
Manufactures Trade

Manufactured goods (also referred to as industrial products) dominate merchandise trade between the United States and Switzerland, accounting for more than 95 percent of two-way commerce.¹ In 2004, two-way trade between Switzerland and the United States in manufactured goods, excluding gold (HS 7108), reached nearly \$17 billion (table 4.1). Swiss manufactured exports to the United States reached \$10.4 billion, while US manufactured exports to Switzerland were \$6.6 billion (table 4.1). In the last decade, the US bilateral deficit with Switzerland has widened, reflecting the ballooning US merchandise trade deficit globally.

While both countries have very low average tariffs on manufactured imports, they maintain significant barriers on selected products.² According to data from the US International Trade Commission (USITC) Dataweb, based on current sales figures to the United States (table 4.2), Switzerland will be most interested in exporting boilers, machinery, and mechanical appliances (HS chapter 84); clocks and watches (HS chapter 91); optical, measuring, precision, and medical instruments and apparatus (HS chapter 90); organic chemicals (HS chapter 29); and pharmaceuticals (HS chapter 30).

1. Throughout this chapter, manufactured goods are defined as all products comprised in HS chapters 25 through 97.

2. Because our goal is to present an overall picture of industrial protection, the analysis of Swiss tariffs presented in this chapter is not based on data at the finest level of tariff detail. Another word of caution: We base US export figures on data compiled by the United States at the moment of export. According to Swiss authorities, figures compiled by Swiss Customs Revenue based on import data often differ significantly. Evidently, US exporters often divert shipments en route to Switzerland to other destinations (principally in Europe).

Table 4.1 Manufactured goods in US-Swiss bilateral trade, 1996–2004 (millions of current dollars)

	1996	2000	2004
Trade in manufactured products ^a			
US exports	5,598	6,136	6,607
Swiss exports	7,023	9,123	10,388
Trade balance (US-Swiss)	-1,425	-2,987	-3,781
Total bilateral trade			
US exports	5,832	6,488	6,759
Swiss exports	7,162	9,272	10,617
Trade balance (US-Swiss)	-1,330	-2,784	-3,858
Share of manufactures in bilateral trade ^b	0.97	0.97	0.98

a. Trade in manufactures was estimated as total trade in HS chapters 25 through 97, with the exclusion of gold (HS 7108).

b. $(US + \text{Swiss industrial exports}) / (US + \text{Swiss total exports})$.

Sources: USITC (2005d).

Likewise, based on current US exports to Switzerland (table 4.2), the United States will be most interested in boilers, machinery, and mechanical appliances (HS chapter 84); optical, measuring, precision, and medical instruments and apparatus (HS chapter 90); pharmaceuticals (HS chapter 30); precious metals (HS chapter 71); and works of art (HS chapter 97). In most of these industries, trade between the United States and Switzerland is either tariff-free or pays only nuisance duties. However, tariffs or other barriers are significant for a few tariff lines, and those are the cases that attract our attention.

This chapter is divided into six sections. The first section deals with tariffs and tariff-rate quotas. The second reviews safeguard, antidumping (AD), and countervailing duties (CVDs). The third examines technical barriers as they relate to industrial products. The fourth reviews tariff phase-out schedules in selected US bilateral free trade agreements (FTAs). The fifth addresses rules of origin in industrial products. Finally, the sixth presents recommendations for liberalizing industrial trade.

Tariffs and Tariff-Rate Quotas

Both Switzerland and the United States are among the most open economies in the world for trade in industrial products. According to recent World Trade Organization (WTO) *Trade Policy Reviews* (2004b and 2004c), the average applied tariff for manufactured imports was 2.3 percent for Switzerland and 4.2 percent for the United States. World Bank trade-

Table 4.2 Manufactured exports in leading 2-digit HS chapters, 2004
(millions of current dollars)

HS chapter	Description	Swiss manufactured exports to the United States	US manufactured exports to Switzerland
HS-91	Clocks, watches, and parts thereof	1,695	120
HS-84	Nuclear reactors, boilers, machinery, and parts	1,675	906
HS-90	Optical, cinematographic, medical instruments, and parts	1,590	731
HS-30	Pharmaceutical products	1,289	1,305
HS-29	Organic chemicals	1,191	163
HS-85	Machinery, electrical apparatus and instruments; parts	765	322
HS-71	Precious stones, metals, pearls, and articles thereof	446	812
HS-39	Plastics and articles thereof	182	76
HS-88	Aircraft, spacecraft, and parts thereof	164	344
HS-97	Works of art, collectors' pieces, and antiques	155	936
HS-82	Tools, implements, cutlery, and parts	153	21
HS-32	Tanning or dyeing extracts; dyes, pigments, paints, varnishes	120	107
HS-73	Articles of iron or steel	101	68
HS-33	Essential oils; perfumery, cosmetic, or toilet preparations	88	102
HS-48	Paper and paperboard; articles of paper pulp	83	15
HS-38	Miscellaneous chemical products	62	105
HS-95	Toys, games, and sports requisites; parts	52	19
All manufactured exports, excluding gold (HS 7108) and special provisions		10,388	6,607
HS 7108	Gold	15	2,283
HS-98	Special classification provisions ^a	832	280
HS-99	Temporary legislation; additional import restrictions ^b	191	0

a. Trade under "special classification provisions" includes repairs and alterations of previously imported products; donated pharmaceuticals, textiles, and food products; nonidentified military equipment; small transactions; and US goods returned without having been advanced in value or improved in condition while abroad.

b. Not all restrictions correspond to manufactured products.

Source: USITC (2005b).

weighted averages, reported in the 2005 Index of Economic Freedom, indicate that the tariff burden on actual trade is even lower—0.8 percent in Switzerland and 2.6 percent in the United States. Hence, on average, the United States imposes higher tariffs on industrial products than Switzerland does.³

Swiss and US principal manufactured exports to each other are subject to low rates. Analyzed at the harmonized tariff schedule (HTS) 10-digit and 6-digit levels, simple average tariff rates for all industrial exports above \$10 million to the other party were 2.4 percent for Swiss exports to the United States, and 2.6 percent for US exports to Switzerland (chapter appendix tables 4A.1 and 4A.2).⁴ Trade-weighted average tariffs were also lower, at 0.8 percent for Swiss exports to the United States, and 1.2 percent for US exports to Switzerland (table 4.3).⁵

Nevertheless, several high tariffs remain, and the affected products will be of great interest to Swiss-US FTA negotiators. According to Swiss authorities, in 2004, high tariffs—those exceeding 5 percent—obstructed about 10 percent of Swiss industrial exports to the United States, and less than 1 percent of US industrial exports to Switzerland. The United States applies high tariffs on leading Swiss exports, such as clocks, watches, and chemicals, excluding pharmaceuticals (chapter appendix table 4A.1).

By contrast, high tariffs (above 5 percent) do not affect any of the current leading US industrial exports to Switzerland. Chapter appendix table 4A.2, however, identifies a number of tariff lines for which potential US exports of chemicals, printed materials, clocks, watches, and machinery, and electrical apparatus would face high tariffs. In fact, as chapter appendix table 4A.3 shows, high Swiss tariffs are not rare, and may limit imports of selected industrial products.

Generally, the mutual elimination of all industrial tariffs could boost trade in products for which current volumes are modest, as the very low trade-weighted tariff averages compared with simple tariff averages on bilateral trade suggest. The highest industrial tariffs apply to those products where bilateral trade volumes are small. Currently, no products facing

3. Some analysts object to the use of trade-weighted tariff averages, arguing that frequently understate the protective effect of tariffs, since (other things being equal) imports of items with higher tariffs will be lower relative to production or consumption. These analysts would prefer the use of production-weighted or consumption-weighted tariff averages. However, these alternative weighting schemes are very time-consuming and costly to implement. In our view, given the low level of Swiss and US tariff barriers on manufactured goods, the weighting scheme is not critical to evaluate average tariff levels.

4. The cutoff at \$10 million of exports covers 64 percent of Swiss manufactured exports to the United States, and 77 percent of US manufactured exports to Switzerland.

5. Another way of looking at protection is to calculate average collected duties. According to estimates by Swiss authorities, the average customs duty paid for industrial imports from the United States was 0.2 percent, while the figure for industrial exports from Switzerland to the United States was 1.5 percent (personal communication with Thomas Zimmerman).

Table 4.3 Trade-weighted tariffs on bilateral trade^a

Description	US exports		Swiss exports		Weighted average tariff (percent)	
	Millions of dollars	Share	Millions of dollars	Share	United States	Switzerland ^b
Works of art (Ch. 97)	927	0.14	121	0.01	0.0	0.0
Clocks and watches (Ch. 91)	83	0.01	1,448	0.14	3.8	0.3
Optical, measuring and medical instruments (Ch. 90)	519	0.08	1,141	0.11	0.1	0.3
Aircraft (Ch. 88)	385	0.06	139	0.01	0.0	0.2
Machinery, electrical apparatus, and instruments (Ch. 85)	117	0.02	360	0.03	0.0	2.5
Boilers, machinery, and mechanical appliances (Ch. 84)	640	0.10	632	0.06	1.1	3.3
Pearls, precious metals and stones (Ch. 71)	756	0.11	360	0.03	1.0	n.a. ^c
Other chemicals and plastics (Ch. 32–40)	238	0.04	174	0.02	3.8	4.4
Pharmaceuticals (Ch. 30)	1,259	0.19	1,263	0.12	0.0	0.0
Organic chemicals (Ch. 29)	77	0.01	788	0.08	5.5	0.0
Subtotal	5,001	0.76	6,427	0.62	1.2	0.8
Total manufactured exports to each party	6,607	1.00	10,388	1.00	—	—

a. Calculations for Switzerland are at the 6-digit level; those for the United States are at the 10-digit level.

b. Based on ad valorem equivalents at the 6-digit level as reported by UNCTAD.

c. Ad valorem equivalents not reported by UNCTAD.

Sources: USITC (2005d), UNCTAD (2005).

tariffs of over 10 percent record imports over \$15 million at the 6-digit level (Switzerland) or the 10-digit level (United States).

Chapter appendix table 4A.4 presents a list of manufactured goods subject to US tariffs above 10 percent ad valorem at the 6-digit HTS level. The table excludes textiles, clothing, and footwear, sectors where hundreds of tariff lines are routinely subject to high tariffs. Chapter appendix table 4A.5 presents a list of 4-digit HTS categories where the simple average tariff exceeds 5 percent (averaging tariffs at the 6-digit level). Nearly \$2 billion of Swiss exports to the United States arrive in these high-tariff 4-digit HTS categories. It is worth pointing out that Switzerland has no quantitative restrictions on manufactured products (WTO 2004b). For example, under a US TRQ, Swiss exports of card strips made from cotton with a staple length of under 30.1625 mm (HS 5202.99.10) are guaranteed a minimum access of just 6,711 kilograms.⁶

Comparable detail is not available for high Swiss tariffs. However, chapter appendix table 4A.3, drawn from WTO sources, lists several 2-digit HS categories where tariffs on 6-digit items exceed 10 percent of their ad valorem equivalents.⁷ This table excludes textiles and clothing, sectors where high tariffs are the rule, as they are in the United States.

According to estimates from a static computable general equilibrium (CGE) model, a comprehensive Swiss-US FTA might increase two-way manufactures trade by about 20 percent; gravity model estimates suggest that trade could more than double (see chapter 8). These robust estimates reflect that nuisance tariffs drag down trade to a far greater extent than simple models, based on the elasticity of demand, might imply that they do.⁸ They also reflect that high tariffs can choke off manufactures trade altogether, especially when alternative sources of supply are readily available, or when firms forego industrial investments because trade barriers burden imported inputs.

Safeguards

According to the WTO (2004b), Switzerland and Liechtenstein do not maintain or intend to establish any safeguard measures as envisaged under

6. As a minor but not negligible barrier, the United States applies quantitative restrictions on imports of certain cotton-based products (see USITC 2005b, chapter 52, page 3).

7. In the Swiss tariff schedule, specific duties are common, and these need to be converted to ad valorem equivalents for meaningful evaluation.

8. Before the advent of gravity and CGE models, it was common to estimate the impact of tariffs by applying the estimated demand elasticity (a value, for example, between -1.0 and -3.0) to the ad valorem tariff. If the tariff on an item was 2 percent, and the demand elasticity was -3.0 , eliminating the tariff would supposedly result in a trade volume increase of 6 percent. The recent literature on free trade areas (e.g., DeRosa and Gilbert 2005) suggests that this approach badly understates the effect of a free trade area in augmenting trade.

Article 19 of the General Agreement on Tariffs and Trade (GATT) 1994.⁹ However, existing legislation permits safeguards consistent with the WTO, and they could be invoked without new legislation.

At present, the United States has no safeguards on imports of manufactured goods from Switzerland, and while US law has long permitted their application, they are not frequently imposed. But one safeguard issue concerns Switzerland: the US practice of excluding the North American Free Trade Agreement (NAFTA) and other FTA partners from application of its safeguard measures.¹⁰ Switzerland participated in a group of countries that, in March 2002, challenged US safeguard measures on steel, arguing that, among other defects, the United States “did not respect the requirement of parallelism between the scope of the investigation of the injury arising from imported products and the scope of the safeguard measures”¹¹ (WTO 2003c). The WTO Panel and Appellate Body found the US safeguard measures to be inconsistent with the Agreement on Safeguards and GATT-1994, citing the absence of parallelism among a long list of defects. The United States revoked the steel safeguard in December 2003. Of course, if a Swiss-US FTA is concluded, the Swiss concern over parallelism will be moot.

Antidumping and Countervailing Duties

According to its latest notification to the WTO (2005d), the United States does not apply AD duties to any product originating in Switzerland¹²—but if it does so in the future, the Byrd Amendment could be a matter of concern. Akin to a damage award, this amendment distributes a large portion of the revenues collected from AD measures to firms in the affected US industry that supported the AD petition. The Byrd Amendment was ruled illegal by the WTO Appellate Body, but Congress remains strongly opposed to its repeal.¹³

In recent years, Switzerland has not applied AD measures against any country.¹⁴ Moreover, Swiss exporting firms are infrequently involved as

9. Safeguards are also discussed in chapter 2 on agricultural barriers, where they have greater relevance.

10. Under US practice, NAFTA and FTA partners are included only when they contribute in a significant way to total imports, and to the injury suffered by the domestic industry.

11. In other words, the United States did not justify excluding Canada and Mexico from its safeguard measures.

12. See WTO (2005d). Nor is the United States considering applying AD duties.

13. Many observers believe that the Byrd Amendment will remain on the US law books at least until the WTO Doha Development Round is concluded and the package is ratified by Congress.

14. There is no current legislation in Swiss law on applying AD duties. The last reference in Swiss legislation dates from the Tokyo Round of multilateral trade negotiations. For more information, see WTO (1995a).

targets of AD investigations: Since 1995, Swiss firms have faced just five, of which only one ended in applying definitive duties, and none of these cases involved the United States. This record is all the more remarkable given that an important share of Swiss exports corresponds to sectors with a moderate incidence of AD investigations, such as chemicals and machinery.¹⁵

There are no outstanding issues on the bilateral agenda with respect to CVDs. Switzerland has not applied them in recent years,¹⁶ and though the United States is the world's most frequent user of CVDs, Switzerland rarely subsidizes industrial production that would necessitate them.¹⁷

Technical Barriers

Standards and technical regulations, conformity assessment, and mutual recognition can constitute technical barriers to trade, particularly since such regulations differ not only between Switzerland and the United States, but within them. As these barriers can be complex, the United States and Switzerland are each discussed in turn.

Standards and Technical Regulations

Voluntary standards are usually developed by private-sector associations in a given industry, profession, or academic field (WTO 2004c). By contrast, mandatory standards can be established at either the federal or state level (WTO 2004c). While Congress retains the power to write product regulations, "it usually delegates enabling legislation to regulatory agencies, generally pursuant to broad guidance as to the factors considered and policy goals to be achieved" (WTO 2004c). An agency may also develop standards and technical regulations on its own if Congress has previously conferred broad authority to do so.

The United States is often criticized for ignoring international standards. Its domestic standards sometimes contradict them; other times, it

15. About 57 percent of US AD initiations between 1995 and 2004 corresponded to base metals and articles thereof (HS chapters 72 through 83), and Swiss exports to the United States are small in these sectors, only 2 percent of total trade. US AD initiations on chemicals and machinery and apparatus, over that same period, represented about 18 percent of total AD measures.

16. Switzerland has no current legislation on the application of countervailing measures. The last reference in Swiss legislation dates from the Tokyo Round of multilateral trade negotiations. For more information, see WTO (1995b).

17. Moreover, between 1995 and 2004, 60 percent of US CVD investigations targeted base metals and articles thereof (HS chapters 72 through 83), not products that Switzerland exports in large volume.

purposefully does not adopt them. US standards on electrical and electronic products differ from international standards (European Commission 2004a). Likewise, US standards for nondestructive testing (NDT) require that the personnel be certified twice, while the international standard is a single certification (European Commission 2004a). It annoys other countries when US officials argue that US standards, such as those for pressure containers, are “international” because they are widely used abroad.

In the pharmaceutical area, the European Union claims that FDA approval of new medicinal products takes much longer for new non-US drugs than it does for new US drugs. The European Union attributes this delay to the investigational new drug (IND) system, which allows “the FDA advanced knowledge of medicinal products tested in clinical trials in the United States” (European Commission 2004a). The European Union also takes exception to the US “over the counter” (OTC) procedure, in which active substances that have been approved for an array of medicinal products by the FDA are put on an approved list (European Commission 2004a). The approved active substances can then be sold without a prescription. However, this procedure is only available for active substances that have a US market history. This limits market access for OTC products from the European Union and Switzerland, despite their equivalent regulatory system for pharmaceuticals.

For textiles and leather, custom formalities are costly. Textile, clothing, and footwear imports require detailed and voluminous information that sometimes entails disclosure of confidential processing methods, such as type of finishing or dyeing.¹⁸ As a result, “liquidation” (i.e., final determination) of custom duties may take 210 days or longer. The European Commission (2004a) argues that this practice constitutes an important barrier, since apparel articles often have a short shelf life.¹⁹

The American Society of Mechanical Engineers (ASME) sets basic standards for pressure equipment in the United States. In addition, however, local jurisdictions may regulate that equipment, leading to a multiplicity of standards from state to state. If foreign manufacturers want to use a particular material for the US market not listed in the ASME code, they have to initiate a “code case” procedure, which is extremely costly and lengthy. The ASME also requires an authorized authority to inspect each manufacturing firm; this authority must be an insurance company authorized to write pressure equipment insurance in at least one US jurisdiction.

18. Moreover, imported textile fabrics have to be marked with generic names, and when constituent fibers are more than 5 percent, their percentages by weight must be identified. Products with woolen fiber need to be clearly marked to comply with the Wool Products Labeling Act of 1939 (European Commission 2004a).

19. If the importer is not in a position to redeliver the goods when US Customs requests, the importer faces a large penalty, which usually amounts to 100 percent of the value of the good (European Commission 2004a).

Finally, the European Union contends that the very complexity of the US regulatory system is itself an additional import barrier, not only for pressure equipment, but for many other products as well. Products entering the United States are often subject to an array of standards and technical regulations regarding consumer and environmental protection. The European Commission (2004a, 32) complains that “equipment for use in the workplace is subject to US Department of Labor certification, [national] electrical equipment standards, specific regulations imposed by municipalities, and other product safety requirements as determined by insurance companies.” Swiss exporters have similar complaints.

For Switzerland, possibly because the Swiss market is small, or because Swiss standards and technical regulations are closely aligned with international practice, few complaints are heard from trading partners. As in the United States, Swiss federal departments and agencies develop standards and technical regulations if Parliament grants authority. In 1996, the Federal Law on Technical Barriers to Trade entered into force. This law, which applies to regulations at the federal level, states that technical legislation has to be drafted in such a way that it does not create trade barriers. To this end, product standards must be harmonized with Switzerland’s most important trading partners.

Today, the legal competence for all technical regulations resides at the federal level, not at the cantonal level as in former times. The WTO (2004b) reports that Swiss efforts to harmonize technical requirements across cantons and with the European Union have been successful, particularly for motor vehicles and telecommunications.

Conformity Assessment

To ensure that manufactures meet standards and technical regulations, the United States often relies on third-party conformity assessment procedures for industrial products, so that it often requires third party certification rather than self-certification for telecommunications equipment, electrical equipment, and domestic appliances (European Commission 2004a). By contrast, the norm in other countries is usually self-assessment. Third-party assessment can imply additional costs for foreign suppliers of industrial goods.

Switzerland’s Federal Law on Technical Barriers to Trade does not require third-party assessment. According to the WTO (2004a), “the LETC states that several conformity assessment procedures should be proposed when a technical regulation is established, and that at least one procedure should allow producers or suppliers self-assessment.”

Mutual Recognition

As a general rule, the United States does not follow the EU norm of mutual recognition of product standards established by EU member states, nor has

it embarked on a large-scale effort to harmonize its product standards with international ones. However, on a case-by-case basis, the United States has accredited foreign testing agencies. In December 1998, the European Union and United States signed a mutual recognition agreement (MRA) dealing more broadly with conformity assessment. The EU-US MRA aims to allow manufacturers in both countries “to test and certify their products with a domestic conformity assessment body (CAB) according to the requirements of the other Party” (European Commission 2004a).

The US-EU MRA was initially targeted at manufacturers of computers and medical devices but encompassed other sectors as well. The European Commission (2004a, 26), however, considers that the United States “has not made a sufficient commitment to implementing [the US-EU MRA], particularly in the areas of electrical safety and pharmaceutical good manufacturing practice.” These areas are of significant interest to Switzerland. The European Union complains that, in 2003, it was obligated to suspend its MRA with the United States regarding electrical safety because the US Occupational Safety and Health Administration (OSHA) refused to grant European authorities the right to designate European laboratories as acceptable conformity assessment bodies (European Commission 2004a). Switzerland had the same experience when it tried to have OSHA recognize Swiss conformity assessment bodies in 1998. Not only do Switzerland and the United States have different accreditation requirements, but product marking requirements create another barrier, since smaller certification bodies have difficulty promoting their own trademarks.

The Swiss-American Chamber of Commerce (2002) reports that the United States initiated a proposal to negotiate a conformity assessment MRA with three European Free Trade Association (EFTA) countries, Norway, Iceland, and Liechtenstein. The contemplated agreement was supposed to match the provisions of the US-EU MRA, but would be restricted to telecommunications equipment, electromagnetic compatibility, and recreational craft. In April 2002, the Swiss-American Chamber of Commerce (2002) submitted a letter to the USTR suggesting that Switzerland be part of this agreement, arguing that it was “in the best interest of US business to also facilitate access to the three proposed sectors in the Swiss market.” Negotiations are under way, but apparently not at a brisk pace.

Unlike the United States, Switzerland has entered into MRAs dealing with both product standards and conformity assessment.²⁰ Switzerland has concluded MRAs with Canada (1999), the European Union (2002), and the EFTA/European Economic Area (EEA) states (2002), and is negotiating with Australia, New Zealand, and the United States.

The MRA between Switzerland and the European Union deals with both product standards and conformity assessment, and covers 15 product

20. The following discussion is based on information in Switzerland Ministry of Economy (2005).

areas and assessment subjects.²¹ For product sectors in which EC and Swiss legislation are equivalent, the agreement enables conformity assessment to be carried out by a recognized Swiss body according to Swiss technical legislation. For products without equivalent legislation (e.g., boilers and certain measuring instruments), conformity assessment procedures must be based on EC technical regulations. However, a Swiss body that is recognized by both parties may deliver an attestation of conformity (also based on EC regulations). Finally, while the Swiss-EU MRA facilitates trade in pharmaceuticals by providing mutual recognition of good manufacturing practice (GMP) inspection and batch certification by manufacturers, each party retains responsibility for authorizing the sale of pharmaceuticals in its territory.

The MRA between Switzerland and Canada does not cover as many products as the Swiss-EC MRA does. However, the Swiss-Canada MRA allows conformity assessment to be achieved by a Swiss body recognized by both parties.

Independent of future FTA negotiations, regulatory cooperation already exists between Swiss and US health authorities in the field of GMP for pharmaceuticals (Swiss Federal Department of Foreign Affairs 2003). Swiss authorities believe that this cooperation might eventually lead to mutual recognition.

Tariff Phaseouts in US and Swiss FTAs

As mentioned in chapter 1, the Swiss-US FTA could set a new standard for liberalization, but much depends on the phaseout regime. To hazard an estimate as what such a regime might look like, it is instructive to look at past FTAs for both the United States and Switzerland—particularly the former, since its FTA experience with phaseout regimes on manufacturing is considerably broader. To that end, selected US FTAs are discussed individually, followed by a shorter discussion of Swiss FTAs.

US-Singapore FTA

Tariffs on most products exchanged were already low before the agreement. Despite the modest agenda on tariffs, and possibly due to the ease of negotiations in this area, progress on other issues, such as rules of origin

21. Those subjects are machinery; personal protective equipment; toys; medical devices; gas appliances and boilers; pressure vessels; telecommunications terminal equipment, equipment and protective systems intended for use in potentially explosive atmospheres, electrical equipment, and electromagnetic compatibility; measuring instruments and prepackaging; motor vehicles; agricultural or forestry tractors; good laboratory practice (GLP) for chemicals and pharmaceuticals; and good manufacturing practice (GMP) inspection and batch certification.

and customs procedures, achieved results that the USTR characterizes as “ground-breaking.”²²

Under the US-Singapore FTA, Singapore committed to apply zero tariffs for all manufactured imports upon entry into force. Since Singapore already applied zero tariffs on almost all manufactured goods, the agreement entailed eliminating tariffs on very few products, such as beer, stout, samsou, and medicated samsou.

In negotiating market access for industrial products, the United States secured the longest phaseouts (8 to 10 years) for products that enjoy the highest most favored nation (MFN) tariff protection (above 8 percent). Products with moderate MFN tariff protection (5 to 8 percent) typically obtained shorter phaseouts (4 years), while products with low MFN tariff protection (below 5 percent) were granted, for the most part, immediate access to the US market.

According to the US Trade Representative (USTR), the United States committed to eliminate 92 percent of its tariffs on Singaporean manufactured exports immediately, leaving only 8 percent of tariff lines for longer phaseouts. However, chapter appendix table 4A.6 shows a larger percentage of phaseout tariffs affecting important product-categories, such as organic chemicals, starches, and enzymes, clocks, optical, and medical instruments, and certain vehicles. In fact, for the selection of products listed in chapter appendix table 4A.6, only 77 percent of the tariff lines will qualify for immediate duty-free access. Most of the remaining US tariffs will be phased-out within 4 years (16 percent); but very sensitive US products qualify for 8- to 10-year phaseouts (7 percent).

Unlike the US-Australia FTA, many textiles and apparel under the US-Singapore FTA enjoy immediate duty-free entry into the US market if they meet the agreement’s special rules of origin.²³ The Web site of the Ministry of Trade and Industry of Singapore, however, does not include textiles among the sectors that stand to benefit from US tariff liberalization. The “benefit” sectors identified by the ministry are electronics, information technology equipment, chemicals and petrochemicals, instrumentation equipment, processed foods, and minerals.²⁴

US-Australia FTA

Similar to US trade relations with Switzerland, manufactured exports account for almost 95 percent of US merchandise exports to Australia. Before the agreement, Australia applied higher tariffs to US manufactured products

22. The US-Singapore FTA is among the first US trade agreements with specific obligations on the conduct of customs procedures. See USTR (2002a).

23. Rules of origin are discussed below.

24. For more information, see the section on the US-Singapore FTA in Singapore Ministry of Trade and Industry (2003).

than the United States did on similar products originating in Australia.²⁵ Balancing this situation was an important US objective. For its part, Australia wanted to give its exporters equal footing with competitors that already benefited from preferential access to the US market.

Australia will grant immediate duty-free access to more than 99 percent of manufactured imports from the United States. Indeed, chapter appendix table 4A.7 shows that, leaving textiles aside, Australia only managed to apply phaseouts (6 years) on about 15 tariff lines that correspond to secondhand passenger vehicles. According to the USTR, autos and auto parts, chemicals and plastics, construction equipment, electrical equipment and appliances, fabricated metal products, furniture and fixtures, medical and scientific equipment, nonelectrical machinery, and paper and wood products manufactured in the United States will benefit immediately.

Though the United States will grant immediate duty-free access to 97 percent of nonagricultural tariff lines, it insisted on phaseouts for a substantial number of sensitive products. Chapter appendix table 4A.7 shows that US phaseouts will apply to tariff lines in ceramic products, glassware, certain tools used in construction, optical and medical instruments, and electrical machinery. Tariffs on most of these products will be phased-out over 4 to 10 years. Tariffs on a few milk proteins and casein will be phased-out over 18 years.

Despite these long phaseouts, the Australian Department of Foreign Affairs and Trade (2005b) highlights that the automotive, metals, minerals, seafood, paper, and chemical sectors, as well as sectors that use US inputs, stand to benefit immediately. Australia expects benefits to its textiles, clothing, and footwear sectors over a longer time frame, since many tariffs will be eliminated over 15 years (Australia Department of Foreign Affairs and Trade, 2005). The agreement also establishes a Committee on Trade in Goods to address market access concerns (mainly on the part of Australia), particularly those relating to nontariff barriers (NTBs).

In all, the USITC expects that FTA concessions will result in gains for the following US manufactured exports, listed in decreasing order of projected gain: coal, oil, and gas; processed food; textile, apparel, and leather products; motor vehicles and parts; ferrous metals; and wood products. Also listed in decreasing order of projected gain, Australian manufactured exports projected to increase are: textiles; chemicals, rubber, and plastic; and motor vehicles and parts (USITC 2004b).

US-Chile FTA

Trade in manufacturing plays a smaller role between the United States and Chile than it does in US trade relations with more highly developed coun-

25. The difference was particularly noticeable for durable goods, which accounted for about three-quarters of US exports to Australia.

tries. Industrial products represented less than 60 percent of Chilean exports to the United States, and many Chilean industrial exports are food or forest-based products, though Chile's chemical exports are rapidly expanding. More than 85 percent of bilateral trade in consumer and industrial products became duty free immediately upon entry into force, and most of the remaining tariffs will be eliminated within four years.²⁶ Tariffs on textile products were eliminated immediately on both sides. However, Chile does not export large amounts of these products to the United States.²⁷

Before the FTA, many Chilean industrial-based exports entered the United States duty-free under the Generalized System of Preferences (GSP). Hence, the FTA tariff cuts will have a comparatively small effect on Chilean manufactured exports. However, the United States will apply 4- to 10-year phaseouts on certain tariff lines.²⁸ In addition, the United States established two duty-free TRQs on Chilean exports of radial tires and certain ceramic products, such as hotel or restaurant chinaware. Out-of-quota tariffs will be phased out over 8 to 10 years. Textiles and footwear, with a few exceptions for wool-based products and certain shoes, receive immediate duty-free treatment.

Selected Swiss FTAs

Switzerland approaches negotiations differently than the United States does. For one thing, to date, Switzerland has negotiated all of its bilateral FTAs as a member of EFTA, excluding Switzerland's agreements with the

26. US manufactured exports gaining immediate duty-free access to Chile include: agricultural and construction equipment; autos and auto parts; computers and other information technology products; medical equipment; and paper products. Chile retained 4- to 10-year phaseouts on certain tariff lines in organic chemicals (HS 2905, 2915, 2917, and 2930), fertilizers (HS 3102), tanning colors (HS 3204, 3207-09, and 2314), cosmetics (HS 3303-05), enzymes (HS 3501-06); miscellaneous products of the chemical industry (HS 38), plastics (HS 3901-02; 3905-09; 3519-20, and 3926), rubbers (HS 4005-08, 4010 and 4012), certain shoes (HS 6403), stones used in construction (HS 68) including brick or ceramic, glassware (HS 7004-7018), certain machinery and mechanical appliances (HS 8419-26), and vehicles and parts thereof, including HS 8702 and parts listed in other chapters. However, Chile applies an almost perfectly uniform MFN tariff of 6 percent, and for none of the phaseout products does the MFN tariff exceed that level.

27. In 2002, Chilean textile exports were just over \$10 million.

28. Egg albumin and indelible gelatin (HS 3502 and 3503), trunks and suitcases (HS 4202), gloves (HS 4203), luggage (HS 4602), glazed ceramic tiles (HS 6907 and 6908), drinking glasses (HS 7013), articles of metal such as knives, scissors, joint pliers, etc. (HS 8203-8208, HS 8214, and 8215), bicycles and parts (HS 8714), watches (HS 9101-9114), and brooms and whisk-brooms (HS 9602 and 9603). Only 62 percent of the tariff lines in chapter 91 of the US schedule (watches) qualify for immediate duty-free treatment. Tariffs on the remaining tariff lines will be phased-out over four years (23 percent) or eight years (15 percent).

European Union. EFTA's bilateral agreements require very few exceptions in nonagricultural products,²⁹ and do not require long phaseouts on the EFTA side for market access barriers.³⁰ However, they do not seriously cover agriculture, and so do not significantly reduce high agricultural protection in the EFTA countries.

As an illustration, the EFTA-Singapore FTA immediately abolishes practically all customs duties on products listed in HS chapters 25 through 97 upon entry into force. A few exceptions are listed in Annex V (EFTA 2002a). For Switzerland, excluded products are casein and albumin (ex chapter 35), and feeding stuffs for production animals in chapter 35 (dextrin, other modified starches, and prepared glues) and chapter 38 (finishing agents, fatty oils, alcohols, acid oils, prepared binders for foundry moulds, and residual products of the chemical industry).

The EFTA-Chile FTA recognizes the asymmetry in development levels between parties,³¹ and Annex VI allows Chile to establish phaseouts on certain manufactured products (EFTA 2003). The phaseouts for more than three-fourths of the products listed there are indefinite, but this provision could be renegotiated two years after the agreement entered into force.³² Chile will allow EFTA partners to propose changes to the phaseouts, to the extent that Chile grants better access for the same products originating in the European Union. For its part, Switzerland only excluded from immediate duty-free treatment those same tariff lines that were reserved in the EFTA-Singapore accord (Annex III).

Rules of Origin

Rules of origin determine which goods are eligible for preferential FTA tariff rates, and defining these rules will be a crucial aspect of the negotiation.³³ Many sectors in Switzerland rely heavily on foreign inputs to pro-

29. In most of these EFTA bilateral agreements, Switzerland has excluded only 13 nonagricultural tariff lines.

30. Recognizing asymmetries, EFTA has allowed long phaseouts for developing countries. From the standpoint of promoting growth, most developing countries would benefit from faster rather than slower trade liberalization. However, the asymmetry argument is regularly invoked for protectionist purposes, and advanced countries (such as EFTA members) often accept it for political rather than economic reasons.

31. See the preceding note.

32. Affected products include organic chemicals, fertilizers, certain tanning products, cosmetics, other chemicals, plastics and rubbers, raw fur skins, bricks and other ceramic products, certain glassware, a few articles of iron and base metals, some electrical and mechanical appliances, and vehicles and parts thereof. This listing is very similar to the list of products that received 4- to 8-year phaseouts in the US-Chile FTA.

duce exported goods. Producer associations have commented that the benefit of reduced and zero tariffs on manufactured goods will critically depend on whether the FTA contains liberal rules of origin.

This is all the more important because, for the majority of traded goods, FTA preferences will be meaningful only if the cost of complying with the rules of origin is modest. Otherwise, firms will simply pay the MFN tariff and avoid the hassle. We focus this section on rules of origin for sectors where high MFN tariffs prevail, such as textiles and apparel, and sectors where using imported inputs is an important part of industrial production. Before turning to details, as revealed in past FTA negotiations, it is worth calling out three general issues that are sure to arise in negotiating the rules of origin: cumulation, rules on remanufactures, and methods of certification.

The cumulation issue centers on the designation of countries whose products qualify for meeting the rules of origin set forth in the FTA. Will only goods manufactured in the two partner countries qualify? Or will goods manufactured in third-country FTA partners also be allowed? The answer is critical in a world where components from several countries are assembled to make many final products, from shoes and clothing to computers.

EFTA's approach to the cumulation issue often agrees with the EU model, under which rules of origin permit goods from a number of countries that are linked by trade agreements with identical rules of origin to qualify; the result is called "diagonal cumulation." Under one version of diagonal cumulation, if both the United States and Switzerland had FTAs with identical rules of origin as a given third country, that country's products would qualify for meeting the rule of origin test in preferential Swiss-US trade.³⁴ Some EFTA bilateral FTAs follow the principle of diagonal cumulation, though FTAs with non-Euro-Mediterranean partners do not.

By contrast, as a normal practice, the United States has adopted a "bilateral cumulation" approach in its FTAs, meaning that only products manufactured in the partner country, whether sold as final goods or as inputs, qualify for the rules of origin. Following a "bilateral cumulation" rule, inputs made in Chile, Singapore, or Australia—all countries with which the

33. The legitimate purpose of rules of origin is to avert "trade deflection"—the practice of routing third-country imports into the FTA partner with the lowest MFN tariff, then exporting the same goods into the partner with the higher MFN tariff, taking advantage of the FTA preferential tariff rate.

34. Under a strict interpretation, diagonal cumulation with third partners linked to both the United States and Switzerland by bilateral FTAs (such as Chile, Singapore, or Mexico) would not be possible, since the regimes of origin established by the FTAs differ. However, as we suggest in our recommendations, a considerably less strict interpretation would have substantial benefits.

United States has negotiated FTAs—would not qualify if they were embedded as components of a Swiss product shipped to the United States.

Remanufactures are industrial products assembled from “recovered goods,” typically made from items listed in HS chapters 84, 85, and 87. Parts resulting from disassembling a product do not constitute a “recovered good” unless they are cleaned, inspected, and tested. In producing a remanufactured good, the parts must be subjected to welding, flame spraying, surface machining, knurling, plating, sleeving, or rewinding. The United States contends that remanufactured products should qualify under rules of origin regardless of their original source. The US auto industry is particularly interested in this provision.

Switzerland has adopted procedures for certification of origin that are significantly different from those of the United States. While US bilateral FTAs establish declaration of origin by the importer, Switzerland requires certification by the exporter.

Rules of Origin in US Bilateral FTAs

Many US bilateral FTAs require that preferred imports be wholly made in the partner country, or that the “substantial transformation” of components that originated elsewhere occur there. The underlying principles that define “substantial transformation” are similar in the US-Chile, US-Australia, and US-Singapore FTAs, as well as the Central American–Dominican Republic Free Trade Agreement (CAFTA-DR).

Substantial transformation can be achieved when activity in the territory of the FTA exporter changes the tariff classification between inputs from a third country and the exported product. Depending on the product, that requirement could correspond to a change involving different HS chapters at the 4-digit or 6-digit level. US bilateral FTAs include a *de minimis* exception to HS classification change tests when the product contains 10 percent or less of nonoriginating material.

An alternative requirement, which is sometimes combined with the change-of-tariff-heading rule, is a minimum share of local value added in the free on board (f.o.b.) value of the product. Typically, the minimum local content is 35 percent using the “build-up” method, and 45 percent using the “build-down” method.³⁵ Chemical products (HS 28 through 40) are subject to specific rules defining substantial transformation based on the place where specific chemical reactions occur.

35. The “build-down” method estimates the share of the local value added in the f.o.b. price by subtracting overhead, transportation, and similar costs. The “build-up” method estimates the share of local value added by combining the cost of originating materials used in making the final product. The US-Australia FTA uses a variant, a net cost method, for certain automotive products.

The agreements allow cumulation of origin for inputs from in the territory of either party. Thus, Singaporean inputs can be counted as American in US exports to Singapore, and vice versa.

The US-Singapore FTA makes an important effort to give the rules of origin greater flexibility. It does this through its integrated sourcing initiative (ISI), which applies to specific products designated in Annex 3B of the agreement (USTR 2003a). ISI coverage extends to more than 250 US tariff lines, representing almost 30 percent of US imports from Singapore in 2004.³⁶ For the most part, these are information technology products and medical devices.³⁷ The US-Singapore FTA allows new products to be added to the ISI list by mutual agreement of the parties.

Regarding verification, the agreements require importers to declare the origin of products, allowing importers to argue for preferential treatment based on “the importer’s knowledge or on information in the importer’s possession that the good qualifies as an originating good”(USTR 2003a). The agreements stipulate that each party will grant any properly filed claim for preferential treatment, unless a party possesses information that the claim is invalid.

Many US bilateral FTAs include special textile and clothing rules of origin, one of which is the “yarn-forward rule.” For fabrics to be conferred origin, the yarns (cotton, wool, and most man-made fibers) must be produced in one of the parties to the agreement. The transformation (fabric-making, cutting or knitting, sewing, and finishing activities) must also take place in one of the parties. The yarn-forward rule is obviously designed to ensure that the maximum amount of manufacturing activity takes place in the territory of the FTA partners, and not in third countries. Some Australian textile producers correctly complain that the yarn rule does not allow them to reap the full benefits of the agreement, since they will not be able to source yarn from cheaper Asian suppliers.³⁸

36. Based on 2004 data, more than 90 percent of US imports from Singapore of designated ISI products take place in the following four-digit HS categories: 8470, 8471, 8473, 8479, 8517, 8525, 8534, 8541, 8542, 9021, 9027, and 9030.

37. The actual description for these HS categories are calculating and data processing machines, magnetic or optical readers, telecommunication and sound and image transmitting apparatus, semiconductor devices, electronic integrated circuits, orthopedic appliances, instruments and apparatus for physical or chemical analysis, and instruments and apparatus for measuring or checking electrical quantities.

38. The Australian Textile, Clothing, and Footwear (TCF) Union stated to the Senate Commission on the Australia-US Free Trade Agreement (AUSFTA) that “whilst there was potential for considerable benefits to the Australian TCF industry from this agreement, the US insistence on maintaining ‘yarn forward’ rules of origin has significantly reduced, if not eliminated, any potential up-side for industry and created a considerable down-side.” The TCF representatives also pointed out that the regime of origin for textiles in AUSFTA is very different from the one of Australia–New Zealand Closer Economic Relations Trade Agreement (ANZCERTA), which only requires 50 percent value added (Woolgar 2004).

There are exceptions to the yarn rule. Under the US-Singapore FTA, silk garments only need to undergo cutting, knitting, sewing, and finishing in Singapore to qualify.³⁹ A special provision in that same agreement stipulates that if a particular type of yarn is designated as “short supply” in the United States, Singaporean textiles based on yarn from third countries can claim origin if the yarn is transformed in Singapore.⁴⁰

Rules of Origin in Swiss Agreements

Switzerland applies different regimes of origin in various trade agreements: the Swiss-EU FTA of 1972, the EFTA Convention, EFTA’s bilateral FTAs, and nonreciprocal preferential schemes.

The rules of origin in the Swiss-EU FTA (SEFTA) and EFTA conventions are very similar; in fact, the definitions of origin as they apply to Switzerland is the same.⁴¹ They stipulate that wholly obtained or substantially transformed products may qualify. The principles used are change of tariff classification (generally a change of heading)⁴² and a maximum amount of third-party content (typically between 40 and 50 percent of the ex-works price).⁴³ For sensitive products, more complex rules combine both principles.

Both regimes facilitate the use of third-country inputs through a 10 percent of value tolerance rule, and by allowing transformation in third countries as long as there is less than 10 percent value added.⁴⁴ Textile products in HS chapters 50 through 63, however, are excluded from these exceptions.⁴⁵

In both regimes, the proof of origin requires presenting a certificate or submitting an invoice declaration describing the products “in sufficient detail” (European Commission 2004b). The exporter, or his authorized representative, is responsible for submitting information on the origin of products.

39. For a full treatment of textile rules of origin in US-Singapore, see Singapore Customs (2003).

40. Textile rules of origin also include a modified version of the *de minimis* provision. Products that fail to meet the requisite HS classification change, but contain nonoriginating material of not more than 7 percent of the total weight, can still qualify.

41. The definition of origin is also the same in EFTA bilateral FTAs with Bulgaria, Morocco, Romania, Tunisia, and Turkey.

42. A tariff heading refers to an HS classification at the 4-digit level.

43. The ex-works price equals the f.o.b. price of a good as it leaves a factory for export.

44. The 10 percent general tolerance rule allows the use of nonoriginating products up to 10 percent of the ex-works price.

45. However, note 5 to Annex 1 introduces a different exception for third-country basic textile materials, which, when used in the manufacture of certain textile products, represents 10 percent or less of the total weight of all the basic textile materials used (European Commission 2004b).

In 1992, the Swiss population rejected Swiss participation in the European Economic Area (EEA), which prevented the unification of several rules of origin regimes that are applied concurrently in Switzerland (Nell 1994). However, according to the WTO (2004b, 55), “the only fundamental difference between the EEA origin regime and the SEFTA is the full cumulation which can be used within the EEA.”⁴⁶

Instead of full cumulation, since 1997, Switzerland has enjoyed diagonal cumulation under the Pan-European Cumulation System, meaning that Swiss firms can use inputs from all of the system’s members. All members operate identical origin rules concerning the working or processing of nonoriginating materials, and they all consent to cumulate inputs from other members. All EU and EFTA members, plus Turkey—more than 30 countries—participate in this system, and many partners to EFTA bilateral FTAs, such as Israel, Jordan, and Lebanon, are also adopting it.

Most EFTA bilateral FTAs define origin in a similar fashion. However, differences among agreements remain, since EFTA bilateral FTAs with countries such as Chile, Mexico, and Singapore have tried to include more liberal rules of origin taking into account the trade flows between the parties. These agreements have tried to include more liberal rules, particularly in those sectors where “either party is faced with a lack of raw materials” (EFTA 2002b).⁴⁷

Recommendations for Manufactures Trade

The Swiss-US FTA should aim to eliminate tariffs on manufactured products to the maximum extent and reduce NTBs arising from technical standards, conformity assessment practices, and restrictive rules of origin. As the gravity and CGE models reported in chapter 8 suggest, tariff elimination could expand bilateral trade by at least 20 percent (\$3.4 billion) and perhaps more than 100 percent (\$17 billion). The US-Singapore and US-Australia FTAs illustrate what an FTA can achieve, but the Swiss agreement should be more ambitious. In this context, we offer the following recommendations:

- Switzerland should grant immediate duty-free access to nearly all of the products to which Australia gave immediate duty-free access to the

46. According to the European Commission (2004b), “full cumulation means that all operations carried out in the EEA are taken into account when assessing the final origin. It does not require that the goods be originating in one of the EEA partner countries before being exported for further working or processing in other EEA partners but it does require that all the working or processing necessary to confer origin is carried out on the product.”

47. See, for example, the EFTA Secretariat’s description of the rules of origin regime in the EFTA-Mexico FTA (EFTA 2002b).

United States in 2004. Those sectors would include autos and auto parts, chemicals and plastics, metal products, electrical equipment, and medical and scientific equipment.

- The United States should immediately eliminate nearly all of its tariffs on watches, chemicals and pharmaceuticals, and optical and medical instruments. As in the US-Singapore FTA, the United States should also immediately eliminate nearly all of its tariffs on Swiss textiles and apparel.
- Phaseouts of 4 years should apply to no more than 3 percent of tariff lines, and phaseouts of 5 to 10 years should apply to no more than 2 percent of tariff lines. In other words, US and Swiss tariffs on 95 percent of manufactures tariff lines should be eliminated immediately. No phaseout of manufactures tariffs should last longer than 10 years.
- In the context of the FTA negotiations, each party should accord mutual recognition to approved conformity assessment bodies based in the other country. The mutual recognition process should be open ended, so that additional bodies can be recognized at a later date.
- The parties should establish a working group on standards to do two things. First, on a periodic basis, it should recommend products for which US and Swiss technical standards should be harmonized, and products where the mutual recognition principle should apply. It should begin in areas in which Switzerland has already achieved harmonization or mutual recognition with the European Union. Second, the working group should identify products where manufacturer self-assessment can replace—if the firm desires—third-party conformity assessment by an independent body.
- Diagonal cumulation is clearly the preferable approach to rules of origin, because it reduces their protective impact and opens up a wider array of sources for purchased inputs. However, since the United States has no experience with this approach, it would be too ambitious in the context of the Swiss-US FTA. Instead, the FTA should establish a working party to examine both US and Swiss FTA networks, with a mandate to identify third countries with products that could qualify as inputs under the bilateral rules of origin. The qualifying third countries need not be limited to countries that are partners of both the United States and Switzerland. Inputs from Canada and Mexico (NAFTA partners) might qualify, along with inputs from selected EFTA partners.
- Swiss firms very often rely on purchased inputs beyond Swiss borders. The same is true of US firms, but to a lesser extent. A forward-looking Swiss-US FTA should accommodate, and indeed encourage, integration of the world economy, in which links of the value-added chain are made in different countries. This goal can be accomplished by liberal

interpretation of the “substantial transformation” principle. Allow remanufactures, provide for low “build-down” and “build-up” thresholds, and avoid stringent change-of-tariff-heading rules. The least burdensome certification method should be adopted.

- Additionally, for products with low or zero tariffs on an MFN basis, the Swiss-US FTA should eliminate origin requirements so that firms can benefit from simplified bookkeeping and customs procedures. The ISI devised in the US-Singapore FTA is an excellent model.

In following these recommendations, both Switzerland and the United States can augment the already robust trade in manufactures between them. Of course, trade is not limited to goods; there is also considerable trade in services, which is covered in the next chapter.

Table 4A.1 Top Swiss exports of manufactures to the United States

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
Works of art (Ch. 97)					
9703.00.00.00	Original sculptures and statuary, in any material	121.5	0.012	Free	Free
9701.10.00.00	Paintings, drawing, and pastels other than of heading 4906	14.1	0.001	Free	Free
Clocks and watches (Ch. 91)					
9114.90.40.00	Parts for watches, nesoi	107.4	0.010	Free	Free
9102.21.90.30	Straps, bands, or bracelets for wristwatches, not battery powered, over 17 jewels, nesoi	1,448.2	0.139	4.5	3.8
9102.21.90.20	Cases for wristwatches, over 17 jewels, nesoi	12.8	0.001	8.8	
9102.21.90.10	Movements for wristwatches, over 17 jewels, nesoi	52.8	0.005	1.9 ^e	1.9 ^e
9102.21.70.30	Straps, bands or bracelets for wristwatches, over 17 jewels, with band of textile or base metal	54.3	0.005	1.9 ^e	1.9 ^e
9102.21.70.20	Cases for wristwatches, not battery powered, over 17 jewels, with band of textile or base metal	121.7	0.012	1.9 ^e	1.9 ^e
9102.21.70.10	Movements for wristwatches, not battery powered, over 17 jewels, with band of textile or base metal	38.0	0.004	3.8 ^d	3.8 ^d
9102.11.95.20	Cases for wristwatches, battery powered, with mechanical display only, more than 1 jewel, nesoi	78.1	0.008	3.8 ^d	3.8 ^d
9102.11.95.10	Movements for wristwatches, battery powered, with mechanical display only, more than 1 jewel, nesoi	150.1	0.014	3.8 ^d	3.8 ^d
9102.11.95.00	Movements for wristwatches, battery powered, with mechanical display only, more than 1 jewel, nesoi	56.7	0.005	4.7 ^c	4.7 ^c
9102.11.95.00	Movements for wristwatches, battery powered, with mechanical display only, more than 1 jewel, nesoi	60.8	0.006	4.7 ^c	4.7 ^c

9102.11.65.30	Straps, bands, or bracelets for wristwatches, with mechanical display only, more than 1 jewel	59.2	0.006	6.6 ^b
9102.11.65.20	Cases for wristwatches, battery powered, with mechanical display only, more than 1 jewel	91.4	0.009	6.6 ^b
9102.11.65.10	Movements for wristwatches, battery powered, with mechanical display only, more than 1 jewel	106.7	0.010	6.6 ^b
9102.11.50.30	Straps, bands, or bracelets for wristwatches, more than 1 jewel, gold/silver plated cases	12.8	0.001	6.7 ^f
9102.11.50.20	Cases for wristwatches, more than 1 jewel with band of textile or base metal, gold/silver plated cases	13.6	0.001	6.7 ^f
9102.11.50.10	Movements for wristwatches, more than 1 jewel, band of textile or base metal, gold/silver plated cases	16.0	0.002	6.7 ^f
9102.11.45.20	Cases for wristwatches, 1 jewel or none, with base metal case, nesoi	12.9	0.001	10.2 ^g
9102.11.25.10	Movements for wristwatches, 1 jewel or none, band of textile or base metal case	18.9	0.002	9.7 ^h
9101.29.90.20	Cases for wristwatches, not battery powered, over 17 jewels, without automatic winding, nesoi	18.6	0.002	Free
9101.29.90.10	Movements for wristwatches, not battery powered, over 17 jewels, without automatic winding, nesoi	36.1	0.003	Free
9101.21.50.20	Cases for wristwatches, no strap, not battery powered, with automatic winding, over 17 jewels, nesoi	87.5	0.008	Free
9101.21.50.10	Movements for wristwatches, bands, or bracelets, not battery powered, over 17 jewels, nesoi	109.2	0.011	Free
9101.21.30.00	Straps, bands, or bracelets for wristwatches not textile, not battery powered, over 17 jewels, nesoi	17.9	0.002	3.1
9101.21.10.00	Straps, bands, or bracelets for wristwatches textile, not battery powered, over 17 jewels	46.1	0.004	3.1
9101.11.80.30	Straps, bands, or bracelets for wristwatches, with mechanical display only, more than 1 jewel	35.6	0.003	4.9 ^a

(table continues next page)

Table 4A.1 Top Swiss exports of manufactures to the United States (continued)

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
9101.11.80.20	Cases for wristwatches, battery powered, with mechanical display only, more than 1 jewel	53.8	0.005	4.9 ^a	
9101.11.80.10	Wristwatches, battery powered, with mechanical display only, more than 1 jewel	76.3	0.007	4.9 ^a	
9101.11.40.20	Cases for wristwatches, with mechanical display only, 1 jewel or none	10.3	0.001	5.4 ⁱ	
	Optical, measuring precision, medical instruments and apparatus (Ch. 90)	1,141.2	0.110	0.2	0.1
9031.90.90.95	Parts and accessories	18.6	0.002	1.7	
9030.39.00.40	Apparatus to test voltage, and current, or resistance	11.9	0.001	1.7	
9027.90.54.30	Parts and accessories of 90273040	17.5	0.002	Free	
9027.80.25.00	Nuclear magnetic resonance instruments	10.8	0.001	Free	
9027.30.40.80	Spectrometers and spectrographs, electrical, nesoi	13.2	0.001	Free	
9022.90.60.00	Parts/accessories of apparatus based on X-ray use	41.7	0.004	0.8	
9021.90.80.00	Other appliances worn, carried, or implanted in the body	422.5	0.041	Free	
9021.50.00.00	Pacemakers stimulating heart muscles (excluding parts and accessories)	62.6	0.006	Free	
9021.40.00.00	Hearing aids, excluding parts and accessories	79.9	0.008	Free	
9021.39.00.00	Other artificial body parts and parts and accessories	16.0	0.002	Free	
9021.29.80.00	Dental fittings, except of plastic, and parts and accessories	45.6	0.004	Free	
9021.10.00.90	Other orthopedic or fracture appliances and parts or accessories, nesoi	10.3	0.001	Free	
9021.10.00.50	Bone plates, screws and nails, and other internal fixation devices or appliances	156.4	0.015	Free	
9018.90.80.00	Other instruments and appliances used in medical, surgical, dental, or veterinary sciences, nesoi	111.8	0.011	Free	

9018.50.00.00	Other ophthalmic instruments or appliances and parts or accessories	16.6	0.002	Free
9018.49.80.80	Other instruments and appliances, used in dental sciences, and parts and accessories, nesoi	17.5	0.002	Free
9018.49.80.40	Dental hand instruments and parts and accessories	40.7	0.004	Free
9018.41.00.00	Dental drill engines, whether or not combined on a single base with other dental equipment, and parts and accessories	11.4	0.001	Free
9018.39.00.50	Cannulae and the like and parts and accessories	11.2	0.001	Free
9015.20.40.00	Electrical theodolites and tachymeters	12.6	0.001	Free
9015.10.40.00	Electrical rangefinders	12.5	0.001	Free
Aircraft (Ch. 88)		139.0	0.013	Free
8803.30.00.60	Other airplane or helicopter parts used in military aircraft (not propellers, rotors, undercarriages, or parts thereof)	11.3	0.001	Free
8802.30.00.60	New airplanes, other than multiple engines, nonmilitary, of an unladen weight exceeding 2,000 kg but not exceeding 15,000 kg	127.7	0.012	Free
Machinery, electrical apparatus, and instruments; parts (Ch. 85)		360.5	0.035	1.7
8543.89.96.95	Electric machines and apparatus n.s.p.f	13.3	0.001	2.6
8543.81.00.00	Machines and apparatus, proximity cards, and tags	10.1	0.001	Free
8542.21.80.60	Monolithic integrated circuits, digital, silicon, memory	49.5	0.005	Free
8542.10.00.00	Cards incorporating an electronic integrated circuit ("smart cards")	76.0	0.007	Free
8538.90.80.40	Electrical metal contacts for heading 8535–37	12.3	0.001	3.5
8536.90.80.85	Electrical equipment for switch circuits	25.9	0.002	Free
8536.69.80.00	Lampholders, plugs, sockets, other	18.1	0.002	2.7
8536.69.40.10	Coaxial connectors for switches	16.4	0.002	Free
8536.50.90.65	Switches for electrical circuits, other	12.8	0.001	2.7
8536.49.00.65	Contactors for voltage exceeding 60 v but not exceeding 1,000 v	30.1	0.003	2.7
8535.21.00.00	Automatic circuit breakers for voltage exceeding 1000 v but less than 72.5 kv	10.2	0.001	2.7

(table continues next page)

Table 4A.1 Top Swiss exports of manufactures to the United States (continued)

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
8534.00.00.20	Printed circuits, base of plastic with glass, three or more layers of conducting materials	13.3	0.001	Free	
8516.71.00.80	Electric tea makers, domestic	10.5	0.001	3.7	
8515.90.30.00	Welding machine and apparatus and parts	17.0	0.002	1.6	
8515.80.00.80	Electric welding machines, nesoi; machines for hot spraying of metals	11.4	0.001	Free	
8501.10.40.60	Electric motors under 18.65w, with other brushes	33.4	0.003	4.4	
	Boilers, machinery, and mechanical appliances (Ch. 84)	632.0	0.061	1.1	1.1
8481.90.90.80	Parts, nesoi, of taps, cocks, valves, similar appliances	33.3	0.003	Free	
8479.90.94.95	Other parts of machines and mechanical appliances having individual functions, nesoi	63.1	0.006	Free	
8479.89.98.97	Other machines and mechanical appliances having individual functions, parts thereof	48.1	0.005	2.5	
8479.89.84.90	Machines nesoi for production and assembly of diodes, transistors, and similar semiconductor devices	11.8	0.001	Free	
8473.30.50.00	Parts and accessories of heading 8471 machines, nesoi	10.4	0.001	Free	
8466.94.85.85	Machine parts, noniron, nonmechanical trans	13.1	0.001	4.7	
8466.93.95.85	Machine parts, noniron, metal, other	16.7	0.002	4.7	
8461.40.50.70	Gear grinding or finishing machines, metal removing, valued \$3,025 and over, nesoi, new	11.8	0.001	4.4	
8456.30.10.20	Machine tools for working metal, by electro-discharge processes, traveling wire (wire-cut) type	27.1	0.003	3.5	

8456.10.10.10	Machine tools for working metal, by laser or other light/photon beam processes, of numerical control	31.2	0.003	3.5
8452.10.00.90	Sewing machines, household type, over \$20 each	26.9	0.003	Free
8443.90.90.00	Parts of printing machinery, except textile, and machines for uses ancillary to printing	14.1	0.001	Free
8443.60.00.00	Machines for uses ancillary to printing	35.6	0.003	Free
8443.30.00.00	Flexographic printing machinery	11.5	0.001	2.2
8441.90.00.00	Parts of machinery for making up paper, pulp, paper, or paperboard, including cutting machines	13.5	0.001	Free
8441.30.00.00	Machines for making cartons, boxes, cases, tubes, drums, or similar containers, other than by molding	62.8	0.006	Free
8441.10.00.00	Cutting machines for paper products	10.9	0.001	Free
8431.39.00.10	Parts of pneumatic elevators and conveyors	18.5	0.002	Free
8422.40.91.80	Packing or wrapping machinery, nesoi	15.0	0.001	Free
8419.89.95.85	Industrial machinery, plant/equipment for treatment of materials, with change in temperature, nesoi	10.1	0.001	Free
8419.81.90.40	Industrial machinery and equipment used in restaurants or hotels for making hot drinks or cooking, nesoi	43.9	0.004	Free
8415.90.80.85	Parts of air conditioning machines, nesoi	15.5	0.001	1.4
8414.90.41.75	Parts of compressors, except compressor housings, nesoi	18.7	0.002	Free
8413.91.90.80	Parts of pumps for liquids, nesoi	11.0	0.001	Free
8411.99.90.60	Nonaircraft gas turbines parts, except turbojets and turbopropellers	57.4	0.006	2.4
Pearls, precious metals, and stones (Ch. 71)		360.5	0.035	1.0
7118.90.00.19	Gold coin, nesoi	20.0	0.002	Free
7115.90.05.30	Articles of precious metal, in rectangular shapes, 99.5 percent or more by weight of precious metal, gold	18.7	0.002	Free

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Table 4A.1 Top Swiss exports of manufactures to the United States (continued)

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
7114.11.70.00	Silver articles nesoi for office, desk, religious uses; smokers requisites nesoi	10.5	0.001	3.0	
7113.19.50.00	Gold or platinum jewelry, whether plated, clad, or not, nesoi	57.3	0.006	5.5	
7110.31.00.00	Rhodium, unwrought or in powder form	17.4	0.002	Free	
7110.21.00.00	Palladium, unwrought or in powder form	32.5	0.003	Free	
7110.11.00.20	Sponge of the metal platinum	26.1	0.003	Free	
7103.91.00.20	Sapphires cut but not set for jewelry	11.1	0.001	Free	
7103.91.00.10	Rubies cut but not set for jewelry	11.4	0.001	Free	
7102.39.00.50	Diamonds, nonindustrial, (cut, faceted, set, or mounted) weighing 0.5 carat and over each	155.4	0.015	Free	
Other chemicals and plastics (Ch. 32-40)					
3926.90.98.80	Other articles of plastic, nesoi	173.8	0.017	4.6	3.8
3921.12.50.00	Plates, sheets, film, foil and strip, cellular, of polymers of vinyl chloride, nesoi	16.4	0.002	5.3	
3907.99.00.50	Other polyesters, nesoi	10.6	0.001	6.5	
3907.30.00.00	Epoxide resins	10.7	0.001	6.5	
3824.90.91.50 ⁱ	Chemical products and preparations, residual products of chemical or allied industries, nesoi	12.1	0.001	6.1	
3707.90.32.90	Chemical preparations for photographic uses, nesoi	10.9	0.001	5.0	
3304.99.50.00	Beauty or make up preparations and preparations for skin care (other than medicaments), nesoi	11.4	0.001	6.5	
3303.00.30.00	Perfumes and toilet waters containing alcohol	15.5	0.001	Free	
3215.19.00.50	Printing ink, not black, offset lithographic	39.6	0.004	Free	
		15.3	0.001	1.8	

3204.17.04.85	Pigments and preparations based thereon, pigment black 1, etc.	16.2	0.002	Free	6.5
3204.16.30.00	Reactive dyes and preparations based thereon	15.0	0.001	Free	6.5
Pharmaceuticals (Ch. 30)					
3006.40.00.00	Dental cements and other dental fillings; bone reconstruction cements	1263.0	0.122	Free	Free
3004.90.91.90	Medicaments put up in measured doses or in forms or packings for retail sale, nesoi	13.3	0.001	Free	Free
3004.90.91.85	Medicaments primarily affecting the eyes, ears, or respiratory system, nesoi	280.5	0.027	Free	Free
3004.90.91.60	Medicaments primarily affecting the digestive system put up in measured doses or in forms for retail sale	15.5	0.001	Free	Free
3004.90.91.40	Medicaments affecting the central nervous system, in measured doses or packings for retail sale, nesoi	65.8	0.006	Free	Free
3004.90.91.30	Anticonvulsants, hypnotics, and sedatives, affecting central nervous system, in doses for retail sale	13.7	0.001	Free	Free
3004.90.91.20	Cardiovascular medicaments put up in measured doses or in forms for retail sale, nesoi	27.3	0.003	Free	Free
3004.90.91.15	Antineoplastic and immunosuppressive medicaments, in doses or packings for retail sale, nesoi	229.7	0.022	Free	Free
3004.90.91.10	Antiinfective medicaments, in measured doses or packings for retail sale	31.5	0.003	Free	Free
3004.39.00.50	Products of heading 2937 but not containing antibiotics, not for veterinary use	28.1	0.003	Free	Free
3003.90.00.00	Other medicaments consisting of two or more constituents mixed together, etc.	123.5	0.012	Free	Free
3002.10.01.90	Blood fractions, nesoi	149.9	0.014	Free	Free
3002.10.01.10	Human blood plasma	84.0	0.008	Free	Free
		200.1	0.019	Free	Free
Organic chemicals (Ch. 29)					
2941.90.50.00	Other antibiotics (excluding natural, aromatic, or modified aromatic antibiotics)	787.9	0.076	Free	4.8
2937.90.00.00	Hormones, prostaglandins, thromboxanes, and leukotrienes, natural or synthetic, nesoi	17.3	0.002	Free	Free
		10.8	0.001	Free	Free

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Table 4A.1 Top Swiss exports of manufactures to the United States (continued)

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
2936.28.00.00	Vitamin E (tocopherols and related compounds with vitamin E activity) and its derivatives	50.0	0.005	Free	
2936.21.00.00	Vitamins A and its derivatives unmixed	15.5	0.001	Free	
2935.00.60.00	Other sulfonamide drugs (not anti-infective agents)	15.4	0.001	6.5	
2934.99.30.00	Heterocyclic compounds used as drugs, nesoi	66.9	0.006	6.5	
2934.99.12.00	Heterocyclic compounds used as fungicides, nesoi	19.5	0.002	6.5	
2933.99.65.00	Anticonvulsants, hypnotics, and sedatives with heterocyclic compounds and nitrogen hetero-atom(s) only	50.9	0.005	6.5	
2933.99.53.00	Cardiovascular drugs, not elsewhere specified	234.4	0.023	6.5	
2933.69.60.50	Other compounds containing an unfused triazine ring (whether or not hydrogenated) in their structure	11.3	0.001	3.5	
2933.59.46.00	Antidepressants, tranquilizers, and other psychotherapeutic agents, with pyrimidine or piperazine ring	14.2	0.001	6.5	
2933.49.70.00	Compounds with quinoline/isoquinoline ring system	10.1	0.001	6.5	
2933.29.20.00	Aromatic or modified aromatic drugs containing an unfused imidazole ring in the structure	19.2	0.002	6.0	
2932.99.90.90	Other heterocyclic compounds with hetero-atom(s)	16.4	0.002	3.7	
2930.90.90.90	Nonaromatic organo-sulfur compounds, nesoi	10.3	0.001	3.7	
2929.90.15.00	Other aromatic compounds with other nitrogen function of products in US note 3 to section 6	15.6	0.002	6.5	

2924.29.47.00	Other cyclic amides used as pesticides	83.2	0.008	6.5
2924.19.80.00	Acyclic amide derivatives, salts thereof	10.8	0.001	6.5
2922.50.25.00	Other aromatic amino-alcohol-phenol drugs	45.5	0.004	6.5
2921.49.43.00	Aromatic monoamine drugs, nesoi	26.2	0.003	6.5
2914.29.50.00	Other cyclanic, cyclenic, cycloterpenic ketones without other oxygen	16.2	0.002	4.8
2914.23.00.00	lones and methylones	16.9	0.002	5.5
2912.29.60.00	Other cyclic aldehydes without oxygen function	11.3	0.001	5.5
Other industrial products		204.0	0.020	3.2
9503.30.00.00	Other construction set/toy/parts, other	15.8	0.002	Free
8211.93.00.30	Penknives, pocketknives and others with folding blades	19.6	0.002	7.7 ^k
8202.99.00.00	Other saw blades and parts, base metal	19.5	0.002	Free
8202.40.60.60	Chainsaw blades and parts, base metal other, not continuous lengths	18.4	0.002	Free
8202.40.60.30	Chainsaw blades, base metal other, continuous lengths	12.4	0.001	7.2
7324.10.00.00	Sinks and wash basins of stainless steel	11.4	0.001	3.4
7306.30.50.15	Tubes, pipes, and hollow profiles, welded, nesoi, iron or nonalloy steel, 165mm, cold-drawn, not for boilers	14.2	0.001	Free
6203.11.90.00	M/b suits of wool lt 30% slk, nt knt/crchtd nesoi	11.2	0.001	17.5
5911.20.10.00	Textile products and articles for technical uses, bolting cloth, whether made up or not	12.6	0.001	3.3
4811.51.60.00	Paper and paperboard, coated, impregnated, or covered with plastics, bleached, over 150 g/m ² , nesoi	12.6	0.001	Free
4811.51.40.00	Paper and paperboard, coated, with plastics, bleached, over 150 g/m ² , 15×36×15cm, max 3mm thick, in strips or rolls	19.8	0.002	Free
4202.91.00.90	Containers, with outer surface of leather, composition leather, or patent leather, nesoi	10.8	0.001	4.5
2710.11.15.14	Unleaded gasoline, reformulated	13.1	0.001	1.8 ^l

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Table 4A.1 Top Swiss exports of manufactures to the United States (continued)

HS-10	Description	2004		2005 US tariff (percent)	Weighted average (percent)
		Millions of dollars	Share (percent)		
2707.10.00.00	Benzene, weight of aromatic constituents greater than nonaromatic	12.7	0.001	Free	
	Subtotal	6,632	0.638	2.4	1.2
	Total Swiss manufactured exports to the United States	10,388	1.000	n.a.	n.a.
	Total US manufactured imports from all countries	1,353,654	n.a.	4.3	2.6 ^m

n.a. = not available

nesoi = not otherwise available

- a. 2002 ad valorem equivalent of 87¢ each + 6.25 percent on the case and strap, band, or bracelet + 5.3 percent on the battery.
b. 2002 ad valorem equivalent of 76¢ each + 8.5 percent on the case + 14 percent on the strap, band, or bracelet + 5.3 percent on the battery.
c. 2002 ad valorem equivalent of 76¢ each + 8.5 percent on the case + 2.8 percent on the strap, band, or bracelet + 5.3 percent on the battery.
d. 2002 ad valorem equivalent of \$1.53 each + 4.2 percent on the case + 9.8 percent on the strap, band, or bracelet.
e. 2002 ad valorem equivalent of \$1.53 each + 4.2 percent on the case + 2 percent on the strap, band, or bracelet.
f. 2002 ad valorem equivalent of 80¢ each + 6 percent on the case + 14 percent on the strap, band, or bracelet + 5.3 percent on the battery.
g. 2002 ad valorem equivalent of 40¢ each + 8.5 percent on the case + 2.8 percent on the strap, band, or bracelet + 5.3 percent on the battery.
h. 2002 ad valorem equivalent of 40¢ each + 8.5 percent on the case + 14 percent on the strap, band, or bracelet + 5.3 percent on the battery.
i. 2002 ad valorem equivalent of 51¢ each + 6.25 percent on the case, strap, band, or bracelet + 5.3 percent on the battery.
j. This number does not match a position at 10-digit level in the 2005 US HTS; thus we only use the first 8 digits.
k. 2002 ad valorem equivalent of 3¢ each + 5.4 percent.
l. 2002 ad valorem equivalent of 52.5¢/bbl.
m. 2002 World Bank Figure cited in 2005 Index of Economic Freedom, www.heritage.org.

Note: Some descriptions have been slightly abbreviated for formatting purposes.

Sources: USITC (2005b, d).

Table 4A.2 Top US exports of manufactures to Switzerland, 2004

HS-6	Description	Millions of dollars	Share (percent)	Average Swiss tariff ^a (percent)	
				Simple	Weighted
Works of art (Ch. 97)					
9706.00	Antiques of an age exceeding one hundred years	926.6	0.140	Free	Free
9703.00	Original sculptures and statuary, in any material	37.8	0.006	Free	Free
9702.00	Original engravings, prints and lithographs, framed or not	87.0	0.013	Free	Free
9701.10	Paintings, drawings, and pastels, hand-executed works of art, framed or not	13.3	0.002	Free	Free
788.5			0.119	Free	Free
Clocks and watches (Ch. 91)					
9101.99	Pocketwatches and other watches, except wristwatches, with cases of precious metal, not battery powered	82.7	0.013	1.3	0.3
9101.21	Wristwatches, not battery powered, with cases of precious metal (or of metal clad with precious metal), with automatic winding	10.6	0.002	3.6 ^b	
9101.11	Wristwatches, battery powered, with cases of precious metal (or of metal clad with precious metal), with mechanical display only	14.2	0.002	0.1	
57.9			0.009	0.3	
Optical, measuring precision, and medical instruments and apparatus (Ch. 90)					
9031.80	Measuring or checking instruments, appliances, and machines, nesoi	518.7	0.079	0.9	0.3
9027.80	Instruments and apparatus for physical or chemical analysis, nesoi	12.6	0.002	9.4	
9027.30	Spectrometers, spectrophotometers, and spectrographs using optical radiations (ultraviolet, visible, infrared)	16.4	0.003	Free	Free
9022.14	Apparatus based on the use of X-rays for medical, surgical, or veterinary uses, including radiography or radiotherapy apparatus, nesoi	10.3	0.002	Free	Free
9021.90	Appliances worn, carried, or implanted in the body, to compensate for a defect or disability; parts and accessories thereof	14.8	0.002	Free	Free
177.8			0.027	Free	Free

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Table 4A.2 Top US exports of manufactures to Switzerland, 2004 (continued)

HS-6	Description	Millions of dollars	Share (percent)	Average Swiss tariff ^a (percent)	
				Simple	Weighted
9021.39	Artificial parts of the body (other than artificial joints) and parts and accessories thereof, nesoi	32.0	0.005	Free	
9021.31	Artificial joints and parts, and accessories thereof	15.1	0.002	n.a.	
9021.10	Orthopedic or fracture appliances, and parts and accessories thereof	81.0	0.012	Free	
9018.90	Instruments and appliances for medical, surgical, or veterinary sciences, nesoi, and parts and accessories thereof	83.7	0.013	Free	
9018.49	Instruments and appliances used in dental sciences, nesoi, and parts and accessories thereof	11.3	0.002	Free	
9018.39	Medical etc. needles nesoi, catheters, cannulae, and the like; parts and accessories thereof	10.9	0.002	Free	
9018.19	Electro-diagnostic apparatus (and apparatus for functional exploratory examination) nesoi, and parts, etc.	19.7	0.003	Free	
9014.20	Instruments and appliances for aeronautical or space navigation (other than compasses)	22.6	0.003	Free	
9001.90	Lenses, prisms, mirrors, and other optical elements, unmounted, other than elements of glass not optically worked	10.5	0.002	2.6 ^c	
	Motor vehicles and aircraft (Chs. 87 and 88)	385.2	0.058	0.5	0.2
8803.30	Parts of airplanes or helicopters, nesoi	189.8	0.029	Free	
8802.40	Airplanes and other aircraft nesoi, unladen weight exceeding 15,000 kg	124.9	0.019	0.1	
8802.30	Airplanes and other aircraft nesoi, of an unladen weight exceeding 2,000 kg, but not exceeding 15,000 kg	11.8	0.002	0.1	
8703.24	Passenger motor vehicles with spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 3,000 cc	30.8	0.005	1.3	

8703.23	Passenger motor vehicles with spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 1,500 cc, but not over 3,000 cc	27.9	0.004	0.9 ^c
Machinery, electrical apparatus, and instruments; parts (Ch. 85)				
8542.21	Electronic monolithic digital integrated circuits	117.1	0.018	2.9
8541.40	Photosensitive semiconductor devices, including photovoltaic cells; light-emitting diodes	38.9	0.006	Free
8529.90	Parts (except antennas and reflectors) for use with radio transmission, radar, radio navigational aid, reception, and television apparatus, nesoi	11.7	0.002	Free
8522.90	Parts and accessories, except pickup cartridges, for sound reproducing, sound recording, and video recording or reproducing apparatus	14.5	0.002	9.7 ^c
8517.50	Electrical telecommunication apparatus for carrier-current line systems or for digital line systems, nesoi	20.7	0.003	6.4 ^d
8504.40	Electrical static converters; power supplies for adapter machines or units of 8471	12.3	0.002	Free
		19.0	0.003	1.0 ^d
Boilers, machinery, and mechanical appliances (Ch. 84)				
8481.80	Taps, cocks, valves, and similar appliances for pipes, vats, including thermostatically controlled valves, nesoi	640.2	0.097	1.6
8479.90	Parts of machines and mechanical appliances having individual functions	21.9	0.003	8.6 ^d
8473.30	Parts and accessories for automatic data processing machines and units thereof, magnetic or optical readers, transcribing machines, etc., nesoi	18.5	0.003	0.8 ^d
8471.80	Automatic data processing units, nesoi	56.3	0.009	Free
8471.70	Automatic data processing storage units, nesoi	19.5	0.003	Free
8471.60	Automatic data processing input or output units, containing storage units in the same housing or not, nesoi	10.8	0.002	Free
8471.49	Digital automatic data processing machines and units thereof presented in the form of systems, nesoi	13.6	0.002	Free
8440.10	Bookbinding machinery, including book-sewing machines	10.6	0.002	Free
8411.99	Parts of gas turbines, nesoi (not parts for turbojets or turbopropellers)	16.4	0.002	0.1
8411.91	Parts of turbojets or turbopropellers	52.8	0.008	0.2
		187.0	0.028	0.1

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Table 4A.2 Top US exports of manufactures to Switzerland, 2004 (continued)

HS-6	Description	Millions of dollars	Share (percent)	Average Swiss tariff ^a (percent)	
				Simple	Weighted
8411.82	Gas turbines, not turbojets or turbopropellers, of power over 5,000 kw	31.9	0.005	0.0	
8411.12	Turbojets of a thrust exceeding 25 kn	20.1	0.003	0.1	
8409.91	Parts for use with spark-ignition internal combustion piston engines (including rotary engines), nesoi	180.9	0.027	10.4	
Pearls, precious metals, and stones (Ch. 71)					
7118.90	Coin, nesoi	756.1	0.114	n.a.	n.a.
7116.20	Articles of precious/semiprecious stones—natural, synthetic, reconstructed	16.8	0.003	Free	
7113.19	Jewelry and parts thereof, of precious metal other than silver	19.6	0.003	3999 Sfr/100kg	
7112.91	Gold waste and scrap, including metal clad with gold, but excluding sweepings containing other precious metals	256.7	0.039	0.7	
7110.21	Palladium, unwrought or in powder form	49.4	0.007	8 Sfr/100kg	
7106.91	Silver, unwrought nesoi (other than powder)	32.3	0.005	80 Sfr/100kg	
7103.91	Rubies, sapphires, and emeralds, otherwise worked	17.3	0.003	7 Sfr/100kg	
7102.39	Diamonds, nonindustrial, worked, including polished or drilled	32.1	0.005	n.a.	
		331.9	0.050	800 Sfr/100kg	
Other chemicals and plastics (Ch. 32–40)					
3824.90	Chemical products and preparations of the chemical or allied industries, nesoi; residual products of the chemical or allied industries, nesoi	238.1	0.036	3.3	4.4
3822.00	Composite diagnostic or laboratory reagents, not heading 3002/3006 pharmas; certified reference materials	70.1	0.011	7.8 ^d	
3304.99	Beauty or makeup preparations and preparations for skin care (excluding medicaments) nesoi, including sunscreens and suntan preparations	16.8	0.003	Free	
3303.00	Perfumes and toilet waters	26.5	0.004	8.1	
		41.0	0.006	4.4	

3206.49	Coloring matter of a kind used for coloring any material or used in the manufacture of coloring preparations (other than paints or enamels), nesoi	50.8	0.008	1.8
3204.19	Synthetic organic coloring matter and specified preparations based thereon, nesoi	14.5	0.002	0.3 ^d
3204.17	Pigments and preparations based thereon	18.5	0.003	0.6
	Pharmaceuticals (Ch. 30)	1259.1	0.191	Free
3004.90	Medicaments, in measured doses (excluding vaccines, coated bandages, and pharmaceutical goods), nesoi	347.9	0.053	Free
3004.40	Medicaments, containing alkaloids or derivatives thereof, but not containing hormones and similar steroids or antibiotics	72.6	0.011	Free
3004.39	Medicaments, containing hormones or other steroids used primarily as hormones, but not containing antibiotics, nesoi	28.3	0.004	Free
3003.39	Medicaments, containing hormones or other steroids, but not containing antibiotics, not in measured doses, etc.	486.9	0.074	Free
3002.90	Human blood; animal blood prepared for therapeutic, etc. uses; toxins, cultures of micro-organisms, and similar products, nesoi	121.0	0.018	Free
3002.20	Vaccines for human medicine	70.0	0.011	Free
3002.10	Antisera and other blood fractions, and modified immunological products	132.3	0.020	Free
	Organic chemicals (Ch. 29)	76.8	0.012	0.1
2941.90	Antibiotics, nesoi	25.1	0.004	Free
2933.99	Heterocyclic compounds with nitrogen hetero-atom(s) only, nesoi	26.1	0.004	n.a.
2930.90	Organo-sulfur compounds, nesoi	14.6	0.002	0.1 ^d
2918.30	Carboxylic acids with aldehyde or ketone function, but no other oxygen function, their anhydrides, halides, peroxides, etc.	11.0	0.002	0.1 ^d
	Other industrial products	148.1	0.023	2.2
8703.24	Passenger motor vehicles with spark-ignition internal combustion reciprocating piston engine, cylinder capacity over 3,000 cc	30.8	0.005	1.3

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Table 4A.2 Top US exports of manufactures to Switzerland, 2004 (continued)

HS-6	Description	Millions of dollars	Share (percent)	Average Swiss tariff ^a (percent)	
				Simple	Weighted
8703.23	Passenger motor vehicles, spark-ignition internal combustion reciprocating piston engine, cylinder capacity 1,500 cc to 3,000 cc	27.9	0.004	0.9 ^d	
8108.90	Titanium and articles thereof, nesoi	10.6	0.002	2.1	
7602.00	Aluminum waste and scrap	11.1	0.002	Free	
7307.22	Pipe or tube fittings, nesoi, stainless-steel threaded elbows, bends, and sleeves	27.6	0.004	1.9 ^d	
5201.00	Cotton, not carded or combed	24.1	0.004	Free	
4911.99	Printed matter, nesoi	16.1	0.002	8.9 ^e	
Subtotal		5,090	0.771	2.6	0.8
Total US manufactured exports to Switzerland		6,607	1.000	—	—
Total Swiss manufactured imports from all countries		88,704	2.3	0.8	

nesoi = not elsewhere specified or included

a. Values reported correspond to ad valorem equivalents for non-ad valorem tariffs. When more than one tariff line (at eight digits) corresponded to the position at six digits, simple averages were computed. Superscript character corresponding to footnote c indicates that such an approach was taken.

b. This value corresponds to the top value of the range for chapter 91 as reported by the WTO (2004b). According to UNCTAD, the ad valorem equivalent for those tariff lines is 20.4 percent. The Swiss Federal Customs Administration establishes that the specific tariff for this product is 1.10 Swiss francs for each unit.

c. This value corresponds to the top value of the range for chapter 85 as reported by the WTO (2004b). According to UNCTAD, the ad valorem equivalent for those tariff lines is 13.4 percent.

d. The tariff level is an average of several tariff lines, which vary depending on final use of the product.

e. This value corresponds to the top value of the range for chapter 49 as reported by the WTO (2004b). According to UNCTAD, the ad valorem equivalent for those tariff lines is 70.9 percent. The Swiss Federal Customs Administration establishes that the specific tariff for this product is 48 Swiss francs/100kg.

Sources: USITC (2005b) and UNCTAD (2002).

Table 4A.3 Selected Swiss ad valorem tariff peaks, 2004^a

HS-2	Description	Highest tariff value
25	Salt, sulphur, earths and stone, plastering materials, lime and cement	15.5
28	Inorganic chemicals, organic or inorganic compounds of precious metals	16.2
32	Tanning or dyeing extracts and other coloring matter	16.0
33	Essential oils and resinoids, perfumery, cosmetic or toilet preparations	24.3
35	Albuminoidal substances, modified starches, glues, enzymes ^b	208.2
36	Explosives, pyrotechnic products, matches, pyrophoric alloys	17.8
38	Miscellaneous chemical products	20.7
39	Plastics and articles thereof	15.1
40	Rubber and articles thereof	16.1
42	Articles of animal gut (other than silk worm gut)	16.5
44	Wood and articles of wood, wood charcoal	18.3
48	Paper and paperboard	23.9
66	Umbrellas, sun umbrellas, walking sticks, seat sticks, whips	10.0
67	Prepared feathers and down, articles made of feathers or down	13.4
70	Glass and glassware	25.8
72	Iron and steel	13.2
73	Articles of iron or steel	20.2
76	Aluminum and articles thereof	10.1
81	Other base metals, cermets, articles thereof	30.7
83	Miscellaneous articles of base metal	15.1
84	Nuclear reactors, boilers, machinery, and mechanical appliances	16.9
87	Vehicles other than railway or tramway rolling stock	10.5
96	Miscellaneous manufactured articles	11.2

a. Shipment data are not available, nor are numbers of 6-digit tariff lines. Peaks in textile and clothing HS chapters are numerous but were excluded.

b. Products with HS codes 35011090 and 35021990 are the only two nontextile industrial products in the Swiss schedule subject to tariffs higher than 50 percent. Only 6 tariff lines in the entire Swiss schedule have rates above 50 percent.

Source: WTO (2004b).

Table 4A.4 Selected US ad valorem tariff peaks, 2002^a

HS-6	Tariff item	Ad valorem lines	Simple average ^b (percent)
8704.21	G.v.w. not exceeding 5 tonnes	1	25.0
8704.23	G.v.w. exceeding 20 tonnes	1	25.0
8704.31	G.v.w. not exceeding 5 tonnes	1	25.0
8704.32	G.v.w. exceeding 5 tonnes	1	25.0
8704.90	Other	1	25.0
4202.19	Other	1	20.0
7013.10	Of glass-ceramics	2	16.5
7013.99	Other	10	15.4
8605.00	Railway or tramway passenger coaches, not self-propelled; luggage vans, post office coaches, and other special purpose railway or tramway coaches, not self-propelled, excluding those of heading no. 86.04	1	14.8
8606.10	Tank wagons and the like	1	14.8
8606.20	Insulated or refrigerated vans and wagons, other than those of subheading no. 8606.10	1	14.8
8606.30	Self-discharging vans and wagons, other than those of subheading no. 8606.10 or 8606.20	1	14.8
8606.91	Covered and closed	1	14.8
8606.92	Open, with nonremovable sides of a height exceeding 60 cm	1	14.8
8606.99	Other	1	14.8
8704.22	G.v.w. exceeding 5 tonnes but not exceeding 20 tonnes	2	14.5
9603.10	Brooms and brushes, consisting of twigs or other vegetable materials bound together, with handles or none	5	14.4
9102.29	Other	1	14.0
7013.29	Other	7	13.9
7013.32	Of glass having a linear coefficient of expansion not exceeding 5×10^{-6} per kelvin, within a temperature range of 0 to 300°C	4	13.9
6905.10	Roofing tiles	1	13.5
4203.29	Other	8	13.3
6911.10	Tableware and kitchenware	12	13.3
7013.39	Other	6	13.0
9607.19	Other	1	13.0
8540.11	Color	7	12.9

(table continues next page)

Table 4A.4 Selected US ad valorem tariff peaks, 2002 (continued)

HS-6	Tariff item	Ad valorem lines	Simple average ^b (percent)
4202.12	With outer surface of plastics or textile materials	4	12.6
7013.91	Of lead crystal	4	12.6
7318.11	Coach screws	1	12.5
7318.12	Other wood screws	1	12.5
6907.10	Tiles, cubes, and similar articles, rectangular or not, the largest surface area of which is capable of being enclosed in a square, the side of which is less than 7 cm	1	12.0
6907.90	Other	1	12.0
7013.31	Of lead crystal	4	11.6
6908.10	Tiles, cubes, and similar articles, rectangular or not, the largest surface area of which is capable of being enclosed in a square the side of which is less than 7 cm	3	11.5
9607.20	Parts	1	11.5
9615.19	Other	1	11.0
4202.32	With outer surface of plastic sheeting or textile materials	5	10.9
6908.90	Other	1	10.6
8108.90	Other	2	10.3
6702.90	Of other materials	3	10.2
7013.21	Of lead crystal	4	10.1
4202.22	With outer surface of plastic sheeting or textile materials	7	10.0
4202.92	With outer surface of plastic sheeting or textile materials	9	10.0
7111.00	Base metals, silver or gold, clad with platinum, not further worked than semimanufactured	1	10.0
7202.50	Ferro-silico-chromium	1	10.0
9113.20	Of base metal, whether or not gold- or silver-plated	4	10.0
9607.11	Fitted with chain scoops of base metal	1	10.0

G.v.w. = gross vehicle weight

a. Tariff peak is defined as tariff above 10 percent. Textiles, clothing, and footwear tariff lines are excluded. About 326 6-digit level headings in HS chapters 50 through 64 of the US tariff schedule (textiles, clothing, and footwear) are subject to average tariffs exceeding 10 percent. They were excluded to save space.

b. Simple average of tariff lines subject to tariffs above 15 percent only.

Source: IDB, Hemispheric Trade and Tariff Database.

Table 4A.5 High US tariffs on selected Swiss manufactured exports at four-digit level

HS-4	Tariff item	2002 average tariff	US tariff lines > 5 percent	2004 Swiss exports to United States (millions of dollars)
6203	Men's suits, ensembles, suit-type jackets, trousers, not knitted or crocheted	14.1	39	20
6204	Women's suits, ensembles, dresses, trousers, not knitted or crocheted	12.4	61	19
4202	Travel goods, cases, handbags, and other containers, of various materials	10.3	63	17
9108	Watch movements, complete and assembled	8.3	11	11
9113	Watch straps, watch bands, and watch bracelets, and parts thereof	7.6	5	29
2710	Petroleum and oils from bituminous minerals and certain derivatives	6.8	15	14
3204	Synthetic organic coloring matter and preparations	6.6	46	76
8211	Knives with cutting blades	6.5	14	32
3809	Finishing agents, dye carriers, and preparations for textiles and papers	6.3	5	13
7113	Articles of jewelry and parts, of or with precious metal	6.3	15	65
2929	Nitrogen function compounds nesoi	6.3	10	27
2921	Amine-function compounds	6.0	46	34
3907	Polyacetals, polycarbonates, alkyds, and other polyesters, in primary forms	6.0	9	26
9011	Compound optical microscopes and parts and accessories thereof	5.7	4	15

9013	Liquid crystal devices, lasers, optical appliances, and instruments	5.6	5	11
9102	Watches, wrist, pocket, and other, with other cases	5.6	18	1,108
2916	Monocarboxylic acids and their derivatives	5.5	23	25
3921	Plates, sheets, film, foil, and strip nesoi, of plastics	5.5	12	28
2934	Nucleic acids and their salts, other heterocyclic compounds	5.5	42	101
2922	Oxygen-function amino-compounds	5.3	50	58
2932	Heterocyclic compounds with oxygen hetero-atom(s) only	5.2	17	34
7010	Glass containers for packing of goods; jars, lids, and other glass closures	5.2	6	10
9114	Clock or watch parts, nesoi	5.2	6	23
2924	Carboxyamide and other amide-function compounds	5.1	29	116
2918	Carboxylic acids with oxygen function, their anhydrides, and derivatives	5.0	33	26
2912	Aldehydes; cyclic polymers of aldehydes; paraformaldehyde	5.0	16	22
	Subtotal for high-tariff HS-4 manufactured exports	6.7 ^a	600	1,960
	Total HS-4 manufactured exports over \$10 million	2.5 ^b	914	6,632

a. Simple average of all observations in the column.

b. Simple average of tariffs for Swiss HS-4 exports to the United States exceeding \$10 million. By comparison, in 2002, the simple average US MFN tariff for nonagricultural products (WTO definition) was 4.2 percent.

Note: 4-digit level headings facing average applied tariffs exceeding 5 percent.

Source: USITC (2005b).

Table 4A.6 Phaseouts for tariffs on manufactured goods, US-Singapore FTA^a

Product	United States				Singapore	
	EDF	0	4	8 to 10	EDF	0 to 10
Chemicals						
Organic (Ch. 29)	254	160 ^b	337 ^c	207 ^d	All	0
Pharmaceuticals (Ch. 30)	40	0	1	0	All	0
Fertilizers (Ch. 31)	25	0	0	0	All	0
Cosmetics (Ch. 33)	32	13	3	0	All	0
Starches, enzymes, et al. (Ch. 35)	5	12	4	1 ^e	All	0
Construction materials						
Stone, cement, and ceramics (Chs. 68–69)	53	28	20	14 ^f	All	0
Glass and glassware (Ch. 70)	39	47	44	28 ^g	All	0
Tools and articles of metal (Chs. 82–83)	55	80	50	8 ^h	All	0
Consumer goods						
Jewelry (Ch. 71)	48	33	16	8 ⁱ	All	0
Clocks (Ch. 91)	24	39	95	19 ^k	All	0
Electrical machinery						
Boilers, machinery; parts (Ch. 84)	547	273	31	0	All	0
Electrical apparatus; parts (Ch. 85)	247	316	39	7 ^l	All	0
Optical and other instruments (Ch. 90)						
Optical (HTS 9001–05)	4	24	3	2 ^m	All	0
Photographic (HTS 9006–10)	41	22	4	0	All	0
Medical and other (HTS 9011–30)	109	97	9	4 ⁿ	All	0
Plastics						
Plastics (Ch. 39)	28	86	105	3 ^o	All	0
Rubbers (Ch. 40)	58	78	10	1 ^p	All	0
Textiles						
Articles of apparel (Chs. 61–62)	11 ^q	557	0	0	All	0
Vehicles and transport goods						
Aircraft (Ch. 88)	17	1	0	0	All	0
Automobiles (Ch. 87)	80	61	7	14 ^r	All	0
Railway and tramway (Ch. 86)	8	15	2	7 ^s	All	0
Total	1725	1942	780	323	All	0
As percentage	36	41	16	7		

EDF = existing duty-free access

a. All tariff lines in the corresponding chapter were considered. Note that the number of lines in each chapter varies across countries. Before the agreement, Singapore applied tariffs only on beer (HTS 2203) and Samsu (2208.90).

(table continues next page)

Table 4A.6 (continued)

- b. Tariff lines enjoying protection lower than 5 percent are for the most part subject to immediate phaseout.
- c. Medium phaseouts correspond to tariff lines enjoying moderate tariff protection, ranging between 5 and 8 percent.
- d. Long phaseouts correspond to tariff lines enjoying high tariffs above 8 percent. These are fairly evenly distributed throughout the chapter. At 4 digits, the most problematic ones appear to be HTS: 2903–04, 2908, 2915–18, 2921–27, 2932–35, and 2942. The relation between existing tariff protection and phaseouts applies to most manufacturing chapters, with the exception of textiles.
- e. Stage C (8 years): Other egg albumin (HTS 3502.19.00).
- f. Most of these long phaseouts occur in HTS 6907.10 and 90; 6908.10; 6911.10; and 6912.00.
- g. Most of these long phaseouts are related to glassware products (HTS 7113), and in particular: 7113.10; 21-39; 91; and 99.
- h. Most of these long phaseouts occur in HTS 8203; 8206; 8211; and 8215.
- i. Stage C (8 years): Unworked or cut but not set precious stones (HTS 7103.10.40 and 7103.9950); iridium (7110.49.00); ropes and chains of precious metal (HTS 7113.11.20, 7117.19.20, 7117.19.90, 7117.90.90); other articles of precious stones (7116.20.50).
- j. Not used.
- k. Most of these long phaseouts occurs in HTS 9101.29; 9102.29; 9106.90; 9108.90; and 9113.20.
- l. Most of these long phaseouts occur in HTS: 8513.10; 8513.90; and 8540.11.
- m. Stage C (8 years): Parts and accessories (HTS 9005.9040 and 9005.90.60).
- n. Most of these long phaseouts occur in HTS: 9013.10 and 90; 9015.90 and 9017.90.
- o. Most of these long phaseouts occur in HTS: 3907.40; 3912.90; and 3926.20.
- p. HTS 4015.19.10.
- q. This number differs substantially from the number of tariff-lines enjoying “existing duty-free” treatment in the US Tariff Schedule for the US-Australia FTA. A number of tariff-lines, for example 6103.19.15, changed status in the interval between negotiations.
- r. Most of these long phaseouts correspond to motor vehicles for the transport of goods (HTS 8704.21 through 90), and bicycles (HTS 8712 through 14).
- s. All of these long phaseouts correspond to railway or tramway passenger coaches or freight cars (HTS 8606 and 8607).

Notes: As a rule of thumb, there is a positive relation between existing MFN tariffs and phaseouts. See notes b, c, and d. Distribution of tariff lines according to phaseout periods for selected products.

Source: USTR (2003a).

Table 4A.7 Phaseouts for tariffs on manufactured goods, US-Australia FTA^a

Product	United States			Australia		
	EDF	0	4 to 18	EDF	0	4 to 10
Chemicals						
Organic (Ch. 29)	264	723	1 ^b	310	51	1 ^c
Pharmaceuticals (Ch. 30)	40	1	0	26	8	0
Fertilizers (Ch. 31)	25	0	0	22	0	0
Cosmetics (Ch. 33)	32	15	1 ^d	17	22	0
Starches, enzymes, et al. (Ch. 35)	5	12	5 ^e	12	4	0
Consumer goods						
Jewelry (Ch. 71)	47	58	1 ^f	34	11	0
Clocks (Ch. 91)	21	157	0	47	5	0
Construction materials						
Stone, cement, and ceramics (Chs. 68–69)	59	40	27 ^g	20	58	0
Glass and glassware (Ch. 70)	43	93	32 ^h	36	30	6 ^j
Tools and articles of metal (Chs. 82–83)	52	115	19 ^k	13	93	0
Electrical machinery						
Boilers, machinery; parts (Ch. 84)	568	289	16 ^l	268	335	0
Electrical apparatus; parts (Ch. 85)	278	322	12 ^m	165	184	0
Optical and other instruments (Ch. 90)						
Optical (HTS 9001-05)	4	27	2 ⁿ	7	11	0
Photographic (HTS 9006-10)	39	20	4 ^o	43	5	0
Medical and other (HTS 9011-30)	123	87	8 ^p	108	19	0
Plastics						
Plastics (Ch. 39)	28	194	0	12	132	0
Rubbers (Ch. 40)	59	88	2 ^q	8	85	0
Textiles						
Articles of apparel (Chs. 61–62)	45	126	404 ^r	33	0	238 ^s
Vehicles and transport goods						
Aircraft (Ch. 88)	17	1	0	14	0	0
Automobiles (Ch. 87)	81	87	0	40	100	15 ^t

EDF = existing duty-free access

a. Distribution of tariff lines according to phaseout periods for selected products. All tariff lines in the corresponding chapter were considered. Note that the number of lines in each chapter varies across countries. In the chapters considered, the US tariff schedule has more entries than the Australian one does (4800 vs 2650).

b. US headnote, note 4: Tariffs on other chloride-based acid (HTS 2918.90.20) will be removed in equal annual stages over 5 years.

c. Stage L (6 years): Other carboxylic acids with alcohol function (HTAS 2918.90.00).

d. Stage B (4 years): Essential oil of peppermint—*mentha piperita* (HTS 3301.24.00).

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Table 4A.7 (continued)

- e. Stage F (18 years): Milk protein concentrate (HTS 3501.10.10) and other casein (HTS 3501.90.60).
Stage B (4 years): Inedible gelatin and animal glue valued under 88 cents/kg (HTS 3503.00.20);
dried egg albumin (HTS 3502.11.00); and casein glues (HTS 3501.90.20).
- f. Stage C (8 years): Unworked precious stones, other than diamonds (HTS 7103.10.20).
- g. Stage D (10 years): Porcelain or ceramic tableware, kitchenware, other household articles
(HTS 6911.10.10, 6912.00.20, and 6912.00.20).
Stage C (8 years): Roofing tiles (HTS 6905.10.00); tiles, cubes, and similar articles (HTS
6907.10.00 and 6907.90.00); and glazed ceramic paving, wall tiles, and
ceramic mosaic cubes (4 tariff lines in HTS 6908.10 through 6908.90).
Stage B (4 years): Ceramic sinks, washbasins, bidets (HTS 6910.90.00); porcelain tableware,
kitchenware, other household articles (11 tariff lines in HTS 6911.10.15
through 10.80); ceramic tableware, kitchenware, other household articles
(HTS 6912.00.35, 6912.00.46, and 6912.00.48); other ceramic statues, valued
over \$2.50 each and produced by professional sculptors (HTS 6913.90.50);
and other ceramic articles (HTS 6914.10.80 and 6914.90.80).
- h. Stage D (10 years): Glassware of a kind used for table, kitchen, toilet, office, indoor decoration,
or similar purposes (7 tariff lines in HTS 7013).
Stage C (8 years): Glassware of a kind used for table, kitchen, toilet, office, indoor decoration, or
similar purposes (11 tariff lines in HTS 7013).
Stage T1US (6 years): Glass fibers, including glass, wool, and articles thereof (14 tariff lines in
HTS 7019).
- i. Stage T1AU (6 years): Glass fibers, including glass, wool, and articles thereof (6 tariff lines in HTS 7019).
- j. Not used.
- k. Stage B (4 years): Axes and chainsaw blades (HTS 8201.40.60 and 8202.40.30); slip joint pliers (HTS
8203.20.40 and 8203.20.60); hand-operated spanners and wrenches (all tar-
iff lines in HTS 8204); handtools, including glass cutters, nesoi (4 tariff lines in
HTS 8205); tools for drilling (HTS 8207.50.40 and 8207.90.30); certain padlocks
(HTS 8301.10.60); harness and saddlery (HTS 8302.49.20 and 8302.49.60);
other paper clips (HTS 8305.90.60); bells and the like (HTS 8306.10.00).
- l. Stage B (4 years): Ball or roller bearings, and parts thereof (all 14 tariff lines in HTS 8482);
condensers for steam or other vapor power units (HTS 8404.20.00).
Stage C (8 years): Steam turbines for marine propulsion (HTS 8406.10.10).
- m. Stage C (8 years): Color cathode-ray television picture tubes (HTS 8540.11.10, 8540.11.28,
8540.11.30, 8540.11.48, and 8540.11.50).
Stage B (4 years): Other parts of printed circuit assemblies of line telephone handsets
(HTS 8518.90.40); other reception apparatus for radiotelephony,
radiotelegraphy, or radio broadcasting (HTS 8527.90.95); color cathode-ray
television picture tubes (HTS 8540.11.24 and 8540.11.44); and cathode-ray
tubes and parts (HTS 8540.20.20, 8540.91.15, and 8540.91.50).
- n. Stage B (4 years): Binoculars, monoculars, other optical telescopes, and parts (HTS 9005.80.60
and 90.40).
- o. Stage B (4 years): Slide projectors (HTS 9008.10.00); photographic cameras valued at less than
\$10 (HTS 9006.52.60, 9006.59.60, and 9006.40.60).
- p. Stage C (8 years): Telescopic sights for fitting to arms with infrared light (HTS 9013.10.10) and
telescopic sights for rifles (HTS 9013.90.20).
Stage B (4 years): Taximeters (HTS 9029.10.40); drafting tables and machines, plotters, and
other instruments (HTS 9017.20.70 and 9017.80.00); hand magnifiers, mag-
nifying glasses, and door viewers (HTS 9013.80.20 and 9013.80.40); and
telescopic sights for fitting to arms (HTS 9013.10.40).

(table continues next page)

Table 4A.7 Phaseouts for tariffs on manufactured goods, US-Australia FTA^a
(continued)

- q. Stage C (8 years): Conveyor or transmission belts or belting, of vulcanized rubber with textile components in which vegetable fibers predominate by weight over any other single textile fiber (HTS 4010.19.10); and other gloves, mittens, and mitts of apparel and clothing and vulcanized rubber other than hard rubber (HTS 4015.19.50).
- r. Nearly 87 percent of these 404 tariff lines retain tariffs of 15.5 percent during the 10-year transition period. The rest retain lower tariffs on 10 year phaseout, with the exception of 8 tariff lines that qualify for a five-year phaseout. Cuts will be backloaded.
- s. Nearly 88 percent of these 238 tariff lines retain tariffs of 15.5 percent during the 10-year transition period. The rest retain lower tariffs on 10 year phaseout. Cuts will be backloaded.
- t. Stage L (6 years): Used or secondhand passenger vehicles (HTS 8703.21 through 24; 31 through 33, and 90).

Sources: USTR (2004a).