hosiery, except socks	3,711	3,625	-2.3	-2.5	-0.2
Hosiery n.e.c.	1,268	1,196	-5.7	-10.8	-5.4
Apparel made from purchased materials	35,839	23,781	-33.6	-37.8	-6.3
Cotton	6,980	8,332	19.4	12.1	-6.1
Cellulosic manmade fibers	2,636	2,725	3.4	-1.6	-4.8
Synthetic fiber	14,034	13,738	-2.1	-6.9	-4.9
Textile machines	2,997	3,593	19.9	16.9	-2.5
Public building furniture	11,244	18,680	66.1	67.8	1.0

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-28
Imports of textiles and apparel:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Broadwoven fabric mills	3,699	4,090	10.6	23.9	12.1
Narrow fabric mills	935	837	-10.5	-11.3	-0.9
Nonwoven fabrics	796	800	0.5	0.8	0.3
Knit fabric mills	1,175	1,340	14.0	4.3	-8.5
Yarn mills and textile finishing n.e.c. ...	984	876	-10.9	-14.8	-4.4
Thread mills	101	102	0.5	-1.7	-2.2
Carpets and rugs	2,166	2,345	8.3	9.4	1.0
Coated fabrics, not rubberized	606	952	57.1	58.9	1.1
Tire cord	373	466	24.8	27.7	2.4
Cordage and twine	273	360	31.9	34.6	2.0
Textile goods n.e.c.	521	593	13.8	15.6	1.6
Curtains and draperies	1,177	1,244	5.6	14.6	8.5
Housefurnishings n.e.c.	7,929	10,394	31.1	34.9	2.9
Textile bags	353	473	34.0	42.2	6.2
Canvas and related products	543	624	14.9	23.2	7.2
Pleating and stitching	170	172	0.9	2.1	1.2
Auto applique and trim	0	0	—	—	—
Embroideries	0	0	—	—	—
Fabricated textile products n.e.c.	2,415	3,307	36.9	39.0	1.5
Women's hosiery, except socks	184	258	40.5	45.2	3.4
Hosiery n.e.c.	1,374	1,908	38.9	43.5	3.3
Apparel made from purchased materials	84,458	121,021	43.3	48.4	3.6
Cotton	27	28	3.6	-17.3	-20.1
Cellulosic manmade fibers	147	148	1.1	0.7	-0.4
Synthetic fiber	1,966	2,025	3.0	-6.2	-9.0
Textile machines	1,856	1,989	7.1	2.7	-4.2
Public building furniture	3,030	4,437	46.5	46.3	-0.1

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-29
Exports of textiles and apparel:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Broadwoven fabric mills	4,246	6,123	44.2	0.9	-30.1
Narrow fabric mills	1,097	1,471	34.1	-28.0	-46.3
Nonwoven fabrics	1,207	1,057	-12.4	-12.0	0.5
Knit fabric mills	1,574	2,265	43.9	-35.2	-55.0
Yarn mills and textile finishing n.e.c.	844	1,132	34.0	-77.6	-83.3
Thread mills	216	202	-6.1	-88.1	-87.3
Carpets and rugs	799	674	-15.6	-14.4	1.5
Coated fabrics, not rubberized	408	515	26.4	-54.7	-64.2
Tire cord	103	73	-28.9	-28.5	0.5
Cordage and twine	72	66	-7.7	-6.3	1.5
Textile goods n.e.c.	308	209	-32.1	-31.8	0.5
Curtains and draperies	49	68	38.5	43.3	3.5
Housefurnishings n.e.c.	409	470	15.0	17.7	2.3
Textile bags	54	69	27.6	31.5	3.0
Canvas and related products	34	26	-22.4	-20.4	2.6
Pleating and stitching	60	103	71.4	-81.6	-89.3
Auto applique and trim	36	48	33.7	-75.8	-81.9
Embroideries	0	0	—	—	—
Fabricated textile products n.e.c.	1,179	1,424	20.8	23.1	1.9
Women's hosiery, except socks	249	120	-51.8	-50.9	1.9
Hosiery n.e.c.	139	67	-51.7	-91.5	-82.4
Apparel made from purchased materials	5,076	3,062	-39.7	-60.6	-34.7
Cotton	3,141	4,043	28.7	31.3	2.0
Cellulosic manmade fibers	1,245	1,494	20.0	20.2	0.1
Synthetic fiber	1,820	2,134	17.3	29.3	10.3
Textile machines	749	767	2.4	3.1	0.7
Public building furniture	1,946	2,863	47.1	55.4	5.7

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-30
Employment in high tariff sectors:
Projected baseline and effect of liberalization, 2005–11

Industry	Baseline wage bill ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Ball and roller bearings	3,059	2,921	-4.5	-9.0	-4.7
Ceramic wall and floor tile	384	345	-10.1	-15.0	-5.5
Costume jewelry	711	420	-40.9	-42.8	-3.2
Cutlery and hand tools					
Cutlery	706	612	-13.3	-16.6	-3.7
Hand tools	2,484	2,292	-7.7	-8.0	-0.3
Edible fats and oils n.e.c.	645	640	-0.8	-1.7	-0.9
Footwear and leather products					
Shoes, except rubber	377	182	-51.6	-52.0	-0.6
House slippers	29	13	-54.9	-55.5	-1.5
Rubber and plastics footwear	279	203	-27.2	-27.7	-0.7
Luggage	189	103	-45.5	-49.9	-8.1
Leather gloves and mittens	45	28	-37.2	-39.0	-2.9
Women's handbags and purses	150	130	-13.3	-16.1	-3.2
Personal leather goods n.e.c.	186	131	-29.6	-34.5	-6.9
Leather goods n.e.c.	144	88	-39.0	-39.1	-0.2
Glass and glass products	6,220	6,062	-2.5	-2.8	-0.3
Musical instruments	759	769	1.3	0.2	-1.1
Pens, mechanical pencils, and parts	627	504	-19.5	-21.6	-2.6
Processed fruits and vegetables					
Frozen fruits, fruit juices, and vegetables	1,814	1,535	-15.4	-15.4	0.0
Dehydrated fruits, vegetables, and soups	707	646	-8.6	-10.6	-2.1
Table and kitchenware					
Vitreous china table and kitchenware	274	229	-16.2	-20.3	-4.9
Fine earthenware table and kitchenware	35	30	-15.6	-17.9	-2.7
Pottery products n.e.c.	604	564	-6.8	-8.0	-1.3
Watches, clocks, watchcases, and parts ...	169	73	-56.5	-56.1	1.0

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aWage bills for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-31
Output of high tariff sectors:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline output ^a		Percent change 2005–11		Percent impact of
	2005	2011	baseline	lib'n	lib'n
Ball and roller bearings	7,850	10,277	30.9	24.9	-4.6
Ceramic wall and floor tile	1,009	1,228	21.8	15.4	-5.3
Costume jewelry	2,341	2,128	-9.1	-11.5	-2.6
Cutlery and hand tools					
Cutlery	2,707	3,295	21.7	17.8	-3.2
Hand tools	6,921	8,982	29.8	29.4	-0.3
Edible fats and oils n.e.c.	7,340	7,736	5.4	4.6	-0.7
Footwear and leather products					
Shoes, except rubber	1,788	1,447	-19.1	-19.6	-0.6
House slippers	112	80	-28.2	-29.1	-1.3
Rubber and plastics footwear	936	1,006	7.4	6.7	-0.7
Luggage	648	550	-15.2	-21.4	-7.3
Leather gloves and mittens	100	87	-13.9	-16.1	-2.6
Women's handbags and purses	438	517	18.0	14.4	-3.0
Personal leather goods n.e.c.	584	570	-2.5	-7.9	-5.5
Leather goods n.e.c.	390	348	-10.7	-10.9	-0.2
Glass and glass products	20,377	26,269	28.9	28.6	-0.2
Musical instruments	2,008	3,407	69.6	67.8	-1.1
Pens, mechanical pencils, and parts	2,649	3,112	17.4	14.9	-2.2
Processed fruits and vegetables					
Frozen fruits, fruit juices, and vegetables	11,027	12,448	12.9	12.8	-0.1
Dehydrated fruits, vegetables, and soups	3,949	4,484	13.6	11.4	-1.9
Table and kitchenware					
Vitreous china table and kitchenware	488	563	15.5	9.9	-4.8
Fine earthenware table and kitchenware	88	105	18.8	15.8	-2.6
Pottery products n.e.c.	1,379	1,761	27.7	26.1	-1.3
Watches, clocks, watchcases, and parts	1,576	1,912	21.3	22.2	0.7

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aOutput for 2005 and 2011 is expressed in millions of 2005 dollars.

Table D-32
Imports of high tariff sectors:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline imports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Ball and roller bearings	2,827	4,342	53.6	70.5	11.0
Ceramic wall and floor tile	1,992	3,122	56.7	61.1	2.8
Costume jewelry	1,839	2,339	27.2	34.5	5.8
Cutlery and hand tools					
Cutlery	1,243	1,791	44.1	55.4	7.9
Hand tools	2,182	2,877	31.8	34.6	2.1
Edible fats and oils n.e.c.	475	488	2.6	22.5	19.4
Footwear and leather products					
Shoes, except rubber	18,135	22,597	24.6	28.9	3.4
House slippers	163	174	6.8	11.6	4.5
Rubber and plastics footwear	7,943	10,285	29.5	35.6	4.8
Luggage	4,447	5,242	17.9	26.4	7.3
Leather gloves and mittens	470	492	4.6	11.6	6.7
Women's handbags and purses	1,861	2,063	10.9	17.8	6.3
Personal leather goods n.e.c.	836	901	7.7	17.3	8.9
Leather goods n.e.c.	470	584	24.3	25.1	0.6
Glass and glass products	5,125	6,737	31.4	40.1	6.6
Musical instruments	2,873	4,535	57.9	62.6	3.0
Pens, mechanical pencils, and parts	1,839	2,741	49.0	55.6	4.4
Processed fruits and vegetables					
Frozen fruits, fruit juices, and vegetables	1,728	1,970	14.0	32.2	16.0
Dehydrated fruits, vegetables, and soups	420	509	21.2	37.7	13.6
Table and kitchenware					
Vitreous china table and kitchenware	343	323	-6.0	4.0	10.6
Fine earthenware table and kitchenware	602	623	3.5	5.5	2.0
Pottery products n.e.c.	295	354	19.7	22.3	2.2
Watches, clocks, watchcases, and parts	3,713	4,012	8.0	10.5	2.3

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aImports for 2005 and 2011 are expressed in millions of 2005 dollars.

Table D-33
Exports of high tariff sectors:
Projected baseline and effect of liberalization, 2005–11

Commodity	Baseline exports ^a		Percent change 2005–11		Percent impact of lib'n
	2005	2011	baseline	lib'n	
Ball and roller bearings	1,129	1,748	54.8	55.9	0.7
Ceramic wall and floor tile	41	65	59.5	60.4	0.5
Costume jewelry	178	209	17.5	18.5	0.8
Cutlery and hand tools					
Cutlery	458	651	42.2	44.4	1.6
Hand tools	600	702	17.1	17.1	0.1
Edible fats and oils n.e.c.	380	369	-3.0	5.4	8.7
Footwear and leather products					
Shoes, except rubber	276	333	20.3	20.4	0.0
House slippers	3	4	19.9	20.6	0.6
Rubber and plastics footwear	378	594	57.2	57.2	0.0
Luggage	159	261	64.6	68.4	2.3
Leather gloves and mittens	5	7	49.9	50.2	0.2
Women's handbags and purses	90	270	201.3	206.2	1.6
Personal leather goods n.e.c.	27	54	96.7	104.1	3.8
Leather goods n.e.c.	72	123	70.4	70.0	-0.2
Glass and glass products	3,103	4,621	48.9	56.5	5.1
Musical instruments	297	345	16.1	22.5	5.5
Pens, mechanical pencils, and parts	263	226	-13.8	-12.4	1.7
Processed fruits and vegetables					
Frozen fruits, fruit juices, and vegetables	1,232	1,587	28.9	38.5	7.5
Dehydrated fruits, vegetables, and soups	809	949	17.2	18.0	0.6
Table and kitchenware					
Vitreous china table and kitchenware ...	35	35	-0.3	0.0	0.3
Fine earthenware table and kitchenware	29	39	35.8	36.0	0.2
Pottery products n.e.c.	152	231	51.9	52.5	0.4
Watches, clocks, watchcases, and parts ...	258	254	-1.2	3.7	5.0

Source: USITC estimates.

Note: Liberalization is abbreviated as "lib'n."

^aExports for 2005 and 2011 are expressed in millions of 2005 dollars.

Appendix E

Beef

Early updates of this report analyzed the effect of eliminating the price gap associated with voluntary export restraints imposed by the Meat Import Act of 1979.¹ Later updates analyzed the effect of eliminating the price gap associated with TRQs negotiated during the Uruguay Round of multilateral trade negotiations.² These previous updates consistently assumed that all other factors affecting U.S. beef imports and production remained unchanged. Similarly, this update maintains this common economic assumption. To address industry concerns raised during the USITC's public comment and hearing process, this appendix discusses other factors that could potentially alter the results of this analysis.³

Sanitary restrictions related to FMD have been, and continue to be, the primary factor limiting U.S. beef imports from major South American beef exporters, including Argentina and Brazil. Changes in the sanitary status of these countries with respect to FMD status would be expected to appreciably alter the results of this analysis by significantly increasing the supply of beef eligible to be imported into the United States. However, Argentina's and Brazil's ability to meet and maintain FMD sanitary status necessary to export fresh, chilled, and frozen beef to the United States is questionable as these countries continue to struggle with FMD outbreaks that eliminate them as suppliers to many FMD-free markets.

In 2004, Brazil passed Australia as the largest beef exporter in the world.⁴ Brazil achieved this status without having ever attained FMD sanitary status sufficient to allow fresh, chilled, or frozen beef exports to the United States, the world's largest beef importer.⁵ Brazil's largest export markets, the EU and Russia, accounted for 44 percent of its exports during January-June 2006.⁶ However, an outbreak of FMD during 2005 revealed flaws in Brazil's ability to maintain a sustainable program to control animal diseases, including FMD, potentially jeopardizing Brazil's access to its primary EU and Russian markets.⁷

Argentina, upon being found free of FMD in 1997, was able to quickly

1. USITC, *The Economic Effects of Significant U.S. Import Restraints*, various updates.

2. USITC, *The Economic Effects of Significant U.S. Import Restraints*, various updates.

3. Kiker, "R-CALF USA Prehearing Brief."

4. USDA, FAS, *Livestock and Poultry: World Markets and Trade*.

5. Brazil is eligible to ship fully cooked beef products to the United States and is a substantial supplier of beef meeting those criteria.

6. USDA, FAS, *Brazil: Livestock and Products*.

7. USDA, FAS, *Brazil: Livestock and Products*.

fill its 20,000 metric ton WTO TRQ for beef exports to the United States.⁸ However, by 2000, Argentina was again experiencing FMD outbreaks that resulted in the suspension of fresh, chilled, and frozen beef exports to the United States.⁹ At the time of this report, Argentina had not established sufficient FMD status to reopen fresh chilled or frozen beef exports to the United States. Moreover, Argentina lost its status as the world's third largest beef exporter when, beginning in February 2005, the Argentine government banned nearly all beef exports in an effort to curb inflationary pressure, further jeopardizing Argentina's reputation as a reliable supplier.¹⁰

Uruguay was originally found to be free from FMD in 1995.¹¹ However, FMD outbreaks during 2001 resulted in suspension of Uruguay's beef exports to the United States.¹² Unlike Argentina, Uruguay was able to re-establish FMD status such that Uruguayan fresh, chilled, and frozen beef was allowed into the U.S. market as of May 29, 2003.¹³ Uruguay quickly filled its 20,000 metric ton WTO TRQ and, by 2005, was shipping substantial quantities of beef to the U.S. market at the over-quota rate of 26.4 percent. Over-quota imports from Uruguay, which represented the first significant over-quota imports since the TRQ system was implemented, have been attributed to low cow slaughter in the United States and a favorable exchange rate for Uruguayan exports.¹⁴

During 2003–5, U.S. domestic production of manufacturing beef was restricted by expansion in the cattle cycle, as female animals were retained in the breeding herd rather than slaughtered and live cattle imports from Canada were restricted because of BSE. U.S. cow slaughter dropped from more than 6.1 million animals in 2003 to less than 4.8 million animals in 2005. Cyclical herd expansion began in 2003 and 2004 as grazing

8. 62 FR 34385, June 26, 1997.

9. USDA, FAS, *Argentina: Livestock and Products*; and USDA, APHIS, *USDA Prohibits Beef from Argentina*.

10. Dow Jones Newswire, "Govt Official: Argentina Uses Any Excuse to Stop Beef Trade."

11. 60 FR 55440, November 1, 1995.

12. USDA, APHIS, *Foot and Mouth Disease, Uruguay, Short Report*.

13. 68 FR 31940, May 29, 2003.

14. In 2002, the Uruguayan Peso devalued from less than 15 pesos per U.S. dollar to nearly 29 pesos per U.S. dollar, remaining above 26 pesos per U.S. dollar during 2003-2004, and then ranging from 23.5 to 25.5 pesos per U.S. dollar during 2005.

conditions improved and calf prices increased.¹⁵ Furthermore, a ban on imports of cattle over 30 months of age reduced the supply of slaughter cows from Canada from 372,294 in 2002 to less than 3,000 in 2005.¹⁶

The bulk of U.S. beef imports subject to TRQ quantitative restrictions is derived from grass-fed cattle and supplied principally by Australia and New Zealand, with smaller amounts supplied by Central America and Uruguay. Most grass-fed beef imports consist of lean, frozen manufacturing beef that tends to not be a close substitute for U.S. grain-fed beef production, but does substitute for U.S. domestically produced manufacturing beef. U.S. grain-fed beef is principally derived from young cattle and is consumed in the form of steaks, roasts, and other minimally processed items. U.S. domestically produced manufacturing beef is derived primarily from cows (both dairy and beef cows) and bulls that are no longer physically or economically productive and have been culled from the breeding or milking herd.

Lean manufacturing beef is used to produce ground beef, sausages, and other highly processed items.¹⁷ Grain feeding imparts a higher level of fat cover on cattle than does grass feeding. In the process of producing grain-fed table beef, much of this fat cover is trimmed away. Very lean manufacturing beef, regardless of the source, is blended with high-fat trimmings from U.S. grain-fed production to achieve the optimal fat level for many processed beef items, including hamburgers, hot dogs, and meatballs.¹⁸ Without lean manufacturing beef for blending, excess high-fat trimmings would be diverted to lower value uses such as pet food and rendering. Therefore, even though imported manufacturing beef competes with U.S. domestic manufacturing production from cull cattle, it is complementary to U.S. production from grain-fed cattle.

Historically, there has been a shortage of domestically produced lean manufacturing beef for these purposes.¹⁹ Most of the beef produced in Argentina and Brazil fits the grass-fed category. Therefore, the situation described above could change if Argentina and Brazil were cleared to ship fresh, chilled, or frozen beef to the United States and the TRQs that

15. USDA, ERS, *Cattle. Briefing Room.*

16. Jones, *Animal Product Markets in 2005 and Forecast for 2006*, 3.

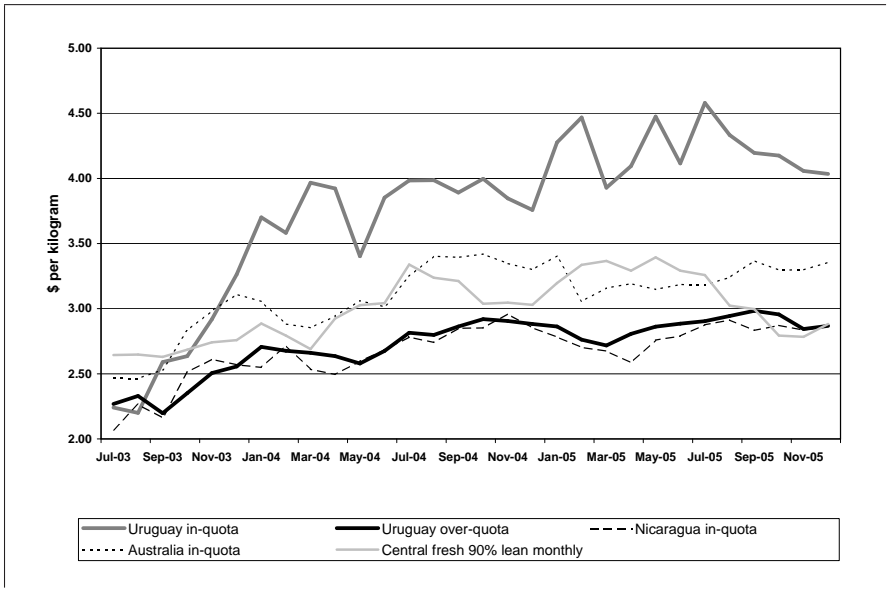
17. Bryant, "Comments from the Meat Importers Council of America."

18. Bryant, "Comments from the Meat Importers Council of America."

19. Bryant, "Comments from the Meat Importers Council of America."

Figure E-1

Unit value of U.S. beef imports, by country of origin, compared to U.S. domestic price of manufacturing beef, July 2003–November 2005



Source: ITC Dataweb, except the domestic price, which came from USDA, Agricultural Marketing Service, "Annual Meat Trade Review, 2005."

would limit imports from Argentina and Brazil were removed. Grass-fed beef imported from Argentina and Brazil is likely to compete with grass-fed imports from other countries, as well as U.S. domestically produced manufacturing beef. This would potentially increase the supply of manufacturing beef in the United States and could have a negative effect on the price of U.S. manufacturing beef, which would indirectly affect the price of cull cows. There is potential for a negative effect on cow-calf producers because cull cows and bulls can account for as much as 25 percent of a cow-calf producer's income.²⁰

Review of the price gap between import unit values and the price of U.S. domestic manufacturing beef provides additional insight into the substitutability of various imports (figure E-1). The import unit value of in-quota beef from Uruguay exceeds the price of U.S. domestically produced manufacturing beef, and the difference increased from 27 cents per kg in 2003 to \$1.36 per kg in 2005. Meanwhile, the unit value of over-quota

20. Zalesky, hearing transcript, 118.

beef from Uruguay was relatively stable and remained 27 to 32 cents per kg below the price of domestic manufacturing beef, and about equal to the import unit values for beef imported from Central America (Nicaragua, for example). Furthermore, several plants in Uruguay are process certified by USDA to export natural and organic beef to the United States. These factors suggest that imports of Uruguay's higher-valued natural and organic beef are restricted by the over-quota rates, while imports of Uruguay's lowest-value cuts are able to compete with exports from Central America despite the 26.4 percent duty.

This report specifically analyzed the economic effect of removing TRQs on U.S. imports of fresh, chilled, and frozen beef. However, factors such as sanitary conditions and the substitutability of imports and domestic production, as described in this appendix, were held unchanged. Changes in any one of these factors might be expected to significantly change the market dynamics, and, therefore, alter the results of this analysis. While specifically incorporating these factors into the analysis may provide an interesting forecast of potential changes in these conditions, it would not allow the isolation of effects specifically related to removal of U.S. TRQs on beef imports, which is the objective of this report.

Bibliography

- American Geological Institute. Government Affairs Program. Review of National Research Council Report “Double-Hull Tanker Legislation: An Assessment of the Oil Pollution Act of 1990.” Alexandria, VA, 1997. <http://www.agiweb.org/hearings/nrcopa90.html> (accessed March 24, 2004).
- American Sugar Alliance. “From the International Sweetener Symposium: Experts Say U.S. Sugar Consumption Rebounding.” Arlington, VA: American Sugar Alliance, 2005. http://www.sugaralliance.org/desktopdefault.aspx?page_id=19&news_id=600 (accessed February 11, 2007).
- Armington, P. S. “A Theory of Demand for Products Distinguished by Place of Production.” *IMF Staff Papers* 16 (March 1969): 159–76.
- Autor, David H., Lawrence F. Katz, and Melissa S. Kearney. “Measuring and Interpreting Trends in Economic Inequality.” *American Economic Review Papers and Proceedings* 96, no. 2 (January 2006): 189–194.
- Bahmani-Oskooee, Mohsen, and Avik Chakrabarti. “Import Competition, Employment and Wages in U.S. Manufacturing.” *Journal of Policy Modeling* 25, no. 9 (December 2003): 869–880.
- Berman, Eli, John Bound, and Zvi Griliches. “Changes in the Demand for Skilled Labor within U.S. Manufacturing Industries: Evidence from the Annual Survey of Manufacturing.” *Quarterly Journal of Economics* 109, no. 2 (1994): 367–398.
- Black, Joseph, James Johnston, and Todd Spencer. “Comments of the Owner-Operator Independent Drivers Association, Inc.” in connection with USITC Inv. No. 332-325, *The Economic Effects*

of Significant U.S. Import Restraints: Fifth Update 2005, June 16, 2006. Pre-hearing submission.

Boughner, Devry S., Harry de Gorter, and Ian M. Sheldon. "The Economics of Two-Tier Tariff-Rate Import Quotas in Agriculture." *Agricultural and Resource Economics Review* 29, no. 1 (April 2000): 58–69.

Bryant, Laurie. "Comments from the Meat Importers Council of America" in connection with Inv. No. 332-325, *The Economic Effects of Significant U.S. Import Restraints: Fifth Update*. Posthearing submission.

Buzzanell, Peter. *U.S. Confectionery Companies: The Move to Mexico—Encouraged by What Cost?* Paper prepared for the American Sugar Alliance. Reston, VA: Peter Buzzanell & Associates, August 31, 2001.

Center on Globalization, Governance, and Competitiveness. "North Carolina in the Global Economy 2006." http://www.soc.duke.edu/NC_GlobalEconomy/textiles/overview.php (accessed December 4, 2006).

J. W. Chung, *Utility and Production Functions: Theory and Applications*. Cambridge, MA: Blackwell Publishers, 1994.

Committee for the Implementation of Textile Agreements. "Establishment of Agreed Import Levels and the ELVIS Requirement for Certain Cotton, Wool, Man-Made Fiber, Silk Blend and Other Vegetable Fiber Textiles and Textile Products Produced or Manufactured in the People's Republic of China." December 13, 2005. <http://www.otexa.ita.doc.gov/fr2005/chiestlielv.htm> (accessed February 12, 2007).

Davis, Christopher G. and Biing-Hwan Lin. *Factors Affecting U.S. Beef Consumption*, United States Department of Agriculture, Economic Research Service, October 2005. <http://www.ers.usda.gov/Publications/ldp/Oct05/ldpm13502/> (accessed September 21, 2006).

Davis, Don, and Prachi Mishra. "Stolper-Samuelson Is Dead and Other Crimes of Both Theory and Data." In *Globalization and Poverty*, edited by Ann Harrison. Chicago: University of Chicago Press, 2006.

- Davis, Don, and David E. Weinstein. "An Account of Global Factor Trade." *The American Economic Review* 91, no. 5 (December 2001): 1423–1453.
- . "The Factor Content of Trade." In *Handbook of International Trade*, edited by D. Kwan Choi and James Harrigan. Oxford: Blackwell, 2003.
- Dean, Jr., Warren L. "Jones Act Reflects Fundamentals of U.S. Legal System." *The Journal of Commerce* (December 1, 1998): 5A.
- Deaton, A., and J. Muellbauer. *Economics and Consumer Behavior*. Cambridge, England: Cambridge University Press, 1980.
- Debaere, Peter. "Relative Factor Abundance and Trade." *Journal of Political Economy* 111, no. 3 (2003): 589–610.
- Debreu, Gérard. *The Theory of Value*. (New York: Wiley, 1959).
- de Melo, J., and S. Robinson. "Product Differentiation and the Treatment of Foreign Trade in Computable General Equilibrium Models of Small Economies." *Journal of International Economics* 27 (August 1989): 489–97.
- Dervis, K., J. de Melo, and S. Robinson. *General Equilibrium Models for Development Policy*. Cambridge, England: Cambridge University Press, 1982.
- Dixon, Peter B., and Maureen T. Rimmer. *Dynamic General Equilibrium Modelling for Forecasting and Policy: a Practical Guide and Documentation of MONASH*. Amsterdam: North-Holland Publishing Company, 2002.
- . "Mini-USAGE : Reducing Barriers to Entry in Dynamic CGE Modelling." Paper presented at the 8th Annual Conference on Global Economic Analysis, Lübeck, Germany, June 9–11, 2005.
- . "MONASH-USA: Creating a 1992 Benchmark Input-Output Database." COPS working paper. Clayton, Australia: Centre of Policy Studies, Monash University, May 2001.
- . "USAGE-ITC: Creating Historical Shocks for 1992 to 1998." COPS working paper. Clayton, Australia: Centre of Policy Studies, Monash University, June 2003.

- . “USAGE-ITC: Theoretical Structure.” COPS working paper. Clayton, Australia: Centre of Policy Studies, Monash University, April 2002.
- Dixon, Peter B., Maureen T. Rimmer, and Marinos Tsigas. “Creating a USAGE-ITC Database for 2002.” COPS working paper. Clayton, Australia: Centre of Policy Studies, Monash University, February 2004.
- Dixon, Peter B., David P. Vincent and Alan A. Powell. “Factor Demand and Product Supply Relations in Australian Agriculture: The CRESH/CRETH Production System.” IMPACT Preliminary Working Paper No. OP-08. Melbourne, Australia: Industries Assistance Commission, November 1976.
- Donnelly, William A., Kyle Johnson, Marinos Tsigas and David Ingersoll. “Revised Armington Elasticities of Substitution for the USITC Model and the Concordance for Constructing a Consistent Set for the GTAP Model.” Office of Economics Research Note No. 2004-01-A. Washington, DC: Office of Economics, U.S. International Trade Commission, January 2004.
- Dow Jones Newswire. “Govt Official: Argentina Uses Any Excuse to Stop Beef Trade.” *cattlenetwork.com*, May 8, 2006. <http://www.cattlenetwork.com/content.asp?ContentID=35230> (accessed February 10, 2007).
- Eckel, Carsten. “Labor Market Adjustments to Globalization: Unemployment versus Relative Wages.” *North American Journal of Economics and Finance* 14 (2003): 173–188.
- Energy Information Administration, *International Energy Outlook 2005*. <http://www.eia.doe.gov/oiaf/ieo/oil.html> (accessed November 17, 2005).
- Farber, Henry S. “Job Loss in the United States, 1981–2001.” NBER Working Paper No. 9707. Cambridge: National Bureau of Economic Research, May 2003.
- Feenstra, Robert C. *Advanced International Trade: Theory and Evidence*. Princeton: Princeton University Press, 2004.
- , and Gordon Hanson. “Global Production Sharing and Rising Inequality: A Survey of Trade and Wages.” NBER Working Paper

8372. Cambridge: National Bureau of Economic Research, July 2001.

Francois, Joseph, and Dean Spinanger. "ATC Export Tax Equivalents." In *Global Trade, Assistance, and Production: The GTAP 6 Data Base*, edited by Betina V. Dimaranan. West Lafayette: Center for Global Trade Analysis, 2006.

Government Accountability Office. "Maritime Issues: Assessment of the International Trade Commission's 1995 Analysis of the Economic Impact of the Jones Act." Presented to The Honorable John McCain, Chairman, Committee on Commerce, Science, and Transportation, United States Senate, March 6, 1998.

Grossman, G. M. "The Employment and Wage Effects of Import Competition." *Journal of International Economic Integration* 2 (1987): 1–23.

Haley, S. L. "Modeling the U.S. Sweetener Sector: An Application to the Analysis of Policy Reform." Working paper no. 98-5. International Agricultural Trade Research Consortium, August 1998. <http://www.iatrcweb.org/publications/working.htm> (accessed January 10, 2007).

Hanoch, Giora. "CRESH Production Functions." *Econometrica* 39 (1971): 695–712.

Hertel, Thomas, David Hummels, Maros Ivanic and Roman Keeney. "How Confident Can We Be in CGE-Based Assessments of Free Trade Agreements?" GTAP Working Paper No. 26. West Lafayette, Indiana: Center for Global Trade Analysis, Purdue University, May 2003.

Hornig, Ellen, Richard Boisvert, and David Blandford. "Explaining the Distribution of Quota Rents for U.S. Cheese Imports." *Australian Journal of Agricultural Economics* 34 (April 1990): 1–20.

———. "Quota Rents and Subsidies: The Case of U.S. Cheese Import Quotas." *European Review of Agricultural Economics* 17, no. 4 (1990): 421–34.

Ingram, Beth F., and George R. Neumann. "The Returns to Skill." *Labour Economics* 13, no. 1 (February 2006): 35–59.

- Jones, Keithly. *Animal Products Markets in 2005 and Forecast for 2006*. Washington, DC: United States Department of Agriculture, Economic Research Service, September 2006.
- Kannankutty, Nirmala. "2003 College Graduates in the Workforce." Info Brief, National Science Foundation, NSF 06-304. Arlington, VA: National Science Foundation, December 2005.
- Katz, Lawrence F. and David Autor. "Changes in the Wage Structure and Earnings Inequality." In *Handbook of Labor Economics*, vol. 3A, edited by Orley C. Ashenfelter and David Card, 1463–1555. New York: North-Holland, 1999.
- Keane, Angela. "Border Conflict." *Journal of Commerce* 7, no. 32 (August 7, 2006): 33.
- Kiker, Chuck. "R-CALF USA Prehearing Brief" in connection with Inv. No. 332-325, *The Economic Effects of Significant U.S. Import Restraints: Fifth Update*. June 16, 2006.
- Kletzer, Lori G. "Job Displacement." *Journal of Economic Perspectives* 12, no. 1 (Winter 1998): 115–136.
- Koo, W. W. *The U.S. Cane and Beet Sugar Industry Under Alternative Trade Liberalization Options*. Agricultural Economics Report No. 34, Department of Agricultural Economics, Northern Plains Trade Research Center. Fargo: North Dakota State University, January 2000.
- Krishna, Kala, Abhiroop Mukhopadhyay, and Cemile Yavas. "Trade with Labor Market Distortions and Heterogenous Labor: Why Trade Can Hurt." NBER Working Paper No. 9086. Cambridge: National Bureau of Economic Research, July 2002.
- Krishna, Kala, and Ling Hui Tan. *Rags and Riches*. Ann Arbor: University of Michigan Press, 1998.
- Kumins, Larry. "Alaska Oil Exports," *CRS Report for Congress*, April 5, 2000. <http://ncseonline.org/NLE/CRSreports/natural/nrgen-25.cfm> (accessed August 23, 2006).
- Layard, P. R. G. and A. A. Walters. *Microeconomic Theory*. New York: McGraw-Hill, 1978.

- Leichenko, Robin and Julie Silva. "International Trade, Employment and Earnings: Evidence from US Rural Counties." *Regional Studies* 38, no. 4 (June 2004): 355–374.
- Levin, Peter. "Tobacco." Washington, DC: National Association of Attorneys General, 2006. <http://www.naag.org/tobacco.php> (accessed February 11, 2007).
- Levinsohn, Jim and Wendy Petropoulos. "Creative Destruction or Just Plain Destruction?: The U.S. Textile and Apparel Industries since 1972." NBER Working Paper No. 8348. Cambridge: National Bureau of Economic Research, June 2001.
- Londoño, María. *Institutional Arrangements that Affect Free Trade Agreements: Economic Rationality Versus Interest Groups*. Rotterdam: Erasmus Research Institute of Management, 2006.
- The McGraw-Hill Companies and U.S. Department of Commerce, International Trade Administration. *U.S. Industry & Trade Outlook '99*. New York: DRI/McGraw-Hill, 1999.
- Meat and Livestock Australia. Market Statistics Database. <http://marketdata.mla.com.au/> (accessed September 21, 2006).
- Milanovic, Branko. "Does Tariff Liberalization Increase Wage Inequality? Some Empirical Evidence." NBER Working Paper No. 11046. Cambridge: National Bureau of Economic Research, January 2005.
- Mitchell, Donald. "Sugar Policies: Opportunity for Change." World Bank Policy Research Working Paper No. 3222. Washington, DC: World Bank, February 2004.
- Moore, Cassandra. "U.S. Supreme Court Finally Removes Decade-Long Road Block to U.S. -Mexican Trucking." *Center for Trade Policy Studies Free Trade Bulletin*, no. 13, July 2004.
- Murkowski, Frank. "Alaska Trade and Development Report: 2004 Export Report." <http://www.gov.state.ak.us/trade/products/energy-export2004.php> (accessed August 23, 2006).
- National Cattlemen's Beef Board. "Beef Bytes." <http://www.beef.org/uDocs/BeefBytesComplete03-28-05.pdf> (accessed September 21, 2006).

- National Council of Textile Organizations. "NCTO Applauds New 3-Year Bilateral with China," November 8, 2005. <http://www.ncto.org> (accessed March 22, 2006).
- Neary, Peter. "The Stolper-Samuelson Theorem," Prepared for the *Encyclopedia of World Trade since 1450*, edited by J. J. McCusker, (February 2004). <http://www.ucd.ie/economic/staff/pneary/pdf/stolpers.pdf> (accessed October 6, 2006).
- OIE World Organization for Animal Health. *Number of Reported Cases of Bovine Spongiform Encephalopathy (BSE) in Farmed Cattle Worldwide*. http://www.oie.int/eng/info/en_esbmonde.htm (accessed September 13, 2006).
- Promar International. *Food & Beverage Jobs Disappearing Due to Sugar Program*. Report prepared for the Sweetener Users Association, December 2003.
- Rendleman, C. M. and T. W. Hertel. "A Policy Model for the Sweetener Industry." Staff Paper No. 90-19. West Lafayette, IN: Purdue University, Department of Agricultural Economics, January 1991.
- Renewable Fuels Association. *From Niche to Nation: Ethanol Industry Outlook 2006*. Washington, DC. http://www.ethanolrfa.org/objects/pdf/outlook/outlook_2006.pdf (accessed November 3, 2006).
- Revenge, A. L. "Exporting Jobs? The Impact of Import Competition on Employment and Wages in Manufacturing." *Quarterly Journal of Economics* 107 (1992): 255-284.
- Riggs, T. Lynn and Grigoris Zarotiadis. "Soft and Hard Within- and Between-Industry Changes of U.S. Skill Intensity: Shedding Light on Worker's Inequality." Center for Economic Studies Working Paper CES 06-01. Washington, DC: Bureau of the Census, January 2006.
- Sheales, T., S. Gordon, A. Hafi, and C. Toyne. "Sugar: International Policies Affecting Market Expansion." Research Report 99.14. Canberra: Australian Bureau of Agricultural and Resource Economics, 1999.
- Silberberg, Eugene *The Structure of Economics*. New York: McGraw-Hill, 1990.

- UN Food and Agricultural Organization. Department of Commodities and Trade, Economic and Social. *June 2006 Meat Market Assessment and Meat Statistics*. http://www.fao.org/es/esc/en/20953/21014/highlight_27269en.html (accessed August 15, 2006).
- U.S. Army Corps of Engineers. *Waterborne Commerce of the United States: Calendar Year 2004: Part 5—National Summaries*. <http://www.iwr.usace.army.mil/ndc/wcsc/pdf/wcusnatl04.pdf> (accessed January 31, 2007).
- U.S. Department of Agriculture. Agricultural Marketing Service. “National Summary of Meats Graded.” January 17, 2006. <http://www.ams.usda.gov/lsg/mgc/Reports/MNCY05.pdf> (accessed September 13, 2006).
- U.S. Department of Agriculture. Agricultural Marketing Service. Livestock and Grain Market News Service. *Annual Meat Trade Review, Meat Livestock & Slaughter Data*. 2003, 2004, and 2005. <http://www.ams.usda.gov/lsmnpubs/meattrade/ncmtr2003.pdf>, <http://www.ams.usda.gov/lsmnpubs/meattrade/ncmtr2004.pdf>, and <http://www.ams.usda.gov/LSMNpubs/meattrade/LS20050220ANCMTR.pdf> (accessed September 21, 2006).
- U.S. Department of Agriculture. Animal and Plant Health Inspection Service. “BSE Chronology, Key USDA Actions Related to Canada.” http://www.aphis.usda.gov/newsroom/hot_issues/bse/content/printable_version/BSE_Chronology_Canada_Final.pdf (accessed September 22, 2006).
- . *Foot and Mouth Disease, Uruguay, Short Report*. April 26, 2001. http://www.aphis.usda.gov/vs/ceah/cei/taf/iw_2001_files/foreign/fmd_uruguay0401.htm (accessed October 2, 2006).
- . “USDA Prohibits Beef from Argentina.” Press release, June 1, 2001. <http://www.aphis.usda.gov/lpa/news/2001/06/ARGBEEF.HTM> (accessed October 19, 2006).
- U.S. Department of Agriculture. Economic Research Service. *Cattle. Briefing Room*. <http://www.ers.usda.gov/Briefing/Cattle/Background.htm> (accessed September 29, 2006).
- . *Dairy. Briefing Room*. <http://www.ers.usda.gov/Briefing/Dairy/Policy.htm> (accessed August 10, 2006).

- . *Farm Policy: Title I-Commodity Programs, Side-by-side comparison of the new Farm Bill with 1996–2001 farm legislation.* <http://www.ers.usda.gov/Features/farmbill/titles/titleIcommodities.htm#f> (accessed November 21, 2006).
- . *Sugar and Sweetener Yearbook Tables.* <http://www.ers.usda.gov/Briefing/Sugar/Data/data.htm> (accessed September 29, 2006).
- U.S. Department of Agriculture. Farm Service Agency. *Fact Sheet: Upland Cotton.* January 2003. <http://www.fsa.usda.gov/pas/publications/facts/html/upcot03.htm> (accessed October 12, 2005).
- U.S. Department of Agriculture. Foreign Agriculture Service. *Argentina: Livestock and Products: Annual 2001.* Global Agriculture Information Network Report No. AR1049, August 3, 2001. [https://web01.aphis.usda.gov/db/mtaddr.nsf/0/8df2ac42b711bb8d8525706f00507a58/\\$FILE/GAINReportAR1049.pdf](https://web01.aphis.usda.gov/db/mtaddr.nsf/0/8df2ac42b711bb8d8525706f00507a58/$FILE/GAINReportAR1049.pdf) (accessed October 23, 2006).
- . *Brazil: Livestock and Products: Annual Report 2006,* Global Agriculture Information Network Report No. BR6622. August 25, 2006. <http://www.fas.usda.gov/gainfiles/200608/146208781.pdf> (accessed September 21, 2006).
- . *Japan: Livestock and Products: The Japanese Beef Market and Australian Competition 2005.* Global Agriculture Information Network Report No. JA5062, October 11, 2005. <http://www.fas.usda.gov/gainfiles/200510/146131177.pdf> (accessed February 11, 2007).
- . *Livestock and Poultry: World Markets and Trade.* DLP 1-06. March 2006. [http://www.fas.usda.gov/dlp/circular/2006/06\\$-03LP/toc.htm](http://www.fas.usda.gov/dlp/circular/2006/06$-03LP/toc.htm) (accessed August 11, 2006).
- . *Sugar Under Tariff Rate Quotas.* <http://www.fas.usda.gov/itp/imports/Sugar/sugartrqfr.asp> (accessed October 18, 2006).
- . “Summary of U.S. Sugar Tariff Rate Quota (TRQ) Actions by Fiscal Year.” <http://www.fas.usda.gov/itp/imports/Sugar/refinedsugraTRQsFY05-06.pdf> (accessed February 10, 2007).
- U.S. Department of Agriculture. National Agricultural Statistics Service. *QuickStats* (Agricultural Statistics Database). U.S. & All States Data—Slaughter, Red Meat Production—Annual. <http://>

www.nass.usda.gov/Data_and_Statistics/Quick_Stats/ (accessed August 11, 2006).

- U.S. Department of Agriculture. Newsroom. "Statement by Agriculture Secretary Mike Johanns Regarding the Reopening of the Japanese Market to U.S. Beef." Press Release No. 0265.06. July 27, 2006. <http://www.usda.gov/wps/portal/usdahome?contentidonly=true&contentid=2006/07/0265.xml> (accessed February 11, 2007).
- . "Statement by Agriculture Secretary Mike Johanns Regarding U.S. Beef Trade with Korea." Press Release No. 0341.06. September 7, 2006. http://www.fas.usda.gov/scripts/w/PressRelease/pressrel_dout.asp?Entry=valid&PrNum=0127-06 (accessed February 11, 2007).
- . "Statement by Agriculture Secretary Mike Johanns Regarding the Rejection of U.S. Beef Shipments by South Korea." Press Release No. 0458.06. December 6, 2006. http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2006/12/0458.xml (accessed February 11, 2007).
- U.S. Department of Commerce. Bureau of the Census. *Annual Survey of Manufactures*. <http://www.census.gov/mcd/asm-as1.html> (accessed November 6, 2006).
- . "Current Population Reports: Consumer Income Reports 1946-2005 (P60)." <http://www.census.gov/prod/www/abs/income.html> (accessed February 12, 2007).
- . "Current Population Survey: Basic Monthly CPS." http://www.bls.census.gov/cps_ftp.html (accessed November 12, 2006).
- . *Service Annual Survey*. http://www.census.gov/svsd/www/services/sas/sas_data/48/sas48_21-22_2004.pdf (accessed June 29, 2006).
- U.S. Department of Commerce. Bureau of Economic Analysis. 1992 Benchmark Input-Output Table. http://bea.gov/bea/dn2/i-o_benchmark_1992.htm (accessed June 12, 2006).
- . "Table 1.1.4. Price Indexes for Gross Domestic Product." <http://www.bea.gov/bea/dn/nipaweb/SelectTable.asp> (accessed November 17, 2005)

- . *2002 Economic Census*, “Ethyl Alcohol Manufacturing: 2002.” <http://www.census.gov/prod/ec02/ec0231i325193.pdf> (accessed November 20, 2006).
- . *2002 NAICS Codes and Titles*. <http://www.census.gov/epcd/naics02/naicod02.htm> (accessed August 11, 2006).
- U.S. Department of Commerce. International Trade Administration. *Employment Changes in U.S. Food Manufacturing: The Impact of Sugar Prices*. <http://www.ita.doc.gov/media/Publications/abstract/sugar2006desc.html> (accessed November 29, 2006).
- U.S. Department of Commerce. National Oceanic and Atmospheric Administration. *Fisheries of the United States, 2001*. National Marine Fisheries Service, Fisheries Statistics Division, Current Fisheries Statistics Report No. 2001. Silver Spring, MD: National Marine Fisheries Service, September 2002.
- . *Fisheries of the United States, 2002*, National Marine Fisheries Service, Fisheries Statistics Division, Current Fisheries Statistics Report No. 2002. Silver Spring, MD: National Marine Fisheries Service, September 2003.
- . *Fisheries of the United States, 2003*, National Marine Fisheries Service, Fisheries Statistics Division, Current Fisheries Statistics Report No. 2003. Silver Spring, MD: National Marine Fisheries Service, October 2004.
- . *Fisheries of the United States, 2004*, National Marine Fisheries Service, Fisheries Statistics Division, Current Fisheries Statistics Report No. 2004. Silver Spring, MD: National Marine Fisheries Service, November 2005.
- U.S. Department of Commerce. Office of Textiles and Apparel. “U.S. Textile and Apparel Category System.” <http://www.otexa.ita.doc.gov/corr.htm> (accessed February 12, 2007).
- U.S. Department of Homeland Security, Customs and Border Protection. “Tuna: Tariff-Rate Quota; The Tariff-Rate Quota for Calendar Year 2006, on Tuna Classifiable Under Subheading 1604.14.22, Harmonized Tariff Schedule of the United States (HTSUS).” *Federal Register* 71, no. 57 (March 24, 2006): 14934.

- U.S. Department of Labor. Bureau of Labor Statistics. *Census of Employment and Wages*. <http://www.bls.gov/cew/> (accessed November 8, 2006).
- . “Occupational Employment Statistics.” http://www.bls.gov/oes/oes_dl.htm (accessed June 29, 2006).
- . “Worker Displacement, 2003–2005.” USDL 06-1454. <ftp://ftp.bls.gov/pub/news.release/disp.txt> (accessed October 16, 2006).
- U.S. Department of Labor. Employment and Training Administration. “Trade Adjustment Assistance Fact Sheet.” <http://www.doleta.gov/programs/factsht/taa.htm> (accessed November 16, 2006).
- U.S. Department of Transportation. Bureau of Transportation Statistics. “Border Crossings/Entries by State/Port and Month/Year Sorted by Month”; based on data from U.S. Department of Homeland Security, Customs and Border Protection, OMR database, December 2005. <http://www.transtats.bts.gov/bordercrossing.aspx> (accessed June 29, 2006).
- . “The Intermodal Transportation Database.” http://www.transtats.bts.gov/Oneway.asp?Display_Flag=0\&Percent_Flag=0 (accessed November 14, 2006).
- . “US Mexican Border Land-Freight Gateways: Number of Truck or Railcar Crossings.” Table 1-49. http://www.bts.gov/publications/national_transportation_statistics/2004/html/table_01_49.html (accessed June 6, 2006).
- . “Value of U.S. Land Exports to and Imports from Canada and Mexico by Mode.” Table 1-54. January 2006. http://www.bts.gov/publications/national_transportation_statistics/ (accessed June 29, 2006).
- U.S. Department of Transportation. Maritime Administration. *Maritime Subsidies*. Washington, DC: U.S. Department of Transportation, 1993.
- . “U.S. -Flag Oceangoing Fleet 2005.” <http://www.marad.dot.gov> (accessed August 15, 2006).
- . *By the Capes Around the World: A Summary of World Cabotage Practices*. <http://www.marad.dot.gov/Publications/PDF/By%20the%20Capes.pdf> (accessed October 5, 2006).

- U.S. Department of Transportation. Federal Motor Carrier Administration. "The Motor Carrier Moratorium, Mexico, and NAFTA." November 2002. <http://www.fmcsa.dot.gov/documents/rulesregs/rulemakings/whnaftafactsheet.pdf> (accessed November 13, 2006).
- U.S. Department of Transportation. Office of Inspector General. *Follow-up Audit of the Implementation of the North American Free Trade Agreement's Cross-Border Trucking Provisions*, January 2005. <http://www.oig.dot.gov/> (accessed June 29, 2006).
- U.S. General Accounting Office. *Maritime Issues: Assessment of the International Trade Commission's 1995 Analysis of the Economic Impact of the Jones Act*. Washington, DC: U.S. General Accounting Office, March 1998.
- . *Sugar Program: Supporting Sugar Prices Has Increased Users' Costs While Benefiting Producers*. Washington, DC: U.S. General Accounting Office, June 2000.
- . *Tax Incentives for Petroleum and Ethanol Fuels*. Washington, DC: U.S. General Accounting Office, September 25, 2000.
- U.S. International Trade Commission. *Competitive Conditions in the U.S. Tuna Industry*. USITC Publication 1912. Washington, DC: U.S. International Trade Commission, October 1986.
- . *Conditions of Competition for Milk Protein Products in the U.S. Market*. USITC Publication 3692. Washington, DC: U.S. International Trade Commission, May 2004.
- . *The Economic Effects of Significant U.S. Import Restraints, First Biannual Update, Inv. No. 332-325* USITC Publication 2935, Washington, DC: U.S. International Trade Commission, December 1995.
- . *The Economic Effects of Significant U.S. Import Restraints, Second Update 1999, Inv. No. 332-325*. USITC Publication 3201. Washington, DC: U.S. International Trade Commission, May 1999.
- . *The Economic Effects of Significant U.S. Import Restraints, Third Update 2002, Inv. No. 332-325*. USITC Publication 3519. Washington, DC: U.S. International Trade Commission, June 2002.

- . *The Economic Effects of Significant U.S. Import Restraints, Fourth Update 2004, Inv. No. 332-325*. USITC Publication 3701. Washington, DC: U.S. International Trade Commission, June 2004.
- . *The Economic Effects of Significant U.S. Import Restraints, Phase II: Agricultural Products and Natural Resources, Report to the Committee on Finance of the United States Senate on Inv. No. 332-262 Under Section 332 of the Tariff Act of 1930*, USITC Publication 2314. Washington, DC: U.S. International Trade Commission, September 1990.
- . *The Impact of Trade Agreements*. USITC Publication 3621. Washington, DC: U.S. International Trade Commission, August 2003.
- . *Industry and Trade Summary: Canned Fish, Except Shellfish*. USITC Publication 3083. Washington, DC: U.S. International Trade Commission, April 1997.
- . *Textiles and Apparel: Assessment of the Competitiveness of Certain Foreign Suppliers to the U.S. Market*. USITC Publication 3671. Washington, DC: U.S. International Trade Commission, 2004.
- . *Tuna: Competitive Conditions Affecting the U.S. and European Industries in Domestic and Foreign Markets*. USITC Publication 2339. Washington, DC: U.S. International Trade Commission, December 1990.
- . *Tuna: Current Issues Affecting the U.S. Industry*, USITC Publication 2547. Washington, DC: U.S. International Trade Commission, August 1992.
- U.S. Trade Representative. “Fact Sheet: Benefits from Establishing Quotas on Certain Chinese Apparel Exports to the United States,” November 8, 2005. <http://www.ustr.gov/> (accessed March 20, 2006).
- . “Memorandum of Understanding Between the Governments of the United States of America and the People’s Republic of China Concerning Trade in Textile and Apparel Products,” November 8, 2005. http://www.ustr.gov/assets/World_Regions/North_Asia/China/asset_upload_file91_8344.pdf (accessed September 3, 2006).
- . “USTR Announces Revised FY 2006 Tariff-Rate Quota Sugar Allocations, Agreement with Mexico on Market Access on Sweeteners.” Press release, August 3, 2006.

- “Vietnam: Textile industry steps up expansion plans.” *Just-style*, February 14, 2005. <http://www.just-style.com/article.aspx?id=72473&lk=s> (accessed September 6, 2006).
- WTO. “Ministerial Conference, Doha, Qatar, Report of the Working Party on the Accession of China,” WTOMIN 01, no. 3, November 10, 2001: para. 242, 46–47.
- Zalesky, Doug. Ranchers Cattlemen Action Legal Fund, United Stockgrowers of America. Testimony before the USITC in connection with Inv. No. 332-325, *The Economic Effects of Significant U.S. Import Restraints: Fifth Update*. July 13, 2006. Hearing transcript.