
Appendix A

Phaseout Schedules for Agricultural Barriers in US Free Trade Agreements

This appendix describes phaseouts for 15 selected categories of agricultural products and includes a summary table of concessions on selected products across different free trade agreements (FTAs) (see table A.1). The products considered are beef; corn and corn products; cotton; dairy products; distilled spirits; fruits, vegetables, and nuts; certain grains; processed foods; peanuts; poultry; soybeans; sugar; tobacco; wheat; and wine. The information in this Appendix has been obtained entirely from official sources in the US Government that actively participate in bilateral negotiations on agriculture, mainly the United States Department of Agriculture (USDA) Foreign Agricultural Service and the United States Trade Representative (USTR).¹ We also relied on documents published by official agencies of partner countries, as well as the actual texts of the agreements.²

1. The specific US sources are NAFTA Agricultural Fact Sheets (USDA-FAS), US-Australia Free Trade Agreement: Commodity Fact Sheets (USDA-FAS), US-Central America-Dominican Republic Free Trade Agreement: Overall Agriculture Fact Sheet (USDA-FAS), US-Chile Free Trade Agreement: Commodity Fact Sheets (USDA-FAS), and US-Morocco Free Trade Agreement Agriculture Provisions (USTR). All sources are listed under references. Other sources consulted include: The Australia-US Free Trade Agreement: Advancing Australian Agricultural Exports (Australian Department of Foreign Affairs and Trade), Principales Logros y Resultados (Department of Foreign Trade of Costa Rica), and Tratado de Libre Comercio Chile-Estados Unidos (Foreign Affairs Ministry of Chile).

2. The information in this appendix is designed to give readers a better sense of the distance between the actual achievements of US trade negotiations and the pure free trade ideal. Care was taken to highlight products that tend to fall short of the ideal on both sides. The appendix, however, does not fully and systematically discuss US phaseout schedules. Readers interested in the details should consult the texts of the respective FTAs.

Table A.1 Maximum FTA phaseout terms for selected agricultural products

Product	NAFTA:			
	United States– Mexico	United States– Australia	United States– Chile	United States– Morocco
Beef	Mexico: IMM United States: IMM Except Mexico: Beef offal	Australia: IMM United States: TRQ → 18y WTO TRQ and preferential TRQ SSG > 18y (United States)	Chile: TRQ → 4y United States: TRQ → 4y	Morocco: TRQ >> 18y United States: TRQ → 15y
				CAFTA-6: Tariff → 15y United States: TRQ → 15y Except Dominican Republic: TRQs → 15y
Poultry	Mexico: TRQ → 10y United States: IMM	Australia: Zero United States: Tariff → 4y	Chile: TRQ → 10y United States: TRQ → 10y SSG (Chile)	Morocco: TRQ → 25y United States: Tariff → 10y SSG (Morocco)
				CAFTA-6: TRQ → 20y United States: Zero SSG (CAFTA-6)
Turkey	Mexico: TRQ → 10y United States: IMM	Australia: Zero United States: Tariff → 4y	Chile: TRQ → 10y United States: TRQ → 10y SSG (United States, Chile)	Morocco: TRQ → 19y United States: Tariff → 10y SSG (Morocco)
				CAFTA-6: Tariff → 10y United States: Zero
Pork	Mexico: TRQ → 10y United States: IMM SSG (Mexico)	Australia: Zero United States: IMM	Chile: IMM United States: IMM	Morocco: IMM
				CAFTA-6: TRQ → 15y United States: Zero SSG (CAFTA-6)

Corn	Mexico: TRQ → 15y United States: IMM	Australia: Zero United States: IMM	Chile: Tariff → 4y United States: IMM	Morocco: Tariff → 5y United States: IMM	CAFTA-6: TRQs >> 15y United States: Zero SSG (CAFTA-6)
Soybeans, flour, and meal	Mexico: Tariff → 10y United States: IMM	Australia: IMM United States: IMM	Chile: IMM United States: IMM	Morocco: Tariff → 5y United States: IMM	CAFTA-6: IMM United States: Zero
Soybean oil	Mexico: Tariff → 10y United States: Tariff → 4y	Australia: IMM United States: Tariff → 10y	Chile: Tariff → 12y United States: Tariff → 12y	Morocco: Tariff → 10y United States: Tariff → 10y	CAFTA-6: Tariff → 15y United States: Zero SSG (CAFTA-6)
Wheat	Mexico: Tariff → 10y United States: Tariff → 10y	Australia: Zero United States: IMM	Chile: IMM United States: IMM Except Chile: Price band → 12y Wheat flour, tariff → 12y SSG (Chile)	Morocco: TRQ >> 15y United States: IMM	CAFTA-6: Zero United States: Zero Except CAFTA-6: Wheat flour, tariff → 12y
Rice	Mexico: Tariff → 10y United States: Tariff → 10y	Australia: Zero United States: IMM Except United States: Parboiled rice, tariff → 4y	Chile: Tariff → 12y United States: IMM SSG (Chile)	Morocco: Tariff → 10y United States: IMM	CAFTA-6: TRQ → 18–20y United States: Zero SSG (CAFTA-6)
Other grains	Mexico: TRQ → 10y United States: IMM	Australia: Zero United States: IMM	Chile: Tariff → 12y United States: IMM	Morocco: Tariff → 15y United States: IMM	CAFTA-6: Tariff → 15y United States: Zero

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Table A.1 Maximum FTA phaseout terms for selected agricultural products (continued)

Product	NAFTA:			
	United States-- Mexico	United States-- Australia	United States-- Chile	United States-- Morocco
Nuts	Mexico: IMM United States: IMM	Australia: Zero United States: Tariff→ 4y	Chile: IMM United States: Tariff→ 4y	Morocco: Tariff→ 5y United States: Tariff→ 10y Except Morocco: TRQ almonds (15y) SSG (Morocco)
				CAFTA-6: Tariff→ 10y United States: Zero
Peanuts and peanut butter	Mexico: Zero United States: TRQ→ 15y	Australia: IMM United States: TRQ→ 18y	Chile: Tariff→ 8y United States: Tariff→ 12y	Morocco: Tariff→ 10y United States: TRQ→ 15y
				CAFTA-6: IMM United States: TRQ→ 15y Except Guatemala and Nicaragua: Tariff→ 5–10y SSG (United States)
Raw cotton	Mexico: Tariff→ 10y United States: TRQ→ 10y	Australia: Zero United States: TRQ→ 18y	Chile: IMM United States: Tariff→ 12y	Morocco: IMM United States: TRQ→ 15y
				CAFTA-6: IMM United States: Tariff→ 15y
Milk products and creams	Mexico: TRQ→ 10y United States: TRQ→ 10y	Australia: IMM United States: TRQ >> 18y, same T	Chile: Tariff→ 8y United States: TRQ→ 12y	Morocco: Tariff→ 15y United States: TRQ→ 15y
				CAFTA-6: TRQ→ 20y United States: TRQ→ 20y SSG (all parties)
Cheese	Mexico: Tariff→ 10y United States: TRQ→ 10y	Australia: IMM United States: TRQ >> 18y, same T	Chile: Tariff→ 4y United States: TRQ→ 12y	Morocco: Tariff→ 10y United States: TRQ→ 15y
				CAFTA-6: TRQ→ 20y United States: TRQ→ 20y SSG (all parties)

Butter	Mexico: n.a. United States: n.a.	Australia: IMM United States: TRQ >> 18y, same T	Chile: Tariff→ 4y United States: TRQ→ 12y	Morocco: Tariff→ 8y United States: TRQ→ 15y	CAFTA-6: TRQ→ 20y United States: TRQ→ 20y SSG (all parties)
Fruits	Mexico: Tariff→ 10y United States: TRQ→ 10y Except Mexico: TRQ apples SSG (United States, Mexico)	Australia: Zero United States: Tariff→ 18y SSG (United States)	Chile: IMM United States: Tariff→ 12y SSG (United States)	Morocco: Tariff→ 10y United States: Tariff→ 18y Except Morocco: TRQ apples SSG (United States)	CAFTA-6: Tariff→ 15y United States: Zero
Fruit juices	Mexico: TRQ→ 15y United States: TRQ→ 15y	Australia: IMM United States: Tariff→ 18y SSG (United States)	Chile: IMM United States: Tariff→ 12y SSG (United States)	Morocco: Tariff→ 10y United States: Tariff→ 15y SSG (United States)	CAFTA-6: Tariff→ 15y United States: Zero
Vegetables	Mexico: Tariff→ 10y United States: TRQ→ 10y Except Mexico: TRQ potatoes SSG (United States, Mexico)	Australia: Zero United States: Tariff→ 18y Except United States: TRQ avocados (18y) SSG (United States)	Chile: Tariff→ 8y United States: Tariff→ 12y Except United States: TRQ avocados, artichokes (12y) SSG (United States)	Morocco: Tariff→ 15y United States: Tariff→ 18y Except United States: TRQ onions, garlic, tomato products (paste, puree, sauces) (15y) SSG (United States, Morocco)	CAFTA-6: Tariff→ 15y United States: Zero Except Costa Rica: TRQ >> 20y on onions and potatoes

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Table A.1 Maximum FTA phaseout terms for selected agricultural products (continued)

Product	NAFTA:			
	United States– Mexico	United States– Australia	United States– Chile	United States– Morocco
Sugar and sugar products	Mexico: TRQ→ 15y United States: TRQ→ 15y	Australia: IMM United States: No change	Chile: Tariff→ 12y United States: TRQ→ 12y	Morocco: Tariff→ 18y United States: TRQ→ 15y
Tobacco	Mexico: Tariff→ 10y United States: Tariff→ 10y	Australia: Zero United States: TRQ→ 18y	Chile: IMM United States: TRQ→ 12y	Morocco: Tariff→ 10y United States: TRQ→ 15y
Distilled spirits and beer	Mexico: Tariff→ 8y United States: Tariff→ 10y	Australia: IMM United States: Tariff→ 18y	Chile: Tariff→ 2y United States: Tariff→ 12y	Morocco: Tariff→ 15y United States: Zero Tariff→ 15y
Wine	Mexico: Tariff→ 10y United States: Tariff→ 10y	Australia: IMM United States: Tariff→ 11y	Chile: Tariff→ 12y United States: Tariff→ 12y	Morocco: Tariff→ 10y United States: Zero Tariff→ 11y
				CAFTA-6: TRQ→ 15y United States: TRQ >> 15y
				CAFTA-6: Tariff→ 15y United States: TRQ→ 15y
				CAFTA-6: Tariff→ 10y United States: Zero

n.a. = not available

TRQ→ 18y: Tariff-rate quotas (TRQs) will be eliminated in 18 years (numbers vary).

Tariff→ 8y: Tariffs to be phased out in 8 years (numbers vary).

Same T: In-quota tariff will remain at pre-FTA rate.

IMM: Immediate duty-free treatment.

Zero: Zero duty before FTA.

SSG: Country retains right to invoke special safeguards.

TRQ, SSG, tariffs >> 18y : TRQ (or special safeguards or tariffs) will outlive 18-year phaseout period (numbers vary).

Except: Product exception to the phaseout.

Sources: Tariff schedules in US bilateral FTAs: USTR (2003b, 2004a, 2004c, 2004f); information on NAFTA (United States–Mexico): USDA (1998).

Beef

North American Free Trade Agreement (NAFTA), US-Mexico. The United States and Mexico immediately eliminated tariffs on beef cattle; fresh, chilled, and frozen beef; and veal. The only exception is Mexico's import tariff on beef edible offal, which was phased out over a 10-year period (see section on cattle in USDA 1998).

NAFTA, US-Canada. Canadian beef became exempt from quantity restrictions under the US Meat Import Act. US beef was exempted from Canada's quantitative import restrictions (see section on cattle in USDA 1998).

US-Australia. All Australian tariffs on beef imported from the United States will be immediately eliminated. The United States will establish preferential tariff-rate quotas (TRQs) for Australian beef. Out-of-quota tariffs will be phased out over 18 years. Beef imported within the TRQ will enter the United States duty free. A volume-based safeguard will be applied during the transition period; this will be converted to a price-based safeguard after the transition period (see section on beef in USDA 2004b).

US-Chile. Chile established TRQs on US fresh and frozen beef and other meat products, to be eliminated in the fourth year of the agreement. The United States granted reciprocal treatment to Chilean beef products. Each government agreed to immediately recognize the other's grading system. Chilean beef is prohibited from accessing the US beef market because the USDA has not recognized Chile's meat inspection system. A technical group has been formed to eliminate barriers related to inspection procedures (see section on beef in USDA 2003b).

US-Morocco. Morocco will establish two preferential TRQs for US beef. For high-quality beef (prime or choice), the in-quota tariff will be eliminated over 5 years, the over-quota tariff in 18 years. For standard quality beef, the in-quota tariff will be eliminated over 5 years, while the over-quota tariffs will remain unless Morocco negotiates reductions with other partners. The United States will establish zero-duty preferential TRQs for beef imports from Morocco. The over-quota tariff will be phased out over 15 years.

Beef and beef product and poultry and poultry product imports must be accompanied by an export certificate to be allowed entry into Morocco. Morocco's veterinary services, in cooperation with the USDA's Food Safety and Inspection Service, will work together in good faith to define the content of the certificates that will accompany US beef and poultry imports (USTR 2004d).

Central American–Dominican Republic Free Trade Agreement (CAFTA-DR). Tariffs applied by CAFTA-DR countries on US prime and choice

cuts of beef are immediately eliminated, except by the Dominican Republic, which establishes a 15-year TRQ. For all other beef products, most CAFTA-DR partners will phase out tariffs within 15 years. El Salvador, Guatemala, and the Dominican Republic will establish 15-year TRQs. The United States establishes preferential TRQs for beef products originating in CAFTA-DR countries. Over-quota tariffs will be eliminated in 15 years. These preferential TRQs, however, will only kick in after the existing US Section 22 TRQs provided for these countries are filled. CAFTA-DR partners are working toward recognizing US meat inspection and certification systems (USDA 2005b).

Corn and Corn Products

NAFTA, US-Mexico. The United States immediately eliminated its tariff on corn imports from Mexico. Mexico established a preferential TRQ for corn imports from the United States. The TRQ will be in effect for 15 years, and tariff cuts will be back-loaded. Under the agreement, however, to bolster its livestock industry, Mexico liberalized corn imports much faster than NAFTA required (section on corn in USDA 2005b).

US-Australia. Australia does not have tariffs on imported corn, and the United States will immediately eliminate its duties on Australian corn.³

US-Chile. Both countries immediately eliminate tariffs that are not already zero (USDA 2003b).

US-Morocco. Upon the agreement's entry into force, Morocco will reduce its tariffs on US corn and corn products by 50 percent, eliminating the remaining tariffs on these products over five years. The United States will eliminate its tariffs on corn and corn products immediately (USTR 2004d).

CAFTA-DR. Under the Caribbean Basin Initiative (CBI), US imports of grains from CAFTA-DR countries enjoyed duty-free access already. El Salvador, Honduras, and Nicaragua established preferential TRQs on yellow corn,⁴ the over-quota tariffs of which are phased out over 15 years. Guatemala established a 10-year phaseout. Costa Rica and the Dominican Republic immediately eliminated tariffs.

3. Australia agreed to work with the United States in WTO agriculture negotiations to develop disciplines that eliminate restrictions on the right to export. Australia has state trading organizations (STOs) with sole authority to export grains, and these STOs are the object of US negotiating efforts. For more information, see section on grains at USDA (2004b).

4. In the United States, white corn is considered a food-grade corn, while yellow corn is primarily used for animal feed. The distinction is rather arbitrary, and price differentials partly explain their different usages.

El Salvador, Guatemala, Honduras, and Nicaragua will not reduce their out-of-quota tariffs for white corn, though some liberalization will occur through duty-free in-quota TRQs, which grow 2 percent per annum in perpetuity. In Costa Rica, white corn tariffs will be gradually eliminated over 15 years.⁵ The Dominican Republic will immediately eliminate its tariffs on US white corn (USDA 2005b).

Raw Cotton

AFTA, US-Mexico. Mexico's tariffs on cotton were phased out over either 5 or 10 years. Existing US quotas on Mexican cotton were replaced by NAFTA TRQs, which are phased out over a 10-year transition period. Cotton products are subject to NAFTA rules of origin (section on cotton in USDA 1998).

US-Australia. Australia continues its duty-free tariff treatment for cotton. The United States will establish a preferential TRQ for Australian cotton, which is phased out in equal annual steps over 18 years (section on cotton in USDA 2003b).

US-Chile. US import tariffs on Chilean cotton are phased out over 12 years, while Chile's import tariff is immediately eliminated. Chile does not produce or export cotton (section on cotton in USDA 2003b).

US-Morocco. Morocco will immediately eliminate its tariffs on US cotton. The United States will establish a preferential TRQ for Moroccan cotton. The over-quota tariff will be phased out over 15 years (USTR 2004d).

CAFTA-DR. CAFTA-DR partners will eliminate all duties on US raw cotton immediately. The US import duty on raw cotton from all six countries will be phased out over 15 years. The agreement establishes rules of origin that strongly favor US cotton and synthetic fabrics.⁶

5. Nearly 0.9 million acres of white food-grade corn were grown in the United States in 2002, while yellow corn acreage ranged between 1.2 million and 1.5 million acres. White corn producers have benefited in the past from preferential access under bilateral FTAs. For example, in recent years, the demand for white corn has increased in Mexico.

6. Limited amounts of apparel and textiles that are in short supply in the US market may contain third-country fabrics, whether they are made from cotton, synthetic, or natural fibers. For more information, see USDA (2005b).

Dairy

NAFTA, US-Mexico. The United States established a NAFTA TRQ on imports of milk powder from Mexico. The over-quota tariff was phased out over 10 years. The US NAFTA TRQ on cheese, also phased out over 10 years, covered all cheese items previously subject to US Section 22 quotas.

Mexico applied a NAFTA TRQ on milk powder and cheese. The over-quota tariffs were phased out over 10 years. Tariffs on US exports of fresh cheese and other cheeses to Mexico will be eliminated over a 10-year transition period (see sections on cheese and milk powder in USDA 1998).

US-Australia. Australia locks in its previous duty-free tariff treatment for all US dairy products. The United States will provide Australia with two types of TRQ access for dairy items. First, the Australian country-specific dairy TRQs agreed by the United States in the Uruguay Round will immediately receive duty-free treatment for in-quota shipments to the US market. Second, Australia will have additional access through the creation of preferential TRQs. Preferential in-quota volumes will be duty free, growing at an average of 5 percent per annum in perpetuity. For many dairy products, out-of-quota tariffs will remain at base year rates. Tariffs on dairy items not included in TRQs will be phased out over 18 years in most cases. The TRQ system will apply to American cheese, cheddar, European-type cheese, Goya cheese, Swiss cheese, other cheese (not specifically provided for), nonfat dry milk, other milk powders, condensed and evaporated milk, butter and butterfat, creams and ice cream, and other dairy products (see section on dairy in USDA 2004b).

US-Chile. Chile will phase out its tariffs on cheeses, butter and butterfat, whey products, and yogurts over 4 years, while tariffs on liquid, condensed, and evaporated milk and cream will be eliminated over 8 years. The United States created preferential TRQs for Chilean dairy products, which are eliminated after 12 years. Products covered by the TRQ system include cheeses, butter and butterfat, milk powders, condensed and evaporated milk, and other dairy products, including some chocolates and food preparations.⁷

US-Morocco. Morocco will immediately eliminate its tariffs on US pizza cheese and whey products. Tariffs on other US cheeses will be eliminated in 5 or 10 years, depending on the product; tariffs on US butter will be eliminated in eight years; and tariffs on US milk powders will be eliminated in

7. The Food and Drug Administration (FDA) will continue to test and approve imports from Chile. Chile also recognizes the authority of the FDA to approve US food processing plants that are eligible for export to Chile. For more information, see section on dairy at USDA (2003b).

12 or 15 years. The United States will create preferential TRQs for creams and ice cream, cheese, milk powders, butter, and other dairy products. Over-quota tariffs will be phased out over 15 years (see USTR 2004d).

CAFTA-DR. The FTA commits all parties to duty-free access for dairy products after 20 years. The FTA establishes reciprocal duty-free TRQs. Most tariffs on over-quota dairy imports are phased out over a 20-year transition period, though for a few products the time period is 10 to 15 years.⁸ The United States will apply TRQs to all partner countries on cheese, ice cream, fluid fresh milk and cream, sour cream, and other dairy products. The US TRQ on butter will affect Costa Rica, El Salvador, and Honduras, while the US TRQ on milk powder targets only Costa Rica. CAFTA countries will establish preferential TRQs on US milk, milk powder, butter, cream, cheese, ice cream, and other dairy. Safeguard duties will also be phased out within 20 years. All parties may apply quantity-based agricultural safeguards during the transition period (USDA 2005b).

Distilled Spirits

NAFTA, US-Mexico. Most US tariffs on Mexican distilled spirits that were not already duty free were eliminated immediately (e.g., brandy). The major exception was the tariff on rum, which was phased out over 10 years. US tariffs on beer were phased out over 8 years. Mexico immediately eliminated the tariff on US bourbon whiskey, while its tariff on US rum was eliminated 4 years later. Mexican tariffs on beer were phased out over 8 years (see section on alcoholic beverages in USDA 1998).

US-Australia. Australia will immediately eliminate tariffs on distilled spirits. Duty-free entry is locked in for distilled spirits that already enter duty-free. All distilled spirits except rum already enjoyed duty-free access into the United States. US tariffs on two rum tariff lines (2208.4020 and 4060) will be removed in 18 years (see section on processed foods and beverages in USDA 2004b).

US-Chile. Chile will fully eliminate tariffs on most distilled spirits in 2 years. All distilled spirits except rum already enjoyed duty-free access into the United States. US tariffs on two rum tariff lines (2208.4020 and 4060) will be removed in 12 years. In addition, both countries agree to recognize bourbon whiskey, Tennessee whiskey, *pisco chileno*, *pajarete*, and *vino*

8. Guatemalan tariffs on over-quota imports of “other dairy products” will be eliminated in 10 years. Similarly, the Dominican Republic will eliminate over-quota TRQs on butter over 10 years.

asoleado as distinctive products that can only be produced in Tennessee or Chile respectively (see section on wine in USDA 2003b).

US-Morocco. Morocco will immediately eliminate its tariffs on all distilled spirits. All distilled spirits except rum already enjoyed duty-free access into the United States. US tariffs on two rum tariff lines (2208.4020 and 4060) will be removed in 15 years (USTR 2004d).

CAFTA-DR. All distilled spirits, with no exceptions, will receive duty-free access into the United States. The CBI access condition into the US market will not change for some ethyl alcohol products, for example HTS 2207.1060; Central American countries will face TRQs on these products (essentially ethanol). Costa Rica and El Salvador obtained larger TRQs; however, only the US TRQ for El Salvador will expand after 15 years.

CAFTA-DR countries will immediately eliminate tariffs on gin and whiskey.⁹ Tariffs on certain US liquors (tariff lines 2208.70) will be phased out over 10 years in the Dominican Republic and over 5 years in El Salvador, Guatemala, and Nicaragua. Costa Rica and Honduras granted immediate duty-free access for imports of those products. All CAFTA-DR countries will phase out tariffs on US rum over 12 to 15 years,¹⁰ except for El Salvador, which will phase out tariffs over 10 years (USDA 2005b).

Fruits, Vegetables, and Nuts

NAFTA, US-Mexico. Mexico phased out tariffs on most US fruit products over 4 years, but applied a 10-year NAFTA TRQ on apples.¹¹ Mexico also had a 10-year phaseout for peaches, nectarines, and grapes. The United States eliminated tariffs on fruits immediately, with the exception of citrus products and melons, which were subject to a 10-year NAFTA TRQ.

Under NAFTA, the United States established 10-year TRQs on many vegetable products—15 years for asparagus and broccoli—and reserved the right to apply special agricultural safeguards on imports of certain horticultural products. Mexico matched the US tariff line changes and phaseouts for imports of vegetable products from the United States, and consequently, eliminated tariffs on most vegetables over 10 years. For potatoes, however, Mexican treatment of US imports differs from this rule, as Mexico applied a 10-year NAFTA TRQ.

9. The Dominican Republic will phase out its tariffs on gin over 10 years, and Costa Rica will phase out tariffs on whiskey over five years.

10. The transition period will last 12 years for Costa Rica and Guatemala, and 15 years for the Dominican Republic, Honduras, and Nicaragua.

11. Mexico may apply special agricultural safeguards on imports of US apples.

Both countries immediately eliminated their import tariffs on raisins, prunes, and fresh and dried nuts. The United States may apply agricultural safeguards on imports of onions, tomatoes, eggplants, chili peppers, squash, and watermelons. Mexico, in turn, applies this special safeguard on apples and potato products (USDA 1998).

US-Australia. Australia locked in already existing duty-free tariff treatment for all US exports of fruits, vegetables, and nuts. The United States will eliminate its tariffs for Australian fruits over 4 years. US tariffs on watermelons, cantaloupes, boysenberries, papayas, mangoes, cherries, prunes, and other figs will be eliminated in 10 years. Tariffs on Australian canned dates, canned watermelon, canned pears, canned apricots, canned peaches and nectarines, and grapefruit will be phased out over 18 years.

US tariffs on most Australian vegetables are eliminated over 4 years. Tariffs on Australian leeks, cauliflower, Brussels sprouts, globe artichokes, celery, spinach, pumpkins, okra, and potatoes will be eliminated over 10 years. US tariffs on asparagus, preserved tomatoes, packed artichokes, Agaricus mushrooms, dried onions, garlic, and certain sweet corn products will be phased out in 18 years.

The United States immediately eliminates tariffs on nuts, and has also established an 18-year preferential TRQ for avocados. The United States maintains phytosanitary restrictions on imports of many Australian fruits, such as avocados and tropical fruit. The United States may impose special agricultural safeguard measures on certain fruits and horticultural products, such as onions, garlic, canned fruits, and tomato products (USDA 2004b).

US-Chile. Chile immediately eliminated tariffs on all products contained in chapter 8 (fruits and nuts). Many US fruit tariffs are phased out according to schedules ranging from immediate elimination to 12 years. Tariffs on limes, grapes, pears, kiwis, plums, and raspberries are immediately dropped; tariffs on oranges and mandarins will be phased out over 4 years; and tariffs on lemons, grapefruit, and frozen berries are reduced and then eliminated over 8 years. The tariff phaseout will be completed in 12 years for canned pears, canned apricots, canned nectarines, and canned fruit mixtures. The United States may apply special agricultural safeguards on frozen cherry products, canned pears, canned apricots, canned nectarines, and canned fruit mixtures.

The phaseout period for most tariffs on fresh and processed vegetables in both countries varies by product, from immediate elimination to elimination after 8 years. Exceptions on the US side are dried tomatoes, garlic, onions, mushrooms, sweet corn, Brussels sprouts, leeks, broccoli, carrots, artichokes, spinach, and fresh tomatoes. Chile will eliminate most tariffs on vegetables immediately, except for tariffs on spinach, sweet corn, certain leguminous vegetables, and peas, which will be eliminated over 8 years.

The United States may apply special agricultural safeguards on avocados, asparagus, tomato products, garlic, spinach, and broccoli. US tariffs on nuts will be phased out either immediately or in 4 years for almonds and hazelnuts. Chile will eliminate its tariff on US nuts immediately. Technical discussions regarding Chile's phytosanitary standards that limit trade are ongoing (USDA 2003b).

US-Morocco. Morocco will eliminate most tariffs on US fruits within 5 years. Moroccan tariffs on US raisins will be phased out over 8 years. Additionally, Morocco will phase out tariffs on US dates, avocados, dried apricots, dried prunes and plums, and dried cherries and peaches over 10 years. Morocco will create a 10-year preferential TRQ for US apples. US tariffs on most Moroccan fruit products will be phased out within 5 years. US tariffs on Moroccan avocados, boysenberries, papayas, cherries, dried prunes, and plums will be phased out over 10 years. Seasonal tariffs on grapefruits will be phased out over 15 years. The United States will eliminate tariffs on canned pears, canned apricots, and canned peaches and nectarines in 18 years.

Morocco will eliminate tariffs on most US vegetables immediately. Moroccan tariffs on US certain onions, some peas, sweet corn, and sliced potatoes will be phased out over 5 years. Tariffs on US potatoes, seeds of certain peas, dried and broad beans, and lentils will be phased out over 10 years. Most US tariffs on Moroccan vegetables will be phased out within 5 years. Tariffs on fresh asparagus will be eliminated over 8 years. The United States will apply 10-year phaseouts for its tariffs on Moroccan leeks, broccoli, celery, spinach, Brussels sprouts, Agaricus mushrooms, preserved olives, preserved oranges, Jerusalem artichokes, and Chinese water chestnuts. The US will create 15-year preferential TRQs for Moroccan dried onions, dried garlic, tomato sauces, and other processed tomato products. Quotas will be lifted at the end of the 15-year period. The US will eliminate tariffs on canned asparagus over 18 years.

US tariffs on walnuts and certain mixes of nuts and dried fruits will be phased out in 5 and 10 years respectively. All other Moroccan nut products will receive duty-free treatment. Morocco will eliminate tariffs on most US nuts over 5 years, and will create a 15-year preferential TRQ for US almonds. Tariffs on US almonds not subject to TRQs will be phased out in 15 years (USTR 2004d).

The United States has recourse to special agricultural safeguards on imports of certain canned fruits, vegetables such as dried onions and garlic, preserved tomatoes, canned asparagus, canned pears, canned apricots, and other products. Morocco may apply agricultural safeguards on chickpeas and lentils, prunes, and almonds. A side letter to the agreement excludes nonbitter almonds, designated by Moroccan HS subheadings 0802.11.0091, 0802.11.0099, 0802.12.0091, and 0802.12.0099, from the list of products subject to special safeguards.

CAFTA-DR. Prior to the agreement, imports of all fruits, vegetables, and nuts from CAFTA-DR countries enjoyed duty-free access under the CBI.¹² Over 70 percent of US fruit and nut products will be eligible for immediate duty-free access in the CAFTA-DR market. Tariffs will be phased out over the next 5 to 10 years for another 26 percent of all fruit and nut products. Under this plan, US exporters will gain immediate duty-free access for apples, peaches, pears, grapes, cherries, almonds, walnuts, pistachios, raisins, canned peaches, and canned pears. CAFTA tariffs on US oranges will be phased out within 5 to 15 years. Costa Rica will eliminate its tariffs on kiwis over 5 years.

Most Central American and Dominican Republic tariffs on mushrooms and sweet corn were immediately eliminated. All CAFTA-DR countries will eliminate tariffs on US fresh and canned tomatoes and tomato pastes, frozen vegetables, lettuce, cauliflower, broccoli, and canned asparagus over periods of up to 15 years (USDA 2005b).

Other Grains

NAFTA, US-Mexico. Both countries immediately eliminated tariffs on grain sorghum. The United States also eliminated its tariffs on barley and malt immediately, but Mexico imposed a NAFTA TRQ with a 10-year phaseout on these two products. Both countries agreed to 10-year phaseouts on rice tariffs (USDA 1998).

US-Australia. Australia does not have any tariffs on imports of wheat, rice, barley, sorghum, or rye oats.¹³ The United States will immediately eliminate its duties on barley, corn, and sorghum. Oats already enjoyed duty-free access in the US market. US tariffs on parboiled rice will be phased out over 5 years, while all other varieties of rice will receive immediate duty-free treatment (see section on grains in USDA 2004b).

US-Chile. Both countries immediately eliminated tariffs on barley, barley malt, and sorghum. Chilean tariffs on rice fall to zero in equal increments over 12 years. Chile can apply special agricultural (priced-based) safeguards on US rice until tariffs are eliminated. The United States imme-

12. Certain US sanitary and phytosanitary (SPS) measures, however, prevented Central American countries from fully benefiting from these preferences.

13. Australia agreed to work with the United States in the WTO agriculture negotiations to develop disciplines that eliminate restrictions on the right to export. Australia has state trading organizations (STOs) with sole authority to export rice and grains, and these STOs are the object of US negotiating efforts.

diately eliminated tariffs on rice. Oats already enjoyed duty-free access in the US market (see section on grains in USDA 2004b).

US-Morocco. Morocco will immediately eliminate its tariffs on sorghum and oats. Morocco's tariffs for barley will be phased out in 5 or 15 years, depending on the final use. Morocco's tariffs on rice will be phased out in either 5 years or 10 years, depending on the specific product. US tariffs on sorghum, barley, and rice will be eliminated immediately. Oats already enjoyed duty-free access in the US market (USTR 2004d).

CAFTA-DR. US imports of these other grains from CAFTA-DR countries already enjoy duty-free access. All CAFTA-DR countries immediately eliminate gain tariffs on US barley, oats, and rye. Costa Rica retains tariffs on sorghum over the transition period. Each US CAFTA-DR partner will establish zero-duty TRQs for several varieties of US rice. Out-of-quota tariffs will be eliminated during a transition period of 18 to 20 years. During this transition period, special agricultural (volume-based) safeguards are available to CAFTA-DR countries (USDA 2005b).

Other Processed Foods

NAFTA, US-Mexico. US tariffs on some processed fruits and juices imported from Mexico are being phased out over 10 years. Mexico lowered its duty to match the US rate and is phasing-out from there. The United States and Mexico are applying 15-year NAFTA TRQ tariffs on frozen concentrated orange juice, as well as special agricultural (price-based) safeguards. Strict rules of origin apply to NAFTA fresh citrus fruit (USDA 1998).

US-Australia. Australia locks in immediate duty-free tariff treatment for all US processed foods and beverages (e.g., chocolate bars, pet foods, breakfast cereals, soups and broths, fruit juices, and pasta). US tariffs are immediately eliminated for many other processed food products, including soups and pet foods. US tariffs on certain breakfast cereals and pasta are eliminated over 4 years. US import tariffs on chocolate bars are phased out over 10 years in equal annual cuts. With the exception of lime juice, which received immediate duty-free treatment, the United States will eliminate its tariffs on most other citrus fruit juices in 4 years (grapefruit) or 18 years (orange and lemon). The United States has recourse to special agricultural safeguards on imports of grape and orange juice from Australia (see section on processed foods and beverages at USDA 2004b).

US-Chile. Initial duty-free quotas are established for some Chilean chocolates and food preparations, and the quotas are eliminated after 12 years. Pet foods, breakfast cereals, soups and broths, and pasta gain preferential access

as tariffs fall to zero immediately in both countries. With the exception of lime juice, which will receive immediate duty-free treatment, the United States will eliminate its tariffs on all other citrus fruit juices (orange, lemon, and grapefruit) in 10 or 12 years. Chile will grant immediate duty-free treatment for US citrus juices. On instant coffee and other coffee extracts and concentrates, the United States will eliminate its tariffs immediately, while Chile will do so over 12 years. The United States has recourse to special agricultural safeguards on imports of grape and orange juice from Chile (USDA 2003b).

US-Morocco Morocco will phase out its tariffs on processed foods over periods ranging from immediate elimination to up to 15 years, depending on the product. Morocco will phase out its tariffs on breakfast cereals, pet food, and certain food preparations in 8 years. Moroccan tariffs on soups and broths and nearly all US fruit juices will be phased out over 10 years.¹⁴ A “preference clause” will apply to Moroccan imports of certain US pasta products. Morocco will establish TRQs that will grow at the annual rate of 2 percent per annum in perpetuity after year 10 (USTR 2004d).

The United States will immediately eliminate its tariffs on food preparations, pet food, pasta, and soups and broths. Tariffs on certain breakfast cereal products will be phased out over 10 years. US tariffs on most Moroccan citric juices, with the exception of lime juice, which is immediately duty-free, will be eliminated over 15 years. The United States has recourse to special agricultural safeguards on imports of certain fruit juices (e.g., orange juice) from Morocco.

CAFTA-DR. Prior to the agreement, US imports of processed foods from CAFTA-DR countries already enjoyed duty-free access under the CBI. El Salvador and Guatemala will immediately eliminate tariffs on US dog and cat food, while the other Central American countries will eliminate duties over 5 to 15 years. Tariffs on US soups will be eliminated immediately in Costa Rica and Honduras, over 5 years in the other three Central American countries, and over 15 years in the Dominican Republic. US exporters will obtain immediate duty-free access on frozen concentrated grapefruit juice in all six countries, and on frozen concentrated orange juice in all Central American countries (see section on processed foods at USDA 2005b).

Peanuts and Peanut Products

NAFTA, US-Mexico Mexican imports of US peanuts were already duty-free before NAFTA. The United States established a NAFTA TRQ, which is phased out over a 15-year transition period. Roasting or blanching of

14. The only exceptions are tariffs on certain US apple and pineapple juices that will be eliminated over 5 years.

non-NAFTA peanuts does not confer origin. 100-percent Mexican-grown peanuts must be used to make products that qualify for NAFTA preferential tariffs (see section on peanuts at USDA (1998).

US-Australia. Australia immediately eliminated tariffs on groundnuts and groundnut butter (HS 1202.01, 1202.02, 2008.11, and 2008.19). The United States will establish preferential FTA TRQs for Australian peanuts and peanut butter. Over-quota rates will be reduced to zero in equal annual steps over 18 years (see section on oilseeds at USDA 2004b).

US-Chile. The United States will grant Chilean peanut exports duty-free access by year 12. Meanwhile, tariffs will be phased out in equal annual cuts. Chile immediately eliminated its tariffs on US peanut butter, and will eliminate its tariffs on US peanuts over 8 years.

US-Morocco. Morocco will phase out tariffs on peanuts and peanut butter over 10 years. Tariffs on peanut oil and flour will be phased out immediately. The United States will establish a preferential TRQ for peanuts and peanut butter from Morocco. Over-quota tariffs will be phased out over 15 years (USTR 2004d).

CAFTA-DR. Tariffs on US peanuts and peanut butter are immediately eliminated in most countries except Guatemala and Nicaragua (5 to 10 years). The United States will establish a preferential TRQ for peanuts and peanut butter for CAFTA countries that will be phased out over a 15-year period. The United States may apply special agricultural safeguards during the transition period (USDA 2005b).

Poultry and Other Meats

NAFTA, US-Mexico. Most of these products already entered the United States duty free; with NAFTA, The United States immediately eliminated its remaining tariffs on pork, poultry, and eggs (see section on poultry at USDA 1998).

Mexico established a 10-year NAFTA TRQ on certain pork products, poultry, and eggs. For Mexico's TRQ on pork products, the in-quota tariff was phased out over 10 years. Additionally, Mexico implemented a combination of tariffs with a 10-year phaseout and special agricultural safeguards for slaughter swine, pork, and hams. Turkey products received the same treatment as poultry products in both countries.

US-Australia. Australia locked in its duty-free tariff treatment for US pork, poultry, lamb, and mutton, and immediately eliminated tariffs on certain processed meats. US tariffs on goat, poultry, sausages, and preserved meats

will be phased out over a 4-year period. The United States immediately eliminated its tariff on lamb, mutton, and all other pork (see section on meats at USDA 2004b).

US-Chile. Both countries established preferential TRQs on poultry, which will be completely liberalized over 10 years. Chile immediately eliminated tariffs on pork and processed pork products. Chile has recourse to special agricultural (price-based) safeguards if import prices of US eggs and turkey drop below certain thresholds. The United States may apply price-based safeguards on imports of turkey from Chile. Chile determined that the US meat inspection system is equivalent to its own. The US tariff on processed pork products will be immediately eliminated. Chilean exporters will gain access to the United States upon approval of Chile's meat inspection system.

US-Morocco. Morocco will create four preferential TRQs for US exports of chicken leg quarters and wings, whole chickens and turkeys, frozen chicken thigh meat, and other frozen poultry meat. The over-quota tariffs will be phased out in 10 to 25 years, using a nonlinear formula. For all other products, Moroccan tariffs will be eliminated in 5 to 10 years, except for tariffs on mechanically deboned chicken and chicken nuggets, strips, and patties, which will be eliminated immediately. Morocco has recourse to special agricultural (quantity-based) safeguards for poultry and turkey products. For chicken leg quarters and wings, Morocco and the United States will evaluate the need for a post-transition safeguard.

The United States will eliminate its tariffs on Moroccan frozen whole chickens and fresh or chilled cuts over 5 years, while US tariffs on frozen chicken cuts will be eliminated over 10 years (USTR 2004d).

US exports of beef and poultry must be accompanied by an export certificate for entry into Morocco. Morocco's veterinary services, in cooperation with the USDA's Food Safety and Inspection Service, will work together in good faith to define the content of export certificates that will accompany US beef and poultry.

CAFTA-DR. Prior to the agreement, US imports of poultry and pork from CAFTA-DR countries already enjoyed duty-free access under the CBI. Tariffs on US poultry products, such as mechanically deboned meat as well as wings and breast meat, will be eliminated immediately or within 5 years by all CAFTA-DR countries. Each CAFTA-DR country will establish preferential TRQs on US chicken legs that expand annually as duties are eliminated in 17 to 20 years. Central American and Dominican tariffs on pork will be eliminated over 15 years. Certain pork products will be subject to duty-free in-quota TRQs that will expire over 15 years. During the transition period, CAFTA-DR countries will have recourse to special agricultural safeguards for these products.

Each CAFTA-DR country is working toward recognizing the US meat inspection and certification systems to facilitate US exports (USDA 2005b).

Soybeans, Soybean Meal, and Soybean Oils

NAFTA, US-Mexico. Mexican exports of soybeans and soybean meal already enjoyed, or were immediately conferred, duty-free access to the United States. US tariffs on Mexican crude and refined soybean oil were eliminated over a 4-year phaseout period. Mexico eliminated its tariffs on US soybeans, soybean meal, and crude and refined soybean oil over a 10-year period (see section on soybeans and products at USDA 1998).

US-Australia. Australia immediately eliminated its tariffs for all oilseeds and products. Australia gained preferential access as US tariffs fell immediately to zero for soybeans, soybean flour, soybean meal, and cottonseed. US tariffs on Australian crude and refined soybean oil will be eliminated in 10 years, while tariffs on crude and refined peanut oil will be removed over 18 years (see section on oilseeds at USDA 2004b).

US-Chile. Both countries immediately eliminate tariffs on soybean and soybean meal. US seeds for sowing were granted immediate duty-free access by Chile. Chile continues to enjoy free access to the US market for these products. US tariffs on crude and refined soybean oil will be removed in 12 years, while tariffs on peanut oils will be eliminated in 10 or 12 years. Chilean tariffs on soybean and peanut oils will be phased out on a back-loaded schedule over 12 years (see section on soybeans and meal at USDA 2003b).

US-Morocco. Morocco will eliminate tariffs on soybeans, other oilseeds, and soybean meal over the next 5 years. Tariffs on other oilseeds items will be phased out over 10 years. The United States will immediately eliminate tariffs on soybeans, most other oilseeds, and soybean meal. US tariffs on soybean oil will be phased out over 10 years (USTR 2004d).

CAFTA-DR. Prior to the agreement, US imports of soybean, soybean meal, soybean oil, and other vegetable oil from CAFTA-DR countries already enjoyed duty-free access under the CBI. CAFTA-DR countries will immediately eliminate their tariffs on US soybean and soybean meal. However, Costa Rican tariffs on soybean meal will be eliminated over 15 years. US crude soybean oils gain preferential access since CAFTA-DR tariffs are immediately eliminated in all countries, except Costa Rica and Honduras, which employ 12- to 15-year phaseouts. All CAFTA-DR countries will phase out tariffs on US refined soybean oil over 12 or 15 years, though all except Nicaragua reserve the right to apply special agricultural safeguards on it (USDA 2005b).

Sugar

NAFTA, US-Mexico. The United States and Mexico established NAFTA TRQs on sugar, though at the end of year 15, there is supposed to be free trade in sugar between them. The United States and Mexico will each allow duty-free access to imports of the following sugars: raw sugar that will be refined in the importing country, then exported again to the original country; and sugar that has been refined from raw sugar produced in and exported from the other country. However, since NAFTA was ratified, the United States and Mexico have been involved in continuous disputes over sugar and high fructose corn syrup (HFCS) (see section on sugar at USDA 1998).

Mexican tariffs on sugar-containing products were phased out over 10 years. The United States established a NAFTA TRQ on sugar-containing products, which was phased out over a 10-year transition period.

US-Australia. Many sugar and sugar-containing products already entered Australia duty free. Australia immediately eliminated its tariffs for all other sugar and sugar-containing products. US duties on sugar are maintained indefinitely. Australia's sugar access to the United States remains unchanged, at 87,402 tons per annum, and Australia maintains its single desk arrangements for marketing sugar exports to the world. In the wake of the FTA, it implemented a new buy-out program for Australian sugar farmers, who were bitterly disappointed by the US refusal to liberalize its sugar market.

US-Chile. Chilean duties on sugar and sugar-containing products will be eliminated by year 12, but most tariff cuts will occur after year 5. US imports of sugar and sugar containing products are limited by a TRQ that will be phased out over 12 years.

US-Morocco. Morocco will phase-out its sugar tariffs in 5, 10, and 18 years. The United States will establish a TRQ for Moroccan sugar and sugar-containing products. Over-quota tariffs will be phased out in year 15. Unless it is a net exporter of sugar to the world, Morocco cannot export sugar to the United States (USTR 2004d).

CAFTA-DR. The United States will establish TRQs for each Central American country and the Dominican Republic. The total duty-free in-quota volume of all these TRQs is established at 109,000 metric tons (mt) for US imports of Central American and Dominican Republic sugar and sugar-containing products. This quantity will gradually increase over a 15-year period to 153,140 mt. After year 15, the preferential TRQ will increase by 2,000 mt annually in perpetuity. The agreement also includes provisions that ensure that only net exporting countries benefit from the increased

access under the FTA. Thus, the quantity allowed under each country's TRQ is the lesser of the amount of each country's net trade surplus in sugar, or the specific amounts set out in each country's TRQ. The agreement also includes a mechanism that allows the United States, at its option, to compensate CAFTA exporters in place of imports of sugar. US over-quota tariffs on sugar will not change under CAFTA. At over 100 percent, the US over-quota tariff is prohibitive; it is one of the highest tariffs in the US tariff schedule (see section on tobacco in USDA 2005b).

Tobacco

NAFTA, US-Mexico. The United States and Mexico eliminated tariffs on tobacco products over 10 years (see section on tobacco at USDA 1998).

US-Australia. The United States established preferential TRQs for Australian tobacco products. Over-quota tariffs will be phased out over 18 years. Tobacco products already enjoyed duty-free treatment in Australia.

US-Chile. The United States established preferential TRQs for Chilean tobacco products. Over-quota tariffs will be phased out over 12 years. Chile will immediately eliminate its tariffs on all imports of tobacco from the United States.

US-Morocco. The United States established preferential TRQs for Moroccan tobacco products. Over-quota tariffs will be phased out over 15 years. Morocco will phase out its tariffs on most tobacco products over 10 years. The exceptions are unprocessed tobacco products (HS 2401), which will face transition periods of 5 years (USTR 2004d).

CAFTA-DR. The United States established preferential TRQs for tobacco products originating in CAFTA-DR countries. Over-quota tariffs will be phased out over 15 years. US tobacco imports from Central America and Dominican Republic that already enjoyed duty-free access under the CBI will continue to receive such treatment. CAFTA-DR countries will eliminate tariffs on US tobacco products over 15 years (USDA 2005b).

Wheat

NAFTA, US-Mexico. The United States phased out its tariff on durum wheat imports from Mexico over 10 years. For nondurum wheat from Mexico, the US tariff was eliminated on January 1, 1998. Mexican tariffs on US wheat exports were eliminated over a 10-year transition period (see section on wheat at USDA 1998).

US-Australia. Australia does not have tariffs on imported wheat. It does have a state trading organization (STO) with the sole authority to export wheat. Australia has agreed to work with the United States in WTO agriculture negotiations to develop disciplines that eliminate restrictions on the right of other firms to export wheat. The United States will immediately eliminate its duties on wheat (see section on grains at USDA 2004b).

US-Chile. Both countries immediately eliminate tariffs on durum wheat. Chile committed to eliminate its price band mechanism on nondurum wheat and wheat flour, as it relates to the United States, over a 12-year transition period. Chile has recourse to special agricultural safeguards during the transition period (see section on grains in USDA 2003b).

US-Morocco. Morocco will create preferential TRQs for durum and common wheat. For durum wheat, Morocco's over-quota tariff will remain in place unless Morocco negotiates a reduction with another partner (e.g., the European Union). The in-quota tariff will be eliminated in 10 years. For common (red) wheat, TRQ in-quota quantities are based on Morocco's domestic production of common wheat.¹⁵ The over-quota tariff will remain in place unless Morocco negotiates a reduction with another trading partner (USTR 2004d).

CAFTA-DR. Prior to the agreement, US wheat imports from CAFTA-DR countries already enjoyed duty-free access under the CBI. With the exception of Costa Rica, which will eliminate its tariffs on US wheat immediately, all CAFTA-DR countries already allowed duty-free access for most US wheat products. Tariffs on US wheat flour will be phased out over 12 years in the five Central American countries, and over 15 years in the Dominican Republic (USDA 2005b).

Wine

NAFTA, US-Mexico. US tariffs on most grape wines imported from Mexico were phased out over 10 years. Mexican tariffs on grape wine were eliminated over 10 years, on wine coolers over 6 years, and on most grape brandies over 10 years (see section on alcoholic beverages in USDA 1998).

US-Australia. Australia locks in immediate duty-free tariff treatment for all US wine. US tariffs for wine are phased out over 11 years using a formula similar to that used in the US-Chile FTA (see section on processed food and beverages at USDA 2004b).

15. The formula determining the in-quota volume is highly complex. For more information, see USTR (2004d).

US-Chile. Following a graduated schedule, tariffs in both countries will be eliminated in year 12 (see section on wine at USDA 2003b).

US-Morocco. Morocco will eliminate its tariffs on wine over a period of 10 years. The United States will eliminate its wine tariffs using a harmonization formula, under which they will be progressively reduced over 10 years until all US wine tariffs are duty-free in year 11 (USTR 2004d).

CAFTA-DR. Prior to the agreement, the United States already granted duty-free treatment to wine imports from CAFTA-DR countries under the CBI. These countries will eliminate tariffs on US wine over 5 years (USDA 2005b). CAFTA does not increase access to the US market for ethanol exports from CAFTA-DR countries (USDA 2005c).

Appendix B

Sanitary and Phytosanitary Measures in US and Swiss Trade Agreements

Sanitary and Phytosanitary Measures in US Trade Agreements

This section reviews US negotiating experience on sanitary and phytosanitary (SPS) measures. The agreements considered are NAFTA, US-Australia FTA, US-Chile FTA, US-Morocco FTA, CAFTA-DR; the US-EU Veterinary Agreement; and selected memoranda of understanding including SPS provisions.

North American Free Trade Agreement (NAFTA)

The NAFTA SPS agreement disciplines the development, adoption, and enforcement of SPS measures.¹ These disciplines are designed to prevent using SPS measures to disguise trade restrictions, while safeguarding each country's right to take SPS measures to protect human, animal, or plant life or health.

NAFTA encourages using relevant international standards to develop SPS measures. At the same time, it confirms the right of each country to establish the level of SPS protection that it considers appropriate, as long as the SPS measures meet three tests: They are based on scientific principles

1. The section on NAFTA draws extensively on information available on the USDA Foreign Agricultural Service (FAS) Web site at www.fas.usda.gov. The specific source consulted is *NAFTA Agricultural Fact Sheet: Sanitary/Phytosanitary*.

and a risk assessment; they are applied only to the extent necessary for a country's chosen level of protection; and they do not result in unfair discrimination or disguised trade restrictions.

Against the background of these principles, the NAFTA parties agreed to work toward equivalent SPS measures. Each NAFTA country committed to accept the SPS measures of another NAFTA country as equivalent to its own, provided that the exporting country demonstrated that its measures met the importing country's chosen level of protection. NAFTA requires public notice prior to adopting or modifying any SPS measure that may affect trade in North America.

NAFTA establishes standards for risk assessment, including evaluating the likelihood of entry, establishment, or spread of pests and diseases. Risk assessment methods should reflect techniques developed by international or North American standards organizations.

The section on regional conditions establishes rules for designating pest-free or disease-free areas and areas of low-pest or low-disease prevalence. An exporting country, for example, must provide objective evidence that its goods originate in a pest-free or low-pest prevalence area.

An SPS Committee was established to facilitate the enhancement of food safety and sanitary conditions, promote the harmonization and equivalence of SPS measures, facilitate technical cooperation and consultations, and consult on disputes involving SPS measures.

US-Australia FTA

SPS issues were a central part of negotiations between the United States and Australia. Though both countries apply strict SPS protection, Australia's approach to quarantine is considered conservative, and before the negotiations, US stakeholders argued that Australia's SPS measures unjustifiably limited US access. The Australian government welcomed consultations within the context of the negotiation as an opportunity to placate US critics (Parliament of Australia Senate 2004, 146).

During the negotiation, an ad hoc group was established, and the first meeting was held in August 2002. High-priority issues for the United States included market access for pork, California table grapes, Florida citrus, stonefruit, and poultry meat. Australia identified access for feeder cattle, honeybees, Riverland citrus, cherries, and a variety of tropical fruits as its priority issues.

The final text of the US-Australia FTA reaffirms the parties' commitment to World Trade Organization (WTO) rules and to science-based decision making on matters affecting quarantine and food safety. The dispute mechanism under chapter 21 of the FTA specifically does not apply to chapter 7 (SPS provisions); rather, the WTO SPS agreement will be applied should a dispute arise between the parties.

The US-Australia FTA also establishes a framework to discuss specific products, consisting of an SPS Committee and a standing technical working group on animal and plant health measures. Such a working group is not found in any other US bilateral FTA.²

The SPS Committee is a forum for discussing general matters and enhancing the understanding of SPS regulatory processes. An official of the Australian Department of Agriculture Forestry and Fisheries, Virginia Greville, stated in her testimony to the Australian Senate,

the idea of the overarching SPS Committee is very much cooperation, increasing understanding and providing each with the opportunity to explain to each other how [each understands and applies the WTO agreement] so that misunderstandings do not occur and accusations do not fly backwards and forwards about bad citizenship under the WTO and SPS agreements. (Parliament of Australia Senate 2004, 153)

The working group will focus on technical and scientific aspects of quarantine matters relating to trade in specific animal and plant products. According to an Animal Plant and Health Inspection Service (APHIS) technical trade report, the working group “would provide a forum for the parties to engage at the earliest appropriate time in each other’s regulatory processes on such issues [technical and scientific aspects] and to cooperate in developing science based measures that facilitate trade between them.” (US APHIS 2004, 3)

Even though the working group and the SPS Committee are not decision making bodies, their establishment generated controversy in Australia. Much of the debate reflected a fear of unknown consequences and anxiety over the interpretation of key provisions. The agreement mandates the SPS Committee to “review progress on and, as appropriate, resolve through mutual consent, sanitary and phytosanitary measures.” Annex 7-A specifically mentions “resolving specific bilateral animal and plant health matters” and “whenever possible, achieving consensus on scientific issues” as objectives of the working group (USTR 2004a). No other US bilateral FTA contains such explicit language on the purpose of the SPS Committee. The US-Chile FTA uses the weaker expression “shall provide a forum for” rather than “mandating” the SPS Committee to resolve and review progress on outstanding SPS measures (USTR 2003b). Australian government officials highlighted that these are nonetheless consultative bodies to discuss technical and scientific interest. The Australian chief negotiator, Stephen Deady, said “there is nothing in the establishment of these committees that will impact on the integrity of the Import Risk Analysis processes in Australia” (Parliament of Australia Senate 2004, 149).

2. Other US bilateral FTAs, such as US-Chile, contemplate the possibility of establishing working groups, but these are not established in the agreement.

Nevertheless, the Federation of Australian Scientific and Technological Societies objected that the working group and SPS Committee “may undermine the fundamental role that proper scientific analysis must have in a sound quarantine system” (Parliament of Australia Senate 2004b, 9).³ Referring to the demands of US exporters, the Australian Senate Select Committee pointed out that “there has been some comment that the bilateral committees may have the potential to be *de facto* dispute settlement regimes” (Parliament of Australia Senate 2004, 5.23). Some critics noted that, even if the working group and SPS Committee did not become dispute settlement mechanisms, they would nonetheless allow the United States to put pressure on Australian quarantine decisions, watering down Australia’s reputation for a strong SPS regime. Still, the Senate’s Select Committee concluded that “Australia’s processes *may be* robust enough to withstand such pressure should it arise” (Parliament of Australia Senate 2004, 154).

In a side letter to the agreement, the United States and Australia agreed to work cooperatively in the World Organization for Animal Health (OIE), Codex, and other forums to secure science-based standards and guidelines that address risks to food safety and animal health from bovine spongiform encephalopathy (BSE).

US-Chile FTA

According to APHIS, the successful negotiation and ratification of the US-Chile FTA made it a road map for subsequent SPS discussions “in the Western Hemisphere and elsewhere” (US APHIS 2004, 6).

Before negotiations, stakeholders in both countries had expressed concerns about elements of the other party’s SPS regime. For example, the United States prohibited importation of meats from Chile, while Chile limited market access for some US fruit and meat products.

As in the US-Australia FTA, an ad hoc special working group was established during negotiations to address outstanding SPS issues. Although these SPS discussions were not part of formal negotiations, they went as far as possible in finding technical solutions before Congressional ratification. Some of these involved modifying SPS import measures in each party, which improved market access conditions for horticultural, meat, and dairy products of both countries. According to the Dirección General de Relaciones Económicas Internacionales (Direcon 2003), the principal achievements of the working group were the following:

- The partners reached an equivalence agreement on meat-cut classification systems for bovine meats.

3. The Federation of Australian Scientific and Technological Societies (FASTS) was established in 1985. The Federation consists of societies representing the interests of Australian scientists and technologists.

- Chile recognized the US inspection system for bovine, pork, and sheep meat. The United States established a work plan to recognize the Chilean inspection system for those same products. A bilateral work plan was established to exchange recognition of inspection systems for poultry meats as well.
- The United States began work to recognize Chile as a classical swine fever free country.
- The Chilean Secretaría de Agricultura granted the US Food and Drug Administration (FDA) authority to inspect, on behalf of Chile, US producing plants that export dairy products to Chile.
- Chile authorized the importation of Californian pit-containing fruits, and advanced regulatory reforms to allow access to California citric products and cherries as well as Florida grapefruits.
- The United States agreed to speed up regulatory changes to allow imports of Chilean clementines.
- Both countries pledged to work to harmonize measures regulating tomato importation.

The US-Chile FTA reaffirms the parties' commitment to WTO rules and to science-based decision making on matters affecting human, animal, and plant safety. The WTO SPS agreement and dispute settlement mechanism will be applied should a dispute arise between the parties on SPS matters.

Chapter 6 also establishes an SPS Committee, charged with overseeing the implementation of the WTO SPS agreement between the parties and providing a forum for technical discussions on applying SPS measures in each country. The SPS Committee will "review progress on addressing sanitary and phytosanitary matters" that may arise between the parties and "enhance mutual understanding and consultation on SPS regulatory processes" (USTR 2003b). The Committee may establish ad hoc working groups, but, unlike the US-Australia FTA, the agreement itself does not establish a standing working group.

Since the entry into force of the US-Chile FTA in January 2004, the SPS Committee has dealt with outstanding SPS issues. It established two ad hoc working groups, one on grapes and another on meats. In July 2004, APHIS declared Chile to be a "free of classical swine fever" country (US APHIS 2004, 7). The US Food Safety and Inspection Service (FSIS) conducted two in loco audits to certify the Chilean red-meat inspection system. In December 2004, the USDA allowed importation of Chilean clementines and tangerines into the United States. In May 2005, the USDA published proposed rules and regulations that include Chile in the list of countries eligible to export meat and meat products to the United States. These recognize the Chilean inspection system as equivalent to the Federal Meat Inspection

Act and its implementing rules. The proposed amendment will eliminate the current prohibition on importing Chilean meat products of cattle, sheep, swine, goats, horses, mules, or other equines (US FSIS 2005). Still pending are regulatory changes that will facilitate bilateral tomato and poultry trade, as well as the importation of Chilean grapes into the United States.

Central American–Dominican Republic Free Trade Agreement (CAFTA-DR)

Central American products already enjoyed duty-free access through the Caribbean Basin Initiative (CBI), and therefore the need to address non-tariff barriers (NTBs), including SPS barriers, was a priority for these countries. Central American countries considered that certain US SPS measures had prevented them from obtaining the full benefit of CBI preferences. For example, fruit flies in Central America have prevented the export of fruits and vegetables to the United States without costly treatment. Many US exporters had likewise complained about the application of SPS measures in CAFTA-DR countries, pointing to lengthy, complex, and in some cases, arbitrary processes of SPS approval: costly local testing requirements, temporary bans on exports of beef and poultry products, and the use of sanitary certificates as an import licensing device for meat and dairy products.⁴

The CAFTA-DR negotiation differed from those of the US-Chile FTA and the US-Australia FTA, in that the Central American partners had a relatively poor SPS infrastructure. Several official and independent studies assessing the phytosanitary capacity of Central American nations identified deficiencies in the number of employees and laboratories for inspection services, as well as in the awareness of SPS requirements in partner country.⁵ Since SPS infrastructure deficiencies limited CAFTA-DR countries' ability to gain market access, the United States pledged technical assistance from US sanitary and agriculture agencies. According to the United States trade representative (USTR 2005b), "the objective [of SPS negotiations] was to leverage the impetus of active trade negotiations to seek difficult changes to the Central American countries' SPS regimes."

4. See sections on Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Dominican Republic in USTR (2005b).

5. Official studies were conducted by the FTAA Tripartite Committee. The studies are published as a series titled "National Trade Capacity Building Strategies" and can be accessed at www.ftaa-alca.org. The USTR also conducted evaluations of trade capacity needs. These reports are available at its Web site at www.ustr.gov. Researchers at the Bush School conducted an evaluation at request of the US Department of Agriculture. The publication is titled "CAFTA: Sanitary and Phytosanitary Evaluation" and is available at <http://bush.tamu.edu>.

A parallel working group on SPS measures was established during Central American Free Trade Agreement (CAFTA) negotiations to exchange views on outstanding SPS issues and improve market access for all parties.⁶ The USTR reported several achievements:

- The United States obtained a commitment from the Central American nations to resolve specific measures affecting US exports to those countries.
- Central American countries pledged to move towards recognizing import eligibility for all producing plants inspected under the US safety and inspection system, in particular for meat, dairy, and poultry products.
- The United States committed to resolve delays in food inspection procedures for meat and poultry products from Central America.
- The United States presented a schedule to resolve sanitary issues that affect the export of poultry, dairy products, tomatoes, and peppers from Honduras.
- Nicaragua received help solving SPS problems for exports of cheese, papaya, *pitahaya*, peppers, and tomatoes.
- Costa Rica obtained guaranteed access of ornamental plants over 18 inches in height, more flexible sanitary treatment for some of its flower exports, and recognition of its poultry inspection system (USTR 2004e).

CAFTA-DR reaffirms rights and obligations under the WTO SPS agreement. No country will have recourse to the dispute settlement under CAFTA-DR for any matter arising under chapter 6 (SPS measures).

Article 3 of chapter 6 of the agreement also establishes an SPS Committee that will continue the work of the ad hoc working group. The SPS Committee is a forum for technical discussions on applying SPS measures in each country, reviews progress on outstanding SPS issues, and provides an avenue for consultation on SPS regulatory processes. It is instructed to help each party implement the SPS agreement, assisting them to protect human, animal, or plant life or health.⁷

Uniquely, CAFTA-DR's SPS Committee is required to facilitate a party's response to a written request for information from another party

6. The Dominican Republic did not participate in this group because it negotiated separately with the United States.

7. SPS Committees under US-Chile FTA and US-Australia FTA include objectives geared to "enhance each party's implementation" of the SPS agreement. The language is stronger in the case of CAFTA, reflecting the greater need of support in Central America. Also, the SPS Committees under US-Chile FTA and US-Australia FTA are not instructed to "assist parties to protect," but rather just to "protect" human, animal, or plant life or health (USTR 2003b, 2004a).

with minimal delay. Other provisions for the committee are nearly identical to those in the US-Chile FTA, except that CAFTA-DR committee decisions will be taken by consensus, a consequence of having seven rather than two parties to the FTA. Also, unlike the US-Chile FTA, Annex 6.3 of CAFTA lists the agencies of each party that will participate in the committee.

US-Morocco FTA

SPS issues did not play a significant role in negotiations between the United States and Morocco. The agreement does not include a chapter on SPS measures, and treats the subject in three short articles. The provisions are general in nature, including a reaffirmation of existing rights and obligations under the WTO SPS agreement and the absence of recourse to dispute settlement under the US-Morocco FTA for SPS issues.

The parties “affirm their desire” to provide a forum for addressing SPS, but the agreement does not establish an SPS Committee. According to the APHIS Trade Support Team, given the lack of SPS issues and the relatively small volume of bilateral agricultural trade, “the US strategy was to reaffirm the commitments under the WTO SPS agreement” (US APHIS 2004, 8). Still, in side letters between Moroccan and US officials, Morocco pledged to accept US export certificates issued by the USDA FSIS for beef and poultry products.

In the negotiations, Morocco attempted to obtain commitments on technical assistance and market access, but the United States was not responsive. According to APHIS, “By initially expecting too much and then failing to scale back expectations to more realistic parameters, Morocco may have lost some genuine opportunities for receiving US technical assistance” (US APHIS 2004, 8).⁸ On market access, Morocco expected APHIS approval of some plant products for entry in the United States. The United States refused to circumvent normal procedural channels, and deemed the request as “not appropriate for FTA negotiations.” Perhaps as a consolation, a sub-committee for discussion of SPS matters was established in a side letter, but even here, the United States agreed reluctantly. Given the lack of substantive issues on both sides, the forum will convene only on an as-needed basis.

US-EU Veterinary Agreement

Early efforts to tackle outstanding SPS matters preceded the US-EU Veterinary Agreement: In November 1992, the US-European Community Agree-

8. Morocco had sought a US commitment to upgrade Morocco’s entire plant and animal health infrastructure. US authorities pointed out that Morocco failed to prioritize their needs, demonstrate how that assistance would facilitate trade, or explain how that assistance could be coordinated with technical cooperation from the European Union (US APHIS 2004, 8).

ment on Meat Inspection Standards touched upon some of the issues that the Veterinary Agreement revisited. Through the 1992 agreement, the parties agreed to recognize the equivalence of regulatory requirements regarding trade in fresh bovine and swine meat, consider approving plants certified by the other party's responsible authority, and initiate discussions as soon as possible on other problems in the veterinary field.

The US-EU Veterinary Agreement entered into force in August 1999. Under the agreement, the parties reaffirmed their WTO obligations. The scope of the 1999 agreement was limited to sanitary measures applied to live animals and animal products listed in Annex I. For these products, the agreement includes provisions for equivalency determination on health requirements, consultations, exchange of information, notification of disease developments, scientific exchange, and verification and audit.

Article 6 of the Veterinary Agreement recognizes the principle of regionalization. Specifically, for trade purposes, the importing party recognizes the health status of regions as determined by the exporting party.⁹ However, this provision applies only to the animal and aquaculture diseases specified in Annex III. BSE is not listed there.¹⁰

Annex V sets forth the status of consultations and lists the live animals and animal product areas, sectors, or parts of sectors for recognizing the equivalency of a party's sanitary measures and applicable trade conditions.

The Veterinary Agreement also establishes a joint management committee. At least once a year, the committee reviews activities under the agreement and recommends changes to the annexes. Parties agree to establish technical working groups to identify and address technical and scientific issues arising from the agreement.

At a meeting in October 2003, the joint management committee issued a recommendation concerning the determination of equivalence for gelatin and collagen for human consumption, and as a result, the United States and European Union agreed to incorporate these new equivalences into Annex V.

The European Union and the United States have also used other channels to deal with outstanding SPS issues. In 2002, the resumption of exports of Spanish clementines to the United States, and the resumption of US poultry exports to the European Union, were resolved within the context

9. The EU Commission (2004a) argues "the United States has failed repeatedly to apply the regionalization provisions of the Veterinary Agreement."

10. The list of diseases for which regional designation is recognized includes foot and mouth disease, swine vesicular disease, peste de petits ruminants, contagious caprine pleuropneumonia, sheep and goat pox, African swine fever, enterovirus encephalomyelitis, Newcastle disease, pseudorabies/Aujeszky's disease, vesicular stomatitis, rinderpest, contagious bovine pleuropneumonia, bluetongue, African horse sickness, classical swine fever, fowl plague (avian influenza), and Venezuelan equine encephalomyelitis.

of the Positive Economic Agenda Initiative. Yet the European Union still lists 10 US SPS measures as NTBs.¹¹

SPS Matters in Memoranda of Understanding (MoUs)

To date, the United States has signed six MoUs that include SPS provisions with Argentina,¹² China, Colombia, Peru, Russia, and Uruguay.¹³ Except for the Argentinean MoU, they establish bilateral consultative committees on agriculture as a forum for resolving trade issues and cooperating in a number of areas, including food safety, animal and plant health, and biotechnology.

Article IV of the US-China MoU, signed before China's accession to the WTO, calls for science-based SPS requirements administered in a non-discriminatory manner. The MoU also calls for continuous scientific and technical consultations concerning scientifically unjustified SPS restrictions. In 2004, Chinese and US authorities exchanged letters of intent that pledged to "further enhance" their technical exchanges and long-term cooperation in the fields of food safety and animal and plant health. The letters establish a consultative mechanism to "demonstrate their strong commitment to work cooperatively to address outstanding bilateral SPS issues in accordance with each country's domestic rules and regulations" (USDA 2005d).

The MoUs with Peru, Colombia, and Uruguay do not reaffirm WTO commitments, but they do establish consultative committees on agriculture (CCAs). Former Secretary of Agriculture Ann Veneman stated that these "set the stage for improved communication and coordination in a number of areas including food safety, research and sanitary and phyto-sanitary issues" (USDA 2003c).

11. These are plants in growing media, bovine animals and products, pathogen-free areas, hardy nursery stock, goats/risk of scrapie, noncomminglement, uncooked meat products, inspection of egg production, Columbia-Meat/on-site inspection, meat and meat products (European Commission, 2005). More information is at <http://mkaccdb.eu.int/sps/index.html>.

12. The MoU between the United States and Argentina was signed within the framework of the Uruguay Round of Multilateral Trade Negotiations and is significantly different from other MoUs.

13. In all cases, the timing of the MoUs was linked to broader trade issues. Signatures on MoUs with Colombia and Peru (April 2003 and October 2002) correspond to the launching of FTA negotiations with the United States. Uruguay has repeatedly made public its desire to engage in FTA negotiations with the United States, but other commitments, notably its membership in Mercosur, have limited US interest. Following President Jorge Batlle's February 2002 visit to the White House, however, the United States and Uruguay established a Joint Commission on Trade and Investment. The Commission has pursued a work plan, while the MoU on agriculture dates from April 2003 and a bilateral investment treaty was concluded in September 2004. US MoUs with China and Russia date from periods when neither country was a WTO member (October 1992 and September 2003), but both were engaged in WTO accession.

SPS Measures in Swiss Trade Agreements

This section describes the Swiss negotiating experience in sanitary and phytosanitary issues. The section reviews SPS provisions in several Swiss bilateral agreements such as the Swiss-EU Agreement on Trade in Agricultural Products and the bilateral FTAs through the European Free Trade Association (EFTA).

SPS Issues in the Swiss-EU Agreement on Trade in Agricultural Products

The Swiss-EU Agreement on Trade in Agricultural Products, which entered into force in June 2002, aims to facilitate trade in farm products by eliminating tariffs and NTBs. The agreement addresses SPS issues in Annex 4 on plant health, Annex 5 on feed, Annex 6 on seeds, and Annex 11 on animal health.¹⁴ Except for Annex 5, which is still under negotiation, all of these annexes go to great lengths to establish the equivalence of EU and Swiss SPS regulations. According to the Switzerland Integration Office (2005b), “The agreement will reduce or eliminate altogether a number of technical barriers in the veterinary bracket (dairy hygiene, epizootic diseases) and in relation to pesticides, animal feeds, seeds, biological products and rules for the sale of wines, generally on the basis of arrangements which arise out of the mutual recognition of the equivalence of each other’s legislation.” We focus our discussion on Annexes 4 and 11.

Annex 4: Plant Health

Annex 4 recognizes the equivalence of protection levels resulting from domestic legislation on the introduction and propagation of harmful organisms. The equivalence, however, applies only to those plants and plant products listed in Appendix 1 of the agreement. For these products, the parties recognize the “plant passports,” issued by responsible organizations in each country, that attest conformity with those pieces of domestic legislation deemed equivalent under the agreement, and fulfill documentary requirements for movement of plants and plant products. The annex also limits border checks: Plant health sampling may not exceed certain percentages of consignments of plants and plant products.¹⁵

14. Additionally, Annexes 5, 6, 9, and 10 recognize legislative equivalence and eliminate border conformity checks for certain animal feed, seeds, organic products, and fruits and vegetables. However, these annexes deal more directly with standards rather than SPS measures.

15. The agreement establishes a maximum sampling limit at 10 percent of consignments. Moreover, the percentage will be set on a product-by-product basis according to plant-health risk as determined by the Agricultural Committee, based on proposals from the Working Group on Plant Health.

Annex 4 requires countries to inform other parties of any proposal to adopt new plant-health measures regarding plants and plant products listed in the agreement. Countries can apply derogations for regions within or the entire territories of other parties, so long as they indicate their reasons. Derogations may be applied immediately, but parties must engage in consultations with a view to finding appropriate solutions.

Finally, Annex 4 establishes a working group on plant health that considers all matters that may arise in connection with the annex and its implementation. The working group may submit proposals to update Appendices to the Agricultural Committee.

Annex 11: Veterinary Annex

Also known as the Veterinary Agreement, it regulates trade in live animals and animal products, such as semen, embryos, foods of animal origin, and animal waste. It also establishes that Swiss animal disease control legislation is identical in substance to, and achieves the same objectives as, the corresponding EU legislation; consequently, it grants Switzerland similar trading conditions with the European Union as EU member states enjoy.

The agreement does not stipulate border checking of products or animals, but it allows border inspection of accompanying documents to ensure compliance with animal protection legislation. Still, simplifying border checks will not entail eliminating product inspections; they will just be done away from the border. According to the Swiss Federal Veterinary Office, “unavoidably, to maintain the health of the animal population at its current high level, more checks will have to be conducted within the country (as practiced in EU member states)” (Jemmi and Herholz 2003, 16).

Regarding live animals, semen, and embryos, the parties recognize that certain products and animals of each party are free of specific diseases. Switzerland obtained guarantees on the status of pigs (Aujeszky’s disease), cattle (brucellosis, tuberculosis, and IBR/IPV), sheep and goats (brucellosis), and poultry and hatching eggs (“not vaccinating” against ND). Since June 2003, Switzerland has requested the extension of guarantees to include other diseases that are not found in Switzerland; however, “the European Union categorically refuses any extension of guarantees” (Jemmi and Herholz 2003, 15). The Veterinary Agreement prevents countries from placing embargoes on imports of animals without a good reason. Outbreaks of disease are, however, a good reason.

Concerning foods of animal origin, the European Union recognized Swiss legislation only on milk and dairy products as equivalent to its corresponding legislation. Easing restrictions on exports for other food products of animal origin will require harmonizing the Swiss Ordinance on Foodstuffs with the corresponding EU legislation. In late 2003, the Swiss Federal Veterinary Office stated that it began efforts to tackle these pending issues, and it was preparing a proposal for discussion in the agreement’s joint committee.

The joint committee oversees the application and functioning of the bilateral Swiss-EU agreements, as well as the Veterinary Agreement. To date, three working groups have been established: the Animal Health Working Group, which deals with issues regarding the certificates used in cross-border trade; the Working Group for Animal Movement, which handles matters related to simplifying border checks; and the Bovine Spongiform Encephalopathy (BSE) Working Group, which analyzing alternatives so as to lift the ban on imports of Swiss cattle. In the BSE Working Group, a draft text was drawn up proposing the adoption of EU regulations. At the end of 2003, the EU Council of Agricultural Ministers recognized the equivalence of Swiss regulations regarding BSE, allowing exports of Swiss cows to the European Union to resume.

SPS Issues and Recent Swiss/Bilateral FTAs with EFTA

Recent bilateral FTAs negotiated by EFTA include, for the most part, rather weak approaches to tackling SPS matters. This may reflect the absence of outstanding SPS issues, and the small volumes of bilateral agricultural trade. Also, agricultural liberalization has not been a major concern for Switzerland in bilateral FTAs, as evidenced by the low wedge between applied preferential and most favored nation (MFN) tariff rates.

Many recent EFTA FTAs include commitments to apply SPS regulations in a nondiscriminatory fashion and prevent implementing new measures that may have the effect of “unduly obstructing trade.” The EFTA-Jordan, EFTA-Macedonia, EFTA-Morocco, EFTA–Palestine Authority, and EFTA-Romania FTAs limit their treatment of SPS matter to these provisions. The EFTA-Croatia, EFTA-Lebanon, and EFTA-Singapore FTAs include an additional provision that reaffirms obligations under the WTO SPS Agreement. The EFTA-Mexico and EFTA-Tunisia FTAs only reaffirm rights and obligations under the WTO SPS Agreement.

The FTA agreement between EFTA and Chile goes beyond the other agreements, as the parties pledge to strengthen cooperation in SPS measures, with a view toward increasing the mutual understanding of their respective systems. Expert consultations may be convened at the request of a party. Finally, the agreement calls to develop bilateral arrangements between respective regulatory agencies for better implementation of the SPS provisions under the agreement.

Appendix C

Geographical Indication Provisions in US and Swiss Trade Agreements

GI Provisions in Selected US FTAs

This section describes the treatment of geographical indications in previous US negotiating experiences. Agreements considered include FTAs such as US-Australia FTA, CAFTA-DR, US-Chile FTA, as well as other pacts.

US-Australia FTA

According to Article 17.2 of the agreement, entitled “Trademarks, including geographical indications,” each party will allow GIs to be eligible for protection as trademarks.¹ Article 17.2 also allows parties to refuse an application for protection or recognition of a GI if it is likely to be confused with a mark (trademark) that is the subject of a good-faith pending application or registration, or if it is likely to be confused with a preexisting mark (trademark), the rights to which have been acquired through use in good faith in the territory of the party (USTR 2004a).

If a GI is refused, the parties will provide the applicant with a written communication of the reasons for the refusal, and allow the applicant the opportunity to respond. Interested parties must also be able to oppose registration or seek cancellation after registration.

1. The US Free Trade Agreement Implementation Act 2004, passed by the Australian Parliament, amends the Australian Wine and Brandy Corporation Act 1980, but does not amend the Trade Marks Act 1995. The Australian Wine and Brandy Corporation Act 1980 (AWBC) protects the names of Australian grape-growing regions. For more information, see Freehills (2004).

US-Chile FTA

The US-Chile FTA also treats GIs as trademarks. To qualify for this treatment, GIs must satisfy the same conditions that apply in the US-Australia FTA. Chile specifically recognizes bourbon whiskey and Tennessee whiskey as distinctive products of the state of Tennessee. Accordingly, Chile will not permit the sale of any product labeled as such, unless it has been manufactured in the United States in accordance with the US laws and regulations governing its manufacture.

Similarly, the United States recognizes *pisco chileno*, *pajarete*, and *vino asoleado*, which are authorized in Chile to be produced only in Chile, as distinctive products of Chile. Accordingly, the United States will not permit the sale of any product under those labels unless it has been manufactured in Chile in accordance with the laws and regulations governing its manufacture.

The US-Chile FTA applies the principle of “first in time, first in right” to trademarks and GIs. This means that the first to file for a trademark is granted the first right to use that name, phrase, or geographical place-name (USTR 2003b).

Central American–Dominican Republic Free Trade Agreement (CAFTA-DR)

CAFTA uses a similar definition for GIs that the US-Australia and US-Chile FTAs use. However, it expands on procedures regarding them: Each party will provide the legal means to identify and protect GIs, and will provide the means for persons of another party to apply to protect or petition to recognize them. Countries commit to limit formalities on the application procedure and to publicize GI petitions. Each party will ensure that similarities between a GI and a preexisting trademark constitute grounds for refusing protection or recognition. The US-Morocco FTA has similar language.

Article 3.12 of Chapter 3, National Treatment of Market Access for Goods, recognizes Bourbon Whiskey and Tennessee Whiskey as distinctive products of the United States, and grants the Joint Committee competence to recommend recognition under article 3.12 to other products (USTR 2004f).

US–European Community Distilled Spirits and Spirit Drink Agreement

This agreement was based on an exchange of letters between the United States and the European Union in March 1994. This agreement provides for the mutual recognition of distilled spirits.

The United States agreed to restrict the use of the product designations: “Scotch whisky,” “Irish whiskey”/“Irish whisky,” “Cognac,” “Armagnac,” “Calvados,” and “Brandy de Jerez” to distilled spirits/spirit drinks products of the Member States of the European Community, produced in compliance with Council Regulations. These products shall continue to be subject to all of the labeling requirements of the United States.

Likewise, the European Community restricted the use of the product designations: “Tennessee whisky”/“Tennessee whiskey,” “Bourbon whisky”/“Bourbon whiskey,” and “Bourbon” as a designation for Bourbon whisk(e)y to distilled spirits/spirit drinks products of the United States produced in compliance with US laws and regulations. These whiskies shall continue to be subject to all of the labeling requirements of the European Union.

GI Provisions in Selected Swiss FTAs

This sections describes the Swiss negotiating experience on GIs. Agreements reviewed include EFTA bilateral FTAs and Swiss-EU bilateral agreement.

European Free Trade Association (EFTA)–Israel

Signed in September 1992, Article 1 of Annex V, on definitions and scope of protection, states that intellectual property protection includes protection of GIs. Article 3 of that same annex, on additional substantive standards, affirms that “the Parties shall ensure in their national laws at least adequate and effective legal means to protect geographical indications, including appellations of origin, with regard to all products, at least to the extent that their use is misleading the public” (EFTA 1992). The EFTA-Romania FTA, signed in December 1992, includes similar text.

EFTA-Bulgaria

Signed in March 1993, the agreement’s original provisions on intellectual property rights were revised by decision of the Joint Meeting of the EFTA-Bulgaria Committee No. 7 of 1997. Article 1 of Annex X, on the definition and scope of protection, states that intellectual property protection comprises protection of GIs, including appellations of origin. Article 3 of Annex X, on additional substantive standards, states that parties to the agreement “shall ensure in their national laws at least adequate and effective means to protect geographical indications, including appellations of origin, with regard to all products and services” (EFTA 1993). Other agreements with similar text include EFTA-Croatia (2001), EFTA-Jordan (2001), EFTA-Macedonia (2000), EFTA-Morocco (1997), and EFTA-Turkey (1991).

EFTA-Mexico

Signed in November 2000, its provisions under Article 1, on definitions and scope of protection, are similar to those of EFTA-Bulgaria, Article 3 of Annex XXI, on additional substantive standards. However, the EFTA-Mexico language differs from EFTA-Bulgaria in stating that “a Party shall, *ex officio*, if its legislation so permits, or at the request of an interested party, refuse or invalidate the registration of a trademark which contains or consists of a geographical indication with respect to services not originating in or connected to the territory indicated, if use of the indication in the trademark for such services in that Party is of such a nature so as to mislead the public as to the true place of origin” (EFTA 2000).

Swiss-EU Agreement on Agricultural Products

The agreement on trade in agricultural products between Switzerland and the European Union was signed in June 1999, and entered into force in June 2002. According to the Joint Declaration on the protection of GIs and designations of origin of agricultural products and foodstuffs (appendix D), parties allow the incorporation of provisions to mutually uphold protected denominations of origin (PDOs) and protected geographical indicators (PGIs).

In July 2003, Switzerland and the European Union established a working group on the protection of GIs. Work on mutual protection provisions awaits the full application of Article 17 (simplified procedure) of Regulation (EEC) No. 2081/92. Meanwhile, the European Union proposed to set up a working group to explore the mutual protection of PDOs and PGIs; the consideration of all related matters; and the exchange of the information required to implement this protection. Also, two other working groups were formed for wines and distilled spirits (Switzerland Integration Office 2005b).

EFTA-Singapore

Signed in June 2003, Article 1 of Annex XII, on definition and scope of protection, goes beyond previous agreements to clarify that “appellations of origin are understood to be one form of geographical indications.” (EFTA 2002a). Paragraph 1 of Article 5 in Annex XXI, on the issue of GIs, affirms the same principles as does Article 3 of Annex X of EFTA-Bulgaria; however, paragraph 2 further states that “the Parties may provide different legal means in accordance to the TRIPS Agreement to prevent the misleading use of geographical indications in relation to services than that provided for the protection of geographical indications for products and shall be deemed to be in full compliance with the obligations under paragraph 1” (EFTA 2002a).

EFTA-Chile

Signed in June 2003, this agreement uses the same definition of intellectual property rights as do previous agreements, such as EFTA-Bulgaria. However, Article 6 of Annex XII, on GIs, reaffirms the parties' commitment to ensuring protection in accordance with Articles 22, 23, and 24 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The EFTA-Tunisia FTA, signed in December of 2004, includes similar provisions (EFTA 2003).

EFTA-Lebanon

Signed in June 2004, this agreement uses similar language on intellectual property rights as do previous agreements, such as EFTA-Bulgaria. However, Article 6 of Annex XII, on GIs, also affirms that "Lebanon shall make every effort to protect geographical indications with regard to all services" (EFTA 2004).

Appendix D

Preferential Trade Agreements and Foreign Direct Investment: Selected Literature

The connection between trade and foreign direct investment (FDI) has been widely studied in the last two decades.¹ Blomström and Lipsey (1987) examine the relation between US and Swedish FDI and trade, while Blomström and Kokko (1997) and Dunning (1997, 2000) have published articles with a comparative perspective. Brainard (1997) has offered methodological contributions.² Recent empirical studies by Hejazi and Safarian (1999) and Graham and Wada (2000) find complementary relationships between exports and the stock of outward FDI.³

Within this general topic, the relationship between preferential trade agreements (PTAs, an umbrella term that includes FTAs), trade volumes, and FDI has attracted attention in policy circles. Theoretical analysis has been inconclusive, because arguments can be advanced for both positive and negative relations between trade and FDI. In principle, the impact of trade liberalization on FDI depends crucially on whether FDI is a substitute or complement to trade. We report the results of selected gravity models here. The numerical coefficients are summarized in table D.1.

Many studies find a positive relation between PTAs and the inward stock of FDI, for both PTA partners and third countries. Perhaps the most skeptical comment comes from the US International Trade Commission

1. Earlier studies exist, but they were not based on gravity models.

2. For example, Brainard contends that it makes more sense to examine foreign production by multinational enterprises rather than FDI.

3. Dunning (1993) and Hejazi and Safarian (1999, 2001) review the empirical literature.

Table D.1 Relationship between PTAs, FDI, and exports

PTAs and FDI: Studies covering all countries

Adams et al. (2003)

Dependent variable: LN (inward FDI stock_{ijt})

Selected independent variables

	ASEAN	APEC	EFTA	European Union	NAFTA
MRTA _{ij} ^a	5.77	-1.11	0.05	-0.69	n.a.
3wave _{ij} ^b	-9.65	0.71***	30.77*	0.05	-10.11**
MRTA _{ijt} ^a	-0.02	0.04	1.15	0.37	-2.60
3wave _{ijt} ^b	4.05	0.68***	-41.56***	3.18**	4.9***

Levy-Yeyati, Stein, and Daude (2003)

Dependent variable: LN (inward FDI stock_{ijt} + 1)

Selected independent variables

LN (EM _{it}) ^c	0.10***
LN (EM _{jt}) ^d	-0.05***
Same FTA _{ijt} ^e	0.24***

Jaumotte (2004)

Dependent variable: LN (inward FDI Stock_{ijt})

Selected independent variable

LN (REGY) ^f	0.40**
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Hallward-Driemeier (2003)

Dependent variable: FDI inflows_{ijt}

Selected independent variables

NAFTA dummy:	256.31**
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PTAs and FDI: Studies covering NAFTA partners

Buckley et al. (2000)

Dependent variable: LN (inward Canadian FDI stock from UK, France, and US)

Selected independent variables

	United Kingdom	France	United States
LN (USGDP*FTAdummy)	0.01**	0.04**	0.01**

Globerman and Shapiro (1999)

Dependent variable: FDI stock in Canada

Selected independent variables

	Inward			Outward		
	Manufac- turing	Services	Energy	Manufac- turing	Services	Energy
FTA/ NAFTA dummy	-16.4	-380.6***	-204.7	1676.8***	860.6***	709.50**

(table continues next page)

Table D.1 Relationship between PTAs, FDI, and exports (continued)

Hejazi and Safarian (2002)

Dependent variable: LN (inward Canadian FDI stock_{it})
Selected independent variables

NAFTA dummy: -0.17*

Dependent variable: LN (outward FDI stock from Canada_{it})
Selected independent variables

NAFTA dummy: 0.34**

Exports and FDI: Complements, not substitutes

Graham and Wada (2000)

Dependent variable: LN (outward US FDI stock_{ijt})
Selected independent variables

	Low income	High income
LN (imports _{ijt})	0.79*	-0.39**
LN (exports _{ijt})	1.3*	1.59**

Hejazi and Safarian (1999)^a

Dependent variable: LN (Canadian imports_{ijt})
Selected independent variable

LN (inward Canadian FDI stock_{ijt}) 0.02

Dependent variable: LN (exports_{ijt})
Selected independent variables

LN (outward Canadian FDI stock_{ijt}) 0.07***

*** = significance at 1% level; ** = significance at 5% level; * = significance at 10% level.

- a. MRTA captures merchandise trade provisions of a PTA, takes the value of the member liberalization index (MLI) if both countries *i* and *j* belong to the same PTA; MRTA_{ij}* means that country *J** does not belong to the PTA.
- b. 3wave captures “new age” provisions of a PTA, takes the value of nonmerchandise MLI if both countries *i* and *j* belong to the same PTA and 0 otherwise. 3wave_{ij}* means that country *J** does not belong to the PTA.
- c. EMit is the logarithm of joint GDP of all countries to which the host has tariff-free access due to common membership in an FTA (includes the host’s own GDP as well).
- d. EMjt is the logarithm of joint GDP of the source country, plus all countries that are FTA partners of source country.
- e. Same FTA is a dummy that takes a value of 1 when the source and the host countries belong to the same free trade area.
- f. REGY denotes market size extended to include regional market size for all countries belonging to a regional trade agreement.
- g. Hejazi and Safarian (1999) also model the relationship at sectoral level for 14 sectors of the Canadian economy.

Sources: Adams et al. (2003), Levy-Yeyati, Stein, and Daude (2003), Jaumotte (2004), Hallward-Driemeier (2003), Globerman and Shapiro (1999), Hejazi and Safarian (2002), Graham and Wada (2000), Hejazi and Safarian (1999).

(USITC 2005a, 6-2), which concludes, “The investment provisions of the covered FTAs are not expected to yield large changes in total foreign direct investment between the United States and its FTA partners.”⁴

Studies Covering All Countries

Using a dataset that reflects the experience of 20 FDI source countries (OECD members) investing in 60 host countries from 1982 through 1999, Levy-Yeyati, Stein, and Daude (2003) find that, when countries join an FTA, the bilateral FDI stock between the members increases by about 24 percent on average. The size of the “extended market” of the host country—that is, adding up the GDP figures for the FTA partners—has a positive effect on the bilateral FDI stock attracted from the source country. The elasticity of the bilateral FDI stock regarding the size of the “extended market” of the host country is about 0.1.

Adams et al. (2003) examine a sample of 116 countries from 1988 to 1997. They create dummies to capture separately the effect of “traditional market access” provisions and “third wave provisions” (investment, government procurement, services, etc.). They also create dummies to separate the effect of inward FDI stock from PTA partners and third countries (see table D.1). They find that market access provisions are not statistically significant, but that third-wave provisions are, for FDI stocks from both within the PTA and outside the area. The third-wave provisions of the North American Free Trade Agreement (NAFTA) are correlated with a 10 percent decrease in intraregional FDI, but an almost 5 percent increase in inward FDI stock from external countries. Third-wave provisions in the European Union are associated with a 3 percent increase in inward FDI stock from external countries; the effect of the Southern Cone Common Market (Mercosur) is much larger, a 32 percent increase. However, the European Free Trade Association (EFTA) is associated with a 41 percent decrease in inward FDI stock from external countries, perhaps because non-EFTA investors chose the European Union rather than EFTA.

Jaumotte (2004) reports on a sample of 71 developing countries from 1980 to 1999, mostly South-South integration initiatives. She finds that a 1.0 percent increase in the regional market size—again, adding together the markets of both partners—is correlated with a 0.4 percent increase in the stock of FDI for each party to the agreement. The result reflects a more general finding about FDI, namely, that it favors large markets as measured by GDP (see, e.g., Graham and Wada 2000).

4. The USITC (2005a, 6-2) also concludes that “in specific sectors, however, the covered FTAs may generate new outbound U.S. investment.”

Studies Covering NAFTA Partners

Globerman and Shapiro (1999) evaluate Canadian FDI from 1950 to 1995, using annual data for FDI stock (book value) disaggregated by sector. They find that the Canada–United States Free Trade Agreement (CUSFTA)/NAFTA dummy variable is correlated with greater Canadian outward direct investment in all sectors. The authors also conclude that the CUSFTA/NAFTA was not associated with net foreign investment in Canada, although they highlight a trade-induced increase in manufacturing FDI.⁵

Hejazi and Safarian (2002, 20) indicate that “NAFTA has resulted in reduced Canadian inward FDI and increased Canadian outward FDI, both to the United States and especially beyond.” They find that the NAFTA dummy variable is correlated with a 17 percent decrease in inward FDI stock to Canada, and an almost 34 percent increase in Canadian outward FDI stock.

By contrast, Buckley et al. (2005) find that “the introduction of the free trade agreements between Canada and the USA increased the responsiveness of US investors to growth in the Canadian economy by a factor of two.” In a 2000 working paper, the same authors find that an increase in a compound variable that measures both the size of the US GDP and the existence (or not) of an FTA between Canada and the United States is correlated with larger non-NAFTA partner FDI stocks placed in Canada: A 1 percent increase in the compound variable is associated with a 0.04 percent increase in the French FDI stock placed in Canada, and a 0.01 percent increase in the US stock.

Hallward-Driemeier (2003) examines the relationship between bilateral investment treaties (BITS) and FDI flows. Her dataset covers bilateral outflows from 20 OECD countries to 31 developing countries from 1980 to 2000. She finds a nonsignificant negative correlation between BITS and flows.⁶ Interestingly, however, she also finds that NAFTA did increase FDI flows to Mexico, as the NAFTA dummy is correlated with an increase in the level of FDI flows from OECD countries into Mexico.

Exports and FDI: Complements, Not Substitutes

Finally, it is worth reporting the analysis by Graham and Wada (2000) of the connection between US exports and US FDI stocks placed in host countries

5. The authors, however, do not conclude that CUSFTA/NAFTA caused a net outflow of capital, since “the direct investment data for Canada indicate that (in the post-1989 period) Canadian outward direct investment increased especially for destinations other than the United States.” Among other forces, they point to integration in the European Union as a “pull-factor.” (Globerman and Shapiro 1999, 19).

6. Adams et al. (2003) reach the same conclusion in their analysis of the relationship between BITS and FDI.

with different income levels. Among other host countries, they examine the experience of some 19 high-income countries from 1983 to 1996. They find that US FDI and US exports complement one another: On average, a 1 percent increase in the US outward FDI stock is associated with a 0.6 percent increase in US manufactured exports to the host country.

Hejazi and Safarian (1999) also confirm the complementary relationship between exports and FDI for Canada. They find that a 1.0 percent increase in the Canadian outward FDI stock is correlated with a 0.7 percent increase in Canadian exports, and that higher levels of inward FDI stock increase imports into Canada, but that the size of the import associations is only one-third the size of the export association.⁷

7. The study also analyzes the relationship at the sectoral level. The authors find that the relationship between exports and the outward FDI stock is positive for nine sectors and negative for four sectors.

Appendix E

Technical Aspects of the Gravity and CGE Models

Gravity Model

Dataset Construction

As mentioned in chapter 8, the gravity model analysis underlying this study is based on a dataset constructed by joining elements of two large datasets developed by other researchers. The first of these is the extensive gravity model dataset developed by Andrew Rose (2004), which covers aggregate bilateral merchandise trade between 178 countries from 1948 to 1999 (with gaps and excluding Taiwan and some centrally planned economies), compiled from the International Monetary Fund (IMF 2005b). The bilateral trade figures in the Rose dataset are averages of f.o.b export and c.i.f import data in US dollars, deflated by the US consumer price index.

The Rose dataset also includes “core” and regional trading arrangement (RTA) explanatory variables, discussed in chapter 8 and identified in tables 8.1 and 8.2.¹ The core explanatory variables are drawn from several standard sources, including the Central Intelligence Agency (2005), the IMF (2004), Penn World Tables (CIC 2005), and the World Bank (2005b).

To give the Rose gravity model and dataset somewhat greater analytical depth, the Rose dataset was concorded with bilateral merchandise trade data at the 1-digit SITC level, taken from the highly disaggregated bilateral trade dataset compiled by Feenstra et al. (2005). This dataset covers bilateral trade data from 1962 to 2000, organized by 4-digit SITC (revi-

1. The Swiss-US trade integration and openness variables were compiled for the present study and added to the dataset by the authors.

sion 2) categories. In contrast to the Rose trade data, world trade flows in the Feenstra-Lipsey dataset are drawn from United Nations (UN) data sources and are based primarily on reporter-country import data, supplemented as possible where import data gaps occur by reporter-country export data. The Feenstra-Lipsey dataset covers a somewhat smaller number of trading countries than the Rose dataset does, especially from 1984 to 2000, when the dataset contains bilateral trade for only 72 countries, though this still accounts for 98 percent of world exports from 1996 to 2000.

For the present study, the Feenstra-Lipsey world trade data were aggregated to the 1-digit SITC level by country pairs and deflated by the US consumer price index (1983 = 100). After transforming these real trade flows to natural-log terms, they were finally integrated with the Rose data using a concordance between the UN (Feenstra-Lipsey) and IMF (Rose) country codes. In the process, account was taken of all reported adjustments to the UN trade data by Feenstra et al. (2005), except the estimated redistribution of value added in trade between China and Hong Kong, separately reported in Feenstra et al. (2005). Lost in the process, however, were disaggregated trade flows for the former Soviet bloc countries, some less developed countries, and Taiwan, for which no UN (Feenstra-Lipsey) or IMF (Rose) country codes were available. The separate UN country codes for former West Germany and present-day Germany were merged in the Feenstra-Lipsey dataset before integrating the two datasets, thus preserving pre-1991 observations on West Germany's bilateral disaggregated trade, including with Switzerland. Table E.1 describes the regression variables included in the combined Feenstra-Lipsey and Rose dataset.

Estimating Techniques

As might be expected, estimating gravity models using cross-sectional time-series data presents some complex and difficult problems in econometric methodology (Egger 2002, Hsiao 2003). Essentially, ordinary least squares (OLS) regression is unsatisfactory because it does not admit possible unobserved effects related to combinations of commodities and pairs of trading countries in the dataset. As a consequence, the analysis reported in chapter 8 uses a random-effects variant of the gravity model, with generalized least squares (GLS) as the estimating technique. For a discussion of the application of the GLS technique to a random-effects regression model, see Hsiao (2003). An important assumption of the random-effects approach, embodied in the estimation results reported in chapter 8, is that the unobservable random-effects variable is uncorrelated with the observed explanatory variables included in the regression equation.

Reservations about Contrary Results

Adams et al. (2003), colleagues at the Australia Productivity Commission (APC), report negative RTA coefficients using an analytic framework in the

Table E.1 Gravity model regression variables, 1962–69

Regression variable	Description
Dependent variable	Log value of bilateral trade by 1-digit SITC, real US dollars
Distance	Log of distance
GDP	Log of product of real GDPs
GDP per capita	Log of product of real GDPs per capita
Common language	Common language dummy
Common border	Land border dummy
Landlocked	Number of countries landlocked (0/1/2)
Island	Number of island countries (0/1/2)
Land area	Log of product of land areas
Common colonizer	Dummy for common colonizer, post-1945
Colony	Dummy for country pairs currently in colonial relationship
Ever a colony	Dummy for country pairs ever in colonial relationship
Common country	Dummy for same nation/perennial colonies
Currency union	Strict currency union dummy
GSP	GSP dummy
RTAs	RTA dummy covering 10 regional trading arrangements
Swiss-US trade	Dummy for Swiss-US trade
US openness	Dummy for US trade with all partners
Swiss openness	Dummy for Swiss trade with all partners

Note: Dependent variable based on bilateral trade flows drawn from Feenstra–Lipsey dataset. Swiss-US trade and openness variables constructed by the authors. All other variables drawn directly from Rose 2004 dataset. RTA variable covers the Association of Southeast Asian Nations (ASEAN), European Union (EU), US-Israel FTA, NAFTA (North American Free Trade Agreement), Caribbean Community (Caricom), Agreement on Trade and Commercial Relations between the Government of Australia and the Government of Papua New Guinea (PATCRA), Australia–New Zealand Closer Economic Relations Trade Agreement (ANZCERTA), Central American Common Market (CACM), South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA), and Southern Cone Common Market (Mercosur).

Sources: Rose (2004), Feenstra et al. (2005), and authors' calculations.

spirit of the gravity model and a database that ends in 1997. These authors claim to find net trade diversion for 12 out of 16 recent preferential trade agreements (PTAs). The 12 PTAs for which the authors claim net trade diversion (see their table 4.3) are the ASEAN Free Trade Area (AFTA), the European Free Trade Association (EFTA), the European Community/European Union, the Southern Cone Common Market (Mercosur), the North American Free Trade Agreement (NAFTA), the Australia–New Zealand Closer Economic Relations agreement, EU–Switzerland, Chile–Colombia, Australia–Papua New Guinea, Chile–Mercosur, EU–Egypt, and EU–Poland. The 4 PTAs for which the authors claim net trade creation are

the Andean Pact, the Latin American Free Trade Association (LAFTA)/Latin American Integration Association (LAIA), US-Israel, and the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA).

For several reasons, we do not subscribe to the APC findings. To begin with, their technique for measuring net trade diversion is poorly explained and justified in the paper. The APC authors add up their three RTA coefficients in a different manner—and often get a different sign—from the methodological predecessor paper authored by Soloaga and Winters (2001). The text description of the variables does not match up with the tables. Nowhere in the APC paper is there a simple table showing the amount of trade created between RTA members and diverted from nonmembers; we believe such a table might cast considerable doubt on the estimated coefficients. Instead of deleting zero-trade observations from the database as is customary, the authors represent them in a curious manner in the regression analysis that could bias the estimated coefficients. The “dynamic” gravity model used by the APC authors—adding a time dimension to annual observations—is not, to us, a persuasive alternative to the customary before-RTA and after-RTA analysis.

Computable General Equilibrium (CGE) Model

As mentioned in chapter 8, our CGE model is the Global Trade Analysis Project (GTAP) framework, a publicly available and widely adopted model. Multiregion and multisector, it assumes perfect competition and constant returns to scale. Bilateral trade is handled via the Armington assumption, which treats goods from alternative sources as imperfect substitutes. Import demand functions are separated by agent (sometimes called the Salter specification).² Production conditions are modeled using “nested” constant elasticity of substitution (CES) functions,³ and intermediate goods are used in fixed proportions.⁴ Representative household demand takes into account changes in demand structures as incomes rise.⁵ These and other aspects of

2. In other words, the aggregate household, government, investor, and each firm all make their own individual choices about how much of each intermediate input to source domestically, and how much to import.

3. The CES function treats primary factors of production (capital, skilled and unskilled labor, natural resources, and land) as imperfect substitutes in the production process, with a single elasticity describing substitutability between all factor pairs. Intermediate inputs are used in fixed proportion to output.

4. For any given proportional change in output, intermediate input will grow by the same proportion. The input-output (IO) coefficients are obtained from the IO tables routinely produced by statistical agencies in most economies, and constructed for the few regions where the data is unavailable.

5. Changes in demand structure are modeled by so-called “non-homothetic” demand functions.

the GTAP model are fully documented in Hertel (1997) and the GTAP Web site (www.gtap.org). Recent surveys of the application of CGE models to regional trade negotiations include Scollay and Gilbert (2000), Scollay and Gilbert (2001), Gilbert and Wahl (2002), Robinson and Thierfelder (2002), and Lloyd and MacLaren (2004).

Base Data

The base data for the simulations are drawn from the GTAP6 database (final release), the most complete dataset available. It represents the world economy as it was in 2001. The database contains input-output representations of individual economies, obtained from national statistical agencies, international trade and income data from the UN Comtrade database, and the World Bank, respectively. The GTAP6 database improves significantly on GTAP5 by incorporating new protection data from the AMAD and MACMAPS databases. The latter feature bilateral tariffs, so RTAs in place in 2001 are fully integrated. Full database documentation can be found in Dimaranan and McDougall (2005).

Aggregation Strategy

While the GTAP6 database features 87 regions and 57 sectors, it must be aggregated for reasons of computational efficiency. The aggregation strategy we have chosen is given in table E.2. We ranked the total exports of the United States and Switzerland and the bilateral exports of the two countries, then used this ranking, along with “natural” sectoral groupings, to aggregate the data. A similar approach was followed for regional aggregation, where care was also taken to include current US partners within NAFTA, and also new and prospective FTA partners—Chile, Australia, Singapore, Morocco, Central American Free Trade Agreement (CAFTA) members, Southern African Customs Union (SACU) members, and Thailand.

Data Adjustments

While agricultural protection data in GTAP6 is excellent, services protection data is limited. Dee, Hanslow, and Phamduc (2003) have published their estimates of barriers to services trade at the aggregate level. In this study, we split services into traded and nontraded categories, following the classification adopted by Dee, Hanslow, and Phamduc (2003) and using the estimates of services barriers from that study. These barriers are implemented using several instruments: import tax equivalents, export tax

Table E.2 Aggregation scheme for GTAP6 database

Sectoral aggregation	Regional aggregation
Grains	Australia
Oil seeds	New Zealand
Plant-based fibers	China
Other crops	Hong Kong
Raw animal products	Japan
Wool	South Korea
Forestry	Taiwan
Coal, oil, and gas	Indonesia
Dairy products	Malaysia
Other food products	Philippines
Textiles and wearing apparel	Singapore
Wood products	Thailand
Paper products	Vietnam
Chemicals	Canada
Ferrous metals	United States
Nonferrous metals	Mexico
Metal products	Brazil
Motor vehicles	Chile
Electronic equipment	Rest of South America
Machinery and equipment	Central America
Other manufactures	European Union
Nontraded services	Switzerland
Traded services	Rest of EFTA
	Eastern Europe
	Morocco
	SACU
	Rest of world

equivalents, taxes on output, and taxes on domestic capital. The various tax rates were imposed on the GTAP6 dataset prior to the major simulation using the ALTERNATE procedure. This procedure fixes the current account balance and uses parameters such that all key shares in the model remain constant when the new taxes are imposed, while ensuring that the database remains consistent.

An important data adjustment regarding the Swiss ad valorem equivalent (AVE) tariff on imports of other manufactures requires mention. “Other manufactures” is a GTAP6 basket category that includes all manufactures except motor vehicles, machinery, and electronic equipment. GTAP6 records the Swiss AVE tariff on this category as 155 percent, an implausible figure that is not supported by the detailed tariff information presented in chapter 4. Based on the UNCTAD data summarized in table E.3, we have assumed that the Swiss tariff barrier for this category is 11 percent,

Table E.3 High Swiss tariffs on selected US manufactured exports (4-digit level headings facing average applied tariffs exceeding 5 percent)

Heading (HS-4)	Tariff item	Average Swiss tariff ^a (2001)	Swiss tariff lines > 5%	US exports 2004 (millions of dollars)	
				Switzerland	Switzerland
7318	Screws, bolts, nuts, hooks, and similar articles, of iron or steel	75.2	30	15	15
8526	Radar, radio navigational aid, and remote control apparatus	48.6	1	12	12
2403	Tobacco and substitute manufactures; extracts and essences	29.1	7	13	13
8708	Parts and accessories motor vehicles of various purposes	28.0	33	13	13
4911	Printed matter, nesoi, including printed pictures and photographs	24.1	4	24	24
8529	Parts for television, radio and radar apparatus	22.6	2	18	18
8524	Records, tapes and other recorded media	20.1	2	21	21
3917	Tubes, pipes and hoses, and fittings, of plastics	18.4	9	13	13
3304	Beauty or make-up and skin care preparations	17.1	5	36	36
8504	Electrical transformers and power supplies for adp machines	15.8	13	22	22
8483	Transmission, gears, clutches, and other auto parts	15.7	13	10	10
8501	Electric motors and generators (excluding generating sets)	14.2	15	10	10
8409	Parts for spark-ignition or internal combustion piston engines	12.3	10	191	191
8481	Taps, cocks, valves, and similar appliances for pipes	12.2	7	31	31
7307	Tube or pipe fittings of iron or steel	8.5	9	41	41
3824	Binders for foundry molds or cores	6.5	10	71	71
8413	Pumps for liquids, liquid elevators, and parts	6.4	1	13	13
8421	Filtering or purifying machinery and apparatus and parts	5.3	5	12	12
Subtotal for high tariff HS-4 manufactured exports				21.1 ^b	565
Total HS-4 manufactured exports over \$10 million				6.1 ^c	8,306

a. Values reported correspond to averages of *ad valorem* equivalents for non *ad valorem* tariffs. All entries in the Swiss tariff schedule are non *ad valorem*.

b. Simple average of all observations in that column.

c. Simple average of tariffs for US HS-4 exports to Switzerland exceeding \$10 million. By comparison, in 2004, the simple average Swiss MFN tariff for nonagricultural products (WTO definition) was 2.3 percent.

Sources: UNCTAD (2005).

although even that figure might be exaggerated.⁶ The figure of 11 percent is calculated by giving two-thirds weight to the simple average Swiss tariff (6.1 percent) on all US HS-4 manufacture categories where US exports are over \$10 million, and one-third weight to the Swiss average tariff (21.1 percent) on those HS-4 manufactured exports where the Swiss tariff exceeds 5 percent.

6. Detailed comparisons of UNCTAD and WTO AVE tariff figures for Switzerland (for example, as reported in the notes to chapter appendix table 4A.2) suggest that UNCTAD figures are often too high. The problem in evaluating Swiss tariffs arises because many duties are specific, and different methodologies are used to compute their ad valorem equivalents.