Foreign Tariff Reductions and California Exports

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Foreword

International trade plays an increasingly important role in fostering the growth of the world's economies, and no region of the world feels the effects of this trade more than California. In the late 1990s, the state's export growth outpaced the rest of the nation's by a substantial margin, and despite the current economic downturn, that growth will contribute to the continuing strength of the state's economy well into the new century. With the widespread growth in export activity well under way, the World Trade Organization was created in 1995 to deal with the global rules of trade between nations. The main function of the WTO is to "ensure that trade flows as smoothly, predictably and freely as possible." In other words, the WTO, with the support of the United States and numerous other trading nations, has set out to eliminate tariffs and other barriers to free trade.

This is a very big agenda indeed, and regardless of one's views about its merits, it is worth estimating the potential effects of tariff reduction on California's exports. In *Foreign Tariff Reductions and California Exports*, PPIC research fellow Jon Haveman calculates that the complete elimination of tariffs among California's trading partners would increase the state's manufacturing exports by 24 percent, or $27 billion. About three-quarters of this growth would come from increased exports to Southeast Asia and the South Pacific. High-technology industries would experience the largest export gains, but the food and kindred products sector would also experience a 43 percent gain. Trade with Mexico and Canada would likely decline as the United States gave up its preferential access to these markets. The largest export increases would be with Korea, China, Taiwan, and India. Of these, only Taiwan is among California's top five trading partners today.

Haveman also finds that, compared to other U.S. firms, California businesses rely more heavily on exports and therefore have more at stake in the proposed trade agreements. Exports account for 10 percent of

California's output compared to 7.6 percent for the rest of the United States. Also, California firms export proportionately more to Asia and proportionately less to other countries in the Western Hemisphere. For this reason, the Bush administration's efforts to liberalize trade in Central and South America is likely to have relatively small consequences for growth in California. Nevertheless, California's export orientation suggests that the relaxation of tariff barriers would stimulate job growth in the state.

Two caveats should be kept in mind. First, shifts in global trading patterns have had a profoundly disruptive effect on workers, the environment, and communities. Economists will argue that most disruptions are short-term, but those who experience the disruptions may well feel that the short-term pain outweighs the long-term gain. Second, Californians should not forget that trade policy is fundamentally a national policy issue. State government is not well positioned to shape the trade policy agenda of each new administration in Washington, yet it is at the state level that the pains of disruptions are felt most intensely. Because of the sheer scale of California's trade activity and the possible consequences for the state's residents and economy, Haveman suggests that state leaders pay very close attention when trade policy is debated in Washington or abroad. We trust that this latest PPIC report will help those leaders fulfill that responsibility.

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Summary

Since the end of the Second World War, there has been an unparalleled effort to reduce barriers to international trade and commerce. As a result, barriers to international trade are currently lower than at any time in modern history, and efforts to lower them further are well under way. Having successfully secured Fast Track trade negotiating authority, for example, the Bush administration is working energetically on a broad array of trade liberalization fronts. In the newly launched Doha Round of the World Trade Organization (WTO) negotiations, the United States is advocating significant liberalization. It is also pursuing trade liberalization within the Americas in the form of the Free Trade Area of the Americas (FTAA). At the same time, the United States is negotiating an array of bilateral initiatives with Chile, Singapore, Australia, Morocco, and countries in southern Africa and Central America.

These efforts bode well for California's manufacturers, whose export growth outpaced that of other manufacturers in the United States during the 1990s. For California, the most important factor in that export growth was the establishment of trade preferences, largely by Mexico. Despite the Mexican currency crisis in the mid-1990s, the average annual growth rate of California's manufacturing exports to Mexico exceeded 25 percent between 1993 and 2000—more than double the rate of growth in California's manufacturing exports to other countries during the same period. Domestic economic growth and tariff liberalization were the second and third leading contributors to California's export performance in the 1990s.

With preferential trade agreements such as the North American Free Trade Agreement (NAFTA), there is often a concern that new trade will be offset by a contraction of trade between the members and other countries. For California, this appears not to be the case. Since 1993, California's export growth to both Mexico and other countries has been

significantly higher than it was in the five years before the institution of the NAFTA. Hence, NAFTA appears to have provided a significant boost to overall California exports.

The trade liberalization agreements now under consideration are ambitious, but their potential consequences for California firms are not well known. This report estimates the export expansions that would result from each trade liberalization agreement currently on the agenda. It also measures the total value of new California exports in the event of the complete elimination of worldwide tariffs—the ostensible goal of the WTO negotiations. These estimates are meant to offer California's firms and policymakers some idea of what trade liberalization efforts might mean for the state's export-oriented industries. If successful, these efforts will have other far-reaching effects—on imports, prices, and labor markets—that are not considered in this report. For this reason, these estimates are best regarded as one piece of a complicated policy mosaic. They are an important piece, however, insofar as no balanced view of trade liberalization proposals can emerge without some sense of the export growth these proposals are likely to generate.

The elimination of all tariffs by California's trading partners would increase California's manufacturing exports by 24 percent, or $27 billion. More than three-quarters of this increase would result from liberalization in Southeast Asia and the South Pacific. High-technology industries would experience the largest export gains, but food and kindred products exports would also rise 43 percent. Trade with Mexico and Canada would likely decline as the United States gives up its preferential access to these markets. The largest export increases would be with Korea, China, Taiwan, and India. Of these, only Taiwan is among California's top five trading partners.

Of the specific trade liberalization efforts currently proposed or under way, the Asia-Pacific Economic Cooperation Forum (APEC) is the most significant for California exporters. It seeks full unilateral liberalization by its membership, which includes all the major nations bordering the Pacific Ocean except Colombia. If successful, this tariff elimination effort alone would increase California manufacturing exports by $19 billion, almost 14 percent. Included in this figure is an 8 percent reduction in exports to Canada and Mexico, with which the United

States would no longer enjoy preferential trade status. The countries absorbing the most new California exports would be Korea, China, Taiwan, Japan, and Peru. The sectors experiencing the largest increases would be electronic and other electric equipment ($6.8 billion), industrial machinery and equipment ($6.4 billion), instruments and related products ($2.2 billion), food and kindred products ($1.7 billion), and chemicals and allied products ($1 billion).

Another proposed agreement, the FTAA, would extend the NAFTA to all Western Hemisphere nations except Cuba and contribute $4.6 billion to California's export growth, a 3.3 percent increase. The main export destinations for the increase in California exports would be Brazil ($3.2 billion), Peru ($600 million), Chile and Argentina ($400 million each), and Mexico ($100 million).

Compared to APEC and FTAA, the proposed bilateral trade agreements are modest. None would increase California exports by as much as even $1 billion.

The report also finds that California's trade liberalization interests differ from those of the rest of the country. California's firms rely more heavily on exports than do other U.S. firms and therefore have more to gain from trade liberalization efforts. Exports account for 10 percent of California's output compared to 7.6 percent for the rest of the United States. Also, between 1988 and 2000, California's exports grew about 20 percent faster than exports from the rest of the United States. California firms also export a different mix of products than does the rest of the United States. In particular, California's exports are more highly concentrated in technology products.

Another key finding is that California firms export proportionately more than other U.S. firms to Asia. For this reason, California's exporters would benefit more from open markets in this region. The current liberalization agenda, however, focuses on countries in the Western Hemisphere, where the potential for California exporters is smaller. Currently, FTAA member countries receive almost half of all U.S. exports but only about 29 percent of California's exports. Excluding Mexico and Canada, FTAA countries receive 8.9 percent of exports from non-California U.S. firms but only 2.9 percent of California exports.

Although trade policies are set at the national rather than the state level, they are likely to be of greater consequence for California than for other states. For this reason, California's firms, policymakers, and congressional delegation should consider these findings when discussing liberalization efforts with trade officials.

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1. Introduction

California has a long history of promoting exports. Partly as a result of these efforts, exports now play a significant and dynamic role in California's economy. After growing almost 40 percent during the 1990s, exports now account for 10 percent of the state's output. In contrast, exports from the rest of the United States account for 7.6 percent of output and grew at a significantly slower rate during the same period.

California's export growth has taken place against a backdrop of active trade liberalization efforts. For example, the Bush administration recently submitted a proposal to the World Trade Organization (WTO) that would eliminate tariff barriers to trade throughout the world. Although that goal will probably not be reached soon, recent negotiations through the General Agreement on Tariffs and Trade (GATT), the precursor to the WTO, indicate wide support for the reduction of existing barriers to trade. The Uruguay Round of GATT negotiations, completed in 1994, involved 123 countries and laid out commitments on a broad spectrum of issues, including intellectual property protection, the settlement of international trade disputes, and the creation of the WTO. The negotiations were hailed as a success and added momentum to the trade expansion that started in the early 1970s. There is good reason to believe that the current multilateral trade negotiations, dubbed the Doha Round, will be equally successful but not as far-reaching as the Bush administration would like.

Along with these negotiations, the United States is pursuing an array of regional agreements. The North American Free Trade Agreement (NAFTA), which was implemented on January 1, 1994, is a prominent example of this type of agreement. Others include the Free Trade Area of the Americas (FTAA), which is scheduled to conclude in 2005, and the Asia-Pacific Economic Cooperation Forum (APEC), which is an ongoing regional forum for trade-liberalizing negotiations. The FTAA

includes all 34 nations in North, South, and Central America, other than Cuba, and APEC includes the 21 major nations bordering the Pacific, except Colombia. Regional negotiations have also been announced with the South African Customs Union (SACU), and there is a continuing effort to form a Central American Free Trade Area (CAFTA).[1] Bilateral negotiations have recently been concluded with Chile and Singapore and are either on the agenda or under way with Morocco, Australia, and Taiwan.

In light of these trade liberalization efforts, this study seeks to understand the sources of California's export growth, its current export profile, and its export potential if and when such liberalization efforts succeed. After offering a brief survey of the export landscape, the report compares California's current export profile, both by geographic destination and by industry, to that of the rest of the country. In doing so, it shows the extent to which California's export interests are similar to or different from those of the rest of the United States. The report then identifies the proximate causes of California's export growth during the 1990s. An earlier PPIC study (Haveman, 2001) notes that recent tariff reductions in foreign countries are more highly correlated with export growth in California than in the rest of the United States. Although important, these reductions are only one determinant of export growth. Others include the health of the local economy (and thus our ability to export) as well as the health of foreign economies (and thus their ability to import). In short, the economic climates in California and abroad may well be more important than tariff cuts for promoting export growth. As a result, disentangling these factors and establishing their relative importance afford a clearer view of the sources of California's export growth during the 1990s.

The report then turns to the potential effects of the current trade liberalization agenda on California's export-oriented firms. In particular, it estimates the effects that broad trade liberalization would have on California exporters, paying special attention to the FTAA and APEC. It

[1]The SACU members include Botswana, Lesotho, Namibia, South Africa, and Swaziland. The CAFTA members are Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

also examines the export gains that may come about through other multilateral and bilateral negotiations that have been proposed or are currently under way. The report concludes with remarks on the significance of the findings and their policy implications.

These findings are meant to offer California's firms and policymakers some idea of what trade liberalization efforts might mean for the state's export-oriented industries. If successful, these efforts will have other far-reaching effects—on imports, prices, and labor markets, for example—that are not considered in this report. For this reason, these estimates are best regarded as one piece of a complicated policy mosaic. They are an important piece, however, insofar as no balanced view of trade liberalization proposals can emerge without some sense of the export growth these proposals are likely to generate. Although trade policies are set at the national rather than the state level, they are likely to be more consequential for California than for other states, and the state's firms, policymakers, and congressional delegation would do well to consider these findings when discussing liberalization efforts with trade officials.

2. The Export and Trade Barrier Landscape

Perhaps because California occupies over half of the western coast of the continental United States, international trade is more important for California than it is for other states. The simple flow of imports and exports through California is greater than for any other state, and until the first quarter of 2002, California's producers exported more than did producers in any other state. (Texas has since surpassed California in terms of the value of goods exported.) This chapter provides additional detail on the importance of international trade to California and examines the foreign barriers to trade that impede its exports.

The Export Landscape

In the years since 1988, the first year for which state export data are available, the value of exports from California more than doubled in real terms. During the same period, Gross State Product (GSP), grew by just over 50 percent.[1] Although this growth was slightly greater than GSP growth in the rest of the country, California's exports grew about 20 percent faster than exports from the rest of the United States. California's exports were also more highly concentrated in Pacific Rim countries and in technology products. This section explores these aspects of California exports relative to other U.S. exports in greater detail.

Table 2.1 provides some background on California's recent export growth. In 2000, California's exports were valued at 9.7 percent of California GSP, significantly higher than the 7.6 percent figure for the rest of the country. This gap is about twice the size that it was in 1988. The increase in the size of this gap is driven by the rapid growth in

[1]GSP is the state equivalent of Gross Domestic Product (GDP) for the country as a whole.

Table 2.1

The Growth in Importance of Exports, 2000

	California	Rest of U.S.
Exports as a % of GSP	9.7	7.6
Value ($ billions)		
Exports	129.7	650.7
GSP	1,344.6	8,596.9
% change since 1988		
Exports	112.4	92.7
GSP	53.6	52.7
Exports as a % of GSP	38.3	26.2

California exports that took place between 1988 and 2000. During this time, California's exports grew by 112.4 percent, or about 9.4 percent per year. In contrast, exports from the rest of the country grew only 92.7 percent, or 7.7 percent per year during the same period.

As evidenced by the growth in exports as a fraction of GSP, export growth for both California and the rest of the country outpaced GSP growth. For California, exports grew an average of 4.9 percentage points per year faster than GSP; for the rest of the country, the corresponding figure is only 3.3 percentage points. Chapter 3 of this report will attempt to understand and explain this difference. For now, it suffices to note that countries differ in their patterns of growth and protection and that these differences help explain California's faster export growth.

California and the rest of the United States share the same top three export destinations (Mexico, Japan, and Canada) and ship comparable shares of exports to the European Union (EU): 20.9 percent for California and 21.2 percent for the rest of the country. This is where the similarities in the geographic distribution of exports end. The share of total exports destined for the top three countries differs significantly—26 percent for California and 39 percent for the rest of the country. California's exports are also more highly concentrated in the Asia-Pacific region. In total, 72 percent of California's exports are shipped to members of APEC, whereas the same figure is only 64 percent for the rest of the country. The difference here becomes even more dramatic

once Canada and Mexico are removed from the comparison. Over 46 percent of California's exports, but only 25 percent of other U.S. exports, are shipped to other nations that border the Pacific Ocean.

Countries participating in FTAA negotiations receive only 29 percent of California's exports whereas they receive almost half of all other U.S. exports. Removing Canada and Mexico from the analysis reduces the difference somewhat. Only 2.6 percent of California's exports go to FTAA members other than Canada and Mexico, whereas the comparable figure is 8.3 for the rest of the country, more than three times the share of California's exports.

Examining the individual rankings of countries within these regions makes clear their relative importance for California exporters (Table 2.2). In the EU, where regional export shares are comparable for California and the rest of the country, six of the 16 countries have a higher ranking among California export destinations than among destinations for

Table 2.2

The Geographical Distribution of Exports, 2000

	California		Rest of U.S.	
Country	Rank	% Share	Rank	% Share
Total all countries		100.0		100.0
Mexico	1	14.7	2	14.2
Japan	2	13.3	3	7.4
Canada	3	11.6	1	24.8
Republic of Korea	4	7.0	6	2.9
China (Taiwan)	5	6.2	9	2.5
United Kingdom	6	4.9	4	5.4
Germany	7	4.3	5	3.6
Singapore	8	4.1	12	1.9
Netherlands	9	4.0	8	2.6
Hong Kong	10	3.5	14	1.6
China (Mainland)	11	3.0	13	1.9
France	12	2.4	7	2.6
Malaysia	13	2.4	18	1.2
Australia	14	2.0	15	1.5
Selected regions				
NAFTA		26.3		39.0
APEC		72.3		63.9
FTAA		28.9		47.3
EU		20.9		21.2

exports from the rest of the country. Among APEC nations, 17 of the 21 member countries are more important markets for California than for the rest of the country. Conversely, only two of the 32 FTAA member countries rank more highly for California exports than for exports from the rest of the country. This exercise makes clear that individual APEC nations are generally more important for California exporters than for other U.S. exporters and that individual FTAA nations are generally of less importance.

These differences in the geographical distribution of exports have been reasonably stable over time. Also reasonably stable has been the industrial distribution of exports. Table 2.3 reports on another potential contributing factor for the significant differences in growth rates between California and other U.S. exports: differences in the industrial distribution of exports. This table ranks the top California export sectors by two-digit Standard Industrial Classification (SIC).[2]

California's exports are highly concentrated in technology products. The top two sectors, which include all electronic and computer

Table 2.3

The Industrial Distribution of Trade, 2000

	California		Rest of U.S.	
Industry	Rank	% Share	Rank	% Share
Electronic, electric equipment, excluding computers	1	29.2	2	16.2
Industrial machinery, computer equipment	2	29.0	3	16.1
Instruments and related products	3	9.2	5	5.9
Transportation equipment	4	6.6	1	17.5
Chemicals and allied products	5	3.9	4	11.4
Food and kindred products	6	3.4	7	3.6
Agricultural production—crops	7	3.0	9	3.1
Miscellaneous manufacturing industries	8	1.8	12	1.7
Special classification provisions	9	1.8	19	0.6
Fabricated metal products	10	1.8	6	3.6
Rubber and miscellaneous plastics products	11	1.5	10	2.7
Primary metal industries	12	1.4	8	3.6
Apparel and other textile products	13	1.1	14	1.3

[2]See Appendix D for more on this classification scheme. This list includes all industries that account for more than 1 percent of California's exports.

equipment, account for almost 60 percent of all of California's exports compared to just over 32 percent for the rest of the country. As a result of impressive growth in worldwide demand in these sectors during the 1990s, these differences in industrial composition likely account for a significant proportion of the differential growth rates of California and other U.S. exports.

The Trade Barrier Landscape

Another important component in explaining export growth is changes in the barriers to trade erected by significant trading partners. Formal barriers to trade are generally grouped into two categories: tariff and nontariff barriers. Less formal barriers to trade, such as the complexity of customs inspection requirements, also exist but are impossible to measure. Historically, the tariff, a tax that countries impose only on imported products, has been the most common form of trade barrier. Over the second half of the 20th century, however, successive rounds of negotiations among most of the countries of the world have brought about a dramatic reduction in both the use and size of tariffs. That said, almost half of all U.S. exports still face a tariff once they reach foreign soil.

Through the GATT, governments have made binding commitments that limit the size of the tariffs that they are able to impose. These limits seem to reduce the effectiveness of pleas for protection; however, governments and advocates for protection have developed methods of protecting domestic markets without resort to raising tariffs. These methods can take many forms, but the most common are designed to regulate the price, quantity, or quality of imported products. As a result, the negotiated reduction in tariffs has generally coincided with an increase in the use of nontariff barriers (NTBs).[3]

Given the variety of instruments with which to impede imports, it has become increasingly difficult to assess the extent to which any particular market is protected. Ideally, there would be a single statistic

[3]The United States, for example, maintains an array of quotas limiting the imports of textiles and other products from around the world. Countries also impose minimum price or technical and safety requirements on imported products.

that reflects the cumulative effect of these different barriers. Because the barriers differ significantly in their effects, economists have generally struggled to find such a measure. The search for a single comprehensive measure of protection is further complicated by differences in preferences and demand across countries. In the United States, for instance, the demand for sport utility vehicles (SUVs) is fairly high and growing. A 10 percent tariff on imported SUVs might have little if any effect on the demand for SUVs in the United States. In Europe, on the other hand, the demand for SUVs is not as strong, and a 10 percent tariff on imports of SUVs might therefore affect European imports more significantly. A simple tariff of 10 percent in one economy might not have the same effect on imports as an identical tariff in another economy.

Given the difficulty of constructing a single measure that reflects the cumulative effect of all existing impediments to trade, it has become conventional to present statistics for tariffs and NTBs separately. Following this convention, Table 2.4 provides a summary of the barriers to trade faced by U.S. exporters. Tariffs are reported as the average tax that is paid on each dollar's worth of exports originating in either California or the rest of the United States.

Increasingly, importers apply an array of tariffs on goods that vary according to the country of origin. For instance, under the NAFTA, Mexico and Canada apply lower tariff rates on goods from the United States than on goods from other countries. To illustrate the extent to which U.S. exports receive preferential treatment in foreign markets, the column labeled "Tariff Preference" in Table 2.4 indicates the average percentage point difference between the tariff imposed on imports from the United States in foreign markets and the tariff imposed on imports from other countries in those same markets. A positive number indicates a preference in favor of U.S. exports. For instance, in the top row of the table, the 1.66 number indicates that California exports generally face a tariff that is 1.66 percentage points below that imposed on exports with which they compete.

NTBs are not as easily quantifiable as are tariffs. In Table 2.4, NTBs are reported as how often a single dollar of U.S. exports faces an NTB in a foreign market. This measure is called a coverage ratio, as it indicates

Table 2.4

Aggregate Trade Barriers Faced by U.S. Exporters, 2000

	Tariffs	Tariff Preference	NTBs
All countries			
California	2.28	1.66	13.80
Rest of U.S.	3.25	2.03	17.80
Non-NAFTA countries			
California	2.68	–0.37	10.19
Rest of U.S.	5.09	–0.79	15.22

NOTES: All entries in the table are presented in percentage points. Tariffs are the percentage tax that countries levy on imports. Tariff preferences are the percentage point difference between the tariff on imports from most countries and the tariff applied to U.S. exports. NTBs are the percentage of exports that are subject to a nontariff barrier in foreign countries.

the percentage of exports that are "covered" by an NTB. For instance, the NTB figure for California exports is 13.8. This means that 13.8 percent of all California exports are regulated by a nontariff barrier in the foreign market. As the tariff measure is the size of the tax, rather than an indication of its prevalence, the NTB and tariff measures are not directly comparable.

More specifically, the tariffs are measured as a weighted average of the tariffs faced by U.S. exports in foreign markets. That is, the tariffs imposed by countries that import relatively more from the United States are given extra weight in calculating the average, and countries that import relatively little are given less weight. This measure is imperfect because imports—the weights used to construct the average tariff—are affected by the tariffs. Given the relatively low level of global tariffs, however, this distortion is not likely to affect the basic tariff picture. As discussed above, nontariff barriers are measured as coverage ratios, which are also flawed. Despite the limitations inherent in these statistics, however, both are widely accepted as the best available measurement.[4]

[4]See Appendix A for more on the flaws of trade-weighted average tariffs and NTB coverage ratios.

The data in this table indicate that exports from California face lower barriers than do exports from the rest of the country, significantly lower outside North America. On average, goods exported by California companies face tariffs that are a full percentage point lower than those from the rest of the country, 2.28 percent rather than 3.25 percent, and face an NTB only 13.8 percent of the time rather than 17.8 percent of the time. These disparities arise from the fact that the type of products exported from California and their export destinations differ significantly from the goods exported from the rest of the country and their destinations.

The center column of Table 2.4, labeled "Tariff Preference," refers to the level of the tariff faced by U.S. exports in foreign markets relative to the tariff faced by exports from other countries to those same markets. For both California and the rest of the United States, that number is positive, indicating that, on average, U.S. exports receive preferential treatment by importers. These figures indicate an average preference of 1.66 percentage points for California exports, which is less than the average preference of 2.03 percentage points for the rest of the country. This finding is due to the relatively high proportion of non-California exports destined for Mexico and Canada, our NAFTA partners. The bottom half of the table presents these same statistics for non-NAFTA trading partners. Removing Canada and Mexico from the trade barrier statistics reveals higher tariffs in the rest of the world. It also indicates that the rest of the world, on average, discriminates against U.S. products, although not by much. Japan and the European Union account for the majority of this discrimination.[5]

The results presented in Table 2.4 mask a great deal of variation in barriers across countries, variation that is in part responsible for the differences in the first and second lines of the table. At the same time that the United States has negotiated very favorable tariff rates with some countries, most notably Canada, Israel, and Mexico, trade with other countries remains significantly affected by barriers. Table 2.5 highlights

[5]Japan's trade preferences arise almost exclusively from its Generalized System of Preferences, which grants preferential access to its market for less-developed countries. Countries in the EU have a similar system of preferences for developing countries but also grant duty-free access for goods from other EU members.

Table 2.5

Barriers to California Exports in Countries with Significant Barriers, 2000

Country	Tariffs (%)	Country	NTBs (%)
India	24.71	Argentina	71.27
Brazil	12.39	New Zealand	50.18
China	11.75	India	49.91
Venezuela	10.09	Chile	44.15
Saudi Arabia	9.66	Saudi Arabia	43.97

the countries with the highest tariffs and the greatest incidence of NTBs as applied to California exports.[6]

Table 2.5 reveals that India has average tariffs almost double those in any other country. India also ranks third in terms of the frequency with which it imposes nontariff barriers. Saudi Arabia is the only other country to make both lists, ranking fifth in each. It is worth noting that 60 percent of the slots occupied in the table are either in South America, and hence party to FTAA negotiations, or are members of APEC. All countries (including the FTAA and APEC members) represented in this table are members of the World Trade Organization and are thus participating in the ongoing Doha Round of multilateral trade negotiations. Therefore, these barriers are likely to decline significantly in the next five to ten years.

The figures in Table 2.6 indicate that California's top ten export markets are characterized by relatively low tariffs. South Korea is an exception and imposes tariffs that are on average double those of any other country. The incidence of NTBs in these countries is also reasonably low. Also worthy of note is the Tariff Preference column. In Canada and Mexico, exports from California receive very favorable treatment compared to goods from other countries. In Mexico, tariffs on imports from countries other than the United States are more than 11 percentage points higher than those imposed on U.S. exports; this

[6]The table is limited to countries importing at least 0.1 percent of California's exports in 2000.

Table 2.6

Barriers to U.S. Exports in Important Markets, 2000

	California			Rest of U.S.		
Country	Tariffs	Tariff Preference	NTBs	Tariffs	Tariff Preference	NTBs
Japan	1.5	–0.3	16.3	3.8	–0.4	37.6
Mexico	2.2	11.0	33.3	2.6	11.2	34.7
Canada	0.0	1.3	9.3	0.0	2.1	12.7
Taiwan	2.2	–0.0	4.3	2.6	–0.0	8.0
South Korea	5.7	–0.0	0.9	6.1	–0.0	5.4
Germany	1.2	–0.8	2.4	2.1	–1.5	2.0
United Kingdom	1.4	–0.9	6.4	1.9	–1.4	3.4
Netherlands	1.1	–0.7	3.1	1.7	–1.1	3.2
France	1.3	–0.9	6.1	1.7	–1.2	1.8
Malaysia	2.1	–0.1	13.7	5.3	–0.2	11.6

NOTES: Sorted by California export share. All entries in the table are presented in percentage points. Tariffs are the percentage tax that countries levy on imports. Tariff preferences are the percentage point difference between the tariff on imports from most countries and the tariff applied to U.S. exports. NTBs are the percentage of exports that are subject to a nontariff barrier in foreign countries.

disparity gives the United States an 11 percent head start, in price terms, when competing with other imports into the Mexican marketplace.[7]

The pattern of barriers to other U.S. exports reveals that tariff barriers are generally higher, significantly so in Japan, Germany, and Malaysia. Note that this is not because the barriers are different for California and the rest of the country, but because of differences in the composition of the goods that are exported.

A significant component of the current liberalization agenda is made up of regional or multilateral initiatives. In particular, significant trade initiatives for the United States include vast multilateral negotiations under the umbrella of the WTO, NAFTA, FTAA, and APEC. There also seems to be periodic mention of a Trans-Atlantic Trade Agreement with the European Union. The data for the EU also provide some

[7]Mexico is actively pursuing trade agreements with other countries, the EU in particular, that will slowly erode this advantage.

perspective on the level of tariffs imposed by California's developed trading partners relative to the barriers imposed by less-developed nations.

Table 2.7 gives added detail to the barriers reported in Table 2.4 above by breaking them down by region.[8] As one might anticipate, the NAFTA countries provide the best terms of access for products from throughout the United States. The 1.3 percent tariff barrier reported for NAFTA indicates only that there are tariff reductions specified in the NAFTA agreement that are yet to be implemented by Mexico. Only the European Union rivals the low tariff levels offered by Canada and Mexico.

Exports destined for countries not in the NAFTA or EU often face barriers that are significantly higher. In particular, tariffs in the FTAA countries average more than 10 percent, and tariffs in the catch-all "Rest" category (Africa and much of Asia) are also relatively high. As one might expect, a relatively small share of U.S. exports are destined for these regions. This lower level of exports is also due to the economic status of

Table 2.7

Aggregate Regional Trade Barriers Faced by U.S. Exporters, 2000

	California				Rest of U.S.			
	Tariffs	Tariff Preference	NTBs	% of Total Trade	Tariffs	Tariff Preference	NTBs	% of Total Trade
NAFTA	1.3	6.9	23.1	27.9	1.0	5.5	21.0	44.7
FTAA	10.3	–0.4	37.2	2.5	11.8	–0.6	32.5	7.9
APEC	2.8	–0.1	11.3	45.2	5.2	–0.2	20.9	22.6
EU	1.2	–0.9	4.1	22.1	2.0	–1.5	2.8	21.6
Rest	7.0	–0.5	21.9	2.7	8.7	–0.8	22.5	3.9

NOTES: All entries in the table are presented in percentage points. Tariffs are the percentage tax that countries levy on imports. Tariff preferences are the percentage point difference between the tariff on imports from most countries and the tariff applied to U.S. exports. NTBs are the percentage of exports that are subject to a nontariff barrier in foreign countries.

[8]Canada and Mexico, although participants in both the APEC and FTAA negotiations, are removed from these entries in Table 2.4. This allows us to focus on the level of protection in the remaining countries.

many of these countries. These largely low-income countries simply have a lower ability to purchase generally, and particularly to import.

The geographical distribution of exports plays a significant role in California's export performance. Also important are the barriers that California's primary export sectors face. Table 2.8 reports measures of trade barriers as they are applied to different commodities, across countries. In general, tariffs are low. This results from the tendency of developed countries to impose lower barriers and to have a higher propensity to import. As these figures are trade-weighted averages, the barriers of larger countries will figure more prominently in the average. The table also suggests that U.S. exports almost uniformly receive favorable treatment in the tariff schedules of those countries importing U.S. goods. This is true on average, but again only because of the overwhelming roles of Canada and Mexico in U.S. trade flows. Removing these countries from the Tariff Preference columns would eliminate all of the negative signs and indicate small amounts of discrimination against goods in all ten sectors.

Table 2.8

Barriers to U.S. Exports in Primary Export Industries, 2000

	California			Rest of U.S.		
Industry	Tariffs	Tariff Preference	NTBs	Tariffs	Tariff Preference	NTBs
Industrial machinery and equipment	1.44	0.77	6.46	2.31	1.32	7.31
Electronic and other electric equipment	1.47	1.66	5.57	2.30	2.53	8.24
Instruments and related products	1.79	0.61	15.69	2.30	1.12	15.43
Transportation equipment	1.85	0.52	12.16	1.88	2.21	22.07
Food and kindred products	9.32	1.52	57.16	11.49	0.89	49.47
Chemicals and allied products	2.88	1.33	27.12	3.63	0.47	23.65
Miscellaneous manufactures	3.37	4.16	20.56	3.90	3.92	15.98
Agricultural production—crops	5.66	–0.09	60.03	11.32	0.03	63.84
Fabricated metal products	3.52	4.47	14.88	2.00	3.50	8.03
Rubber and miscellaneous plastics	5.38	5.02	19.77	4.49	4.37	21.11

NOTES: Sorted by California export shares. All entries in the table are presented in percentage points. Tariffs are the percentage tax that countries levy on imports. Tariff preferences are the percentage point difference between the tariff on imports from most countries and the tariff applied to U.S. exports. NTBs are the percentage of exports that are subject to a nontariff barrier in foreign countries.

Table 2.8 reports very low tariffs on California's major export products. The exception here is for food and kindred products.[9] Tariffs in this category, at more than 9 percent, are relatively high. NTBs in this category, and also agricultural crop production, are also significantly higher than average. Food and agricultural categories have a long history of protection that has only been recently addressed in multilateral negotiations. A comparison of these figures with previously reported barriers for 1998 shows that they are generally lower. As California exports increased significantly in these years, it is likely that these tariff reductions have played a role in export growth.

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[9]Food and kindred products include meat, dairy, and bakery products in addition to sugar and confectionery products, fats and oils, and beverages.

3. Engines of Export Growth

A great many factors can influence the growth pattern of exports. However, relatively few act in a concerted and significant way to expand exports across industries. The previous chapter introduced some of these influences and how they differ for goods exported by California and goods exported from the rest of the country; these influences include the height of trade barriers, the geographic orientation of exports, and their industrial composition. An additional factor in determining export growth is the state of the local economy. This chapter explores the extent to which these factors influence exports from California relative to other U.S. exports.

Arguably the three most important drivers of export growth are local economic conditions, the geographic distribution of exports, and the industrial composition of exports. Growth in the local economy is important insofar as it influences the capacity to produce exports. Traditional reasoning is that the size of an economy reflects its export potential; the larger an economy, the more it has to ship abroad. A countervailing notion is that during periods of rapid local economic expansion, capacity constraints restrict the ability of firms to expand production, resulting in a diminishing volume of exports as higher local demand reduces their supply.

The geographical distribution, or more specifically, the distribution of exports across countries, is important for several reasons. First, larger economies are assumed to have a higher import potential. Simply put, the larger they are, the greater is their demand for foreign products. The implication is that a country's exports are more likely to increase if its trading partners are growing quickly. In addition, the same capacity constraints that reduce exports during local economic expansions will result in higher demand for imports by the fastest-growing foreign trading partner. As their own capacity constraints restrict production, driving up local prices, foreign products become more desirable. A

second factor in the importance of trading partners is the rate at which their trade barriers are reduced. All else equal, if California's important trading partners are reducing their barriers at a faster rate than are other important U.S. trading partners, California exports are also likely to grow faster.

The industrial composition of exports is a final driving force. Here, the industry-specific forces driving growth stem from patterns of worldwide demand and protection. If California exports are concentrated in sectors with quickly growing world demand and in sectors with declining worldwide barriers to protection, then exports are more likely to grow quickly.

Exploring Growth Drivers and Export Growth

Figure 3.1 decomposes the recent growth in California and other U.S. exports into three-year intervals. In the late 1980s, exports from the United States grew rapidly, at a pace of more than 10 percent per year. California's export growth during this period lagged slightly. Things changed significantly in the early part of the 1990s, when export growth slowed generally but less for California than for other states.

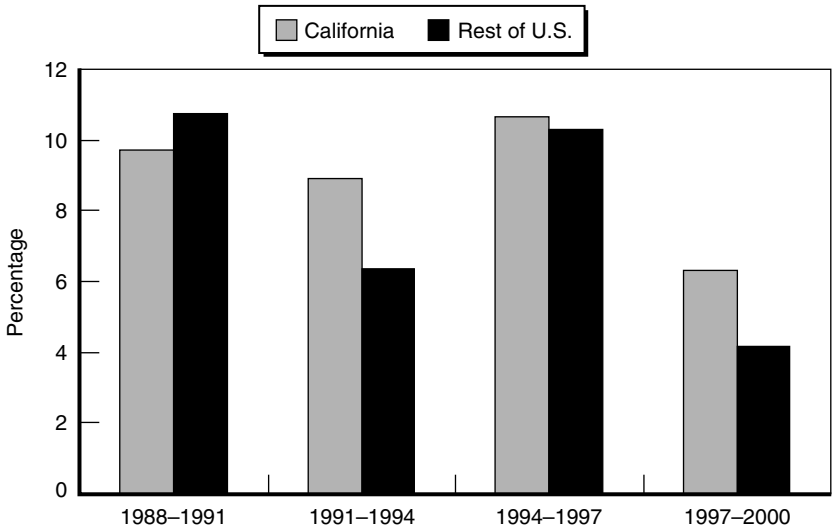


Figure 3.1—Average Annual Percentage Change in Exports, 1988–2000

Throughout the 1990s, export growth from California consistently outpaced export growth from the rest of the country.

The level of economic activity in California and the rest of the country is a potential determinant of the differential rates of export growth in each period. In the late 1980s and early 1990s, a period of slow growth in the United States, California's economy grew especially slowly (Figure 3.2). The California economy caught up in the middle years and took off in the latter portion of the decade, exhibiting growth rates that were, in an average year, 2 percentage points greater than in the rest of the country.

With the exception of the late 1990s, California's economic growth was correlated with export growth during this period. In the early years, growth in economic activity in the state slowed, as did (to a lesser extent) growth in exports. During the middle 1990s, both the economy and exports rebounded, whereas export growth tailed off significantly during the rapid expansion in economic activity at the end of the decade.

Differences in the growth rate of economic activity, however, are not helpful in understanding differences in the growth of exports in California and the rest of the country. In particular, during the late

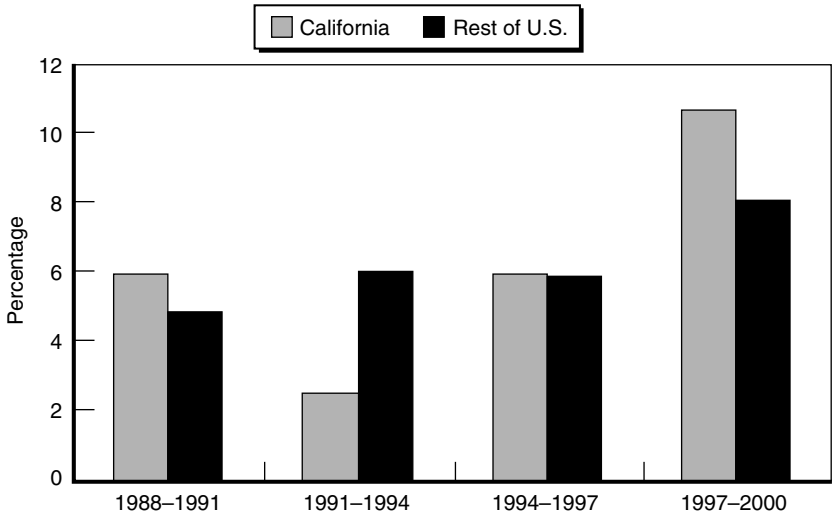


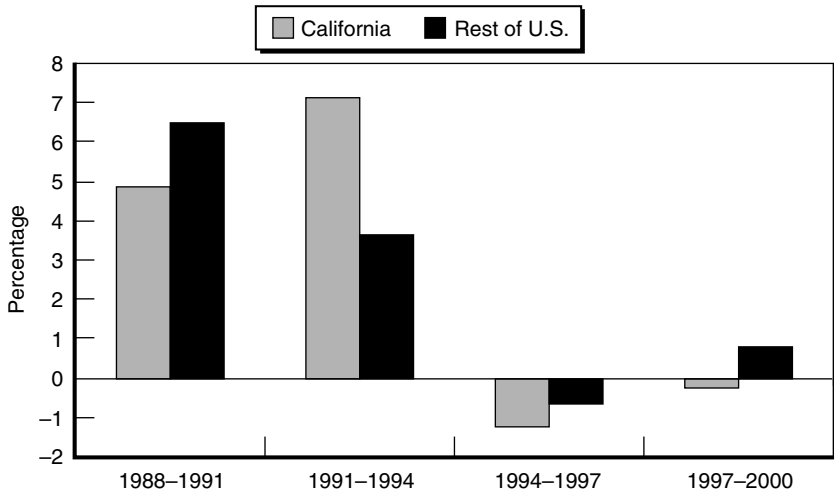
Figure 3.2—Average Annual Percentage Change in GSP, 1988–2000

1980s, economic activity in California expanded faster than in the rest of the country, whereas exports from the rest of the country grew faster than did California's exports. In the early 1990s, the opposite was true. California's economy grew more slowly than that in the rest of the country, whereas its exports grew more quickly.

Recall the conflicting influences of economic growth on exports: A larger economy indicates greater export potential, whereas faster growth in GSP (which leads to a larger economy) suggests slower rates of export growth because of capacity constraints. If the former explanation holds, then California export growth should be *high* relative to other U.S. export growth when California GSP growth is relatively *high*. If the latter explanation applies, California export growth should be relatively *low* when California GSP growth is relatively *high*. In the late 1990s, however, export growth remained high relative to economic growth in California, whereas growth in the U.S. economy outside of California reduced export growth as local demand was high relative to capacity.

Although this evidence is not conclusive, it appears that excess capacity played a significant role in expanding California exports in the late 1980s and early 1990s, whereas capacity constraints may have been partially responsible for reining them in more recently.

Another factor explaining export growth is economic growth among one's trading partners. Figure 3.3 presents average annual changes in the foreign gross domestic product of California's trading partners. In conjunction with Figure 3.1, this figure suggests that differences in growth rates among trading partners played a significant role in determining export growth in the late 1980s and early 1990s. In the late 1980s, when growth in U.S. exports from outside California outpaced growth in California exports, California's trading partners were growing more slowly than those of the rest of the United States. Conversely, the early 1990s was a period of relatively rapid expansion for both California exports and general economic activity in California's major trading partners. With trouble in Mexico and the onset of economic crisis in many Asian countries, the latter half of the 1990s was a period of sluggish economic growth outside the United States, especially among California's principal export destinations. As California export growth continued to outpace export growth from other U.S. states, growth in



NOTE: All foreign countries are included in the chart, with each country's GDP weighted by its importance as a destination for California and other U.S. exports, respectively).

Figure 3.3—Average Annual Percentage Change in Foreign GDP, 1988–2000

foreign economies was not the principal determinant of relative export growth rates. In particular, the 1995 meltdown in the Mexican economy should have slowed California exports. However, growth in California exports was at its peak during this interval.

As a third source of export growth, consider the reduction of imposed barriers in foreign countries. These barriers include tariffs, taxes on the importation of goods, and other so-called NTBs. NTBs include quotas, quality and price restrictions, and outright prohibitions. As reported above, the barriers to California's exports are lower than those faced by exporters in the rest of the country. However, the decline in recent years has favored exports from other states. In the top 15 U.S. export markets, tariff barriers imposed on California exports fell from 3.9 percent in 1996 to 1.8 percent in 2000. The decline for other U.S. exports was more significant, falling from 5.5 to 2.5 percent. The incidence of nontariff barriers rose significantly for both California and other U.S. exports during this period.

Tariff barriers to U.S. trade fell dramatically in the 1990s (Figure 3.4). This fall was the result of several factors, not the least of which was NAFTA. Between 1993 and 2000, the average Mexican tariff fell by 83 percent, from 13.8 to 2.4 percent. Barriers to California exports fell significantly in both the mid and late 1990s, whereas reductions for non-California exports were concentrated in the latter period, during which time cumulative declines were similar for all U.S. exports. As these figures include exports to the same 15 countries, the differences between export growth from California and that from other states are the result of differences in the concentration of exports within those 15 countries and the industrial composition of those exports.

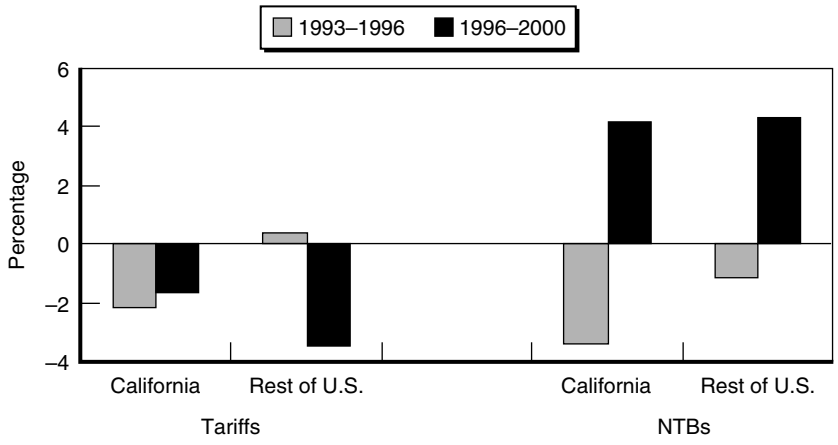


Figure 3.4—Changes in Foreign Trade Barriers, 1993–2000

Disentangling the Effects of Export Growth Drivers

The previous section analyzed growth drivers and their effects on export growth rates. Different periods seemed to be dominated by different export growth factors. In the late 1980s and early 1990s, economic expansion among trading partners appeared to be important. In the latter part of the 1990s, economic activity at home and reductions in foreign barriers played important roles. This section examines the

combined influence exerted on U.S. and California exports by these growth drivers and disentangles the effects of each factor.

With appropriate statistical methods, it is possible to determine the strength with which California GSP, foreign GDP, and tariff reductions pull on U.S. exports and the extent to which the pull of a given change in foreign GDP, for example, is different for California exports and other U.S. exports. These are the growth drivers that were detailed above. Note, however, that an important factor in the influence of the geographical distribution of exports was the increase in foreign demand for the products that a country or region exports. This effect is extremely difficult to measure and is therefore omitted from the analysis in this section. At the end of the analysis, there will be some portion of export growth that remains unaccounted for. Changes in demand for the exported products of California and the rest of the country fall in this category.

This model also includes other factors that explain export levels. These factors include the distance between countries, whether or not the citizens of the foreign country speak English as their primary language, and whether or not the foreign country shares a land border with California or any part of the rest of the country. There is a significant literature that supports the use of these factors in a framework that estimates trade flows between any two countries.[1]

Figure 3.5 provides an indication of the importance of various trade drivers in explaining the growth of California and other U.S. exports between 1996 and 2000.[2] These factors explain roughly three-quarters of the change in California exports during this period and two-thirds of the change in exports from the rest of the country. GSP is an important contributor, explaining about 15 percent of all U.S. export growth. It explains slightly more for California, as the California economy grew slightly faster than that in the rest of the United States during this period. Growth abroad, however, had a much smaller effect on California exporters than on other U.S. exporters. The contribution of foreign growth was less than half for California what it was for other

[1]See Frankel (1997) for more on this issue.

[2]Data limitations prevent the extension of this analysis to years before 1996.

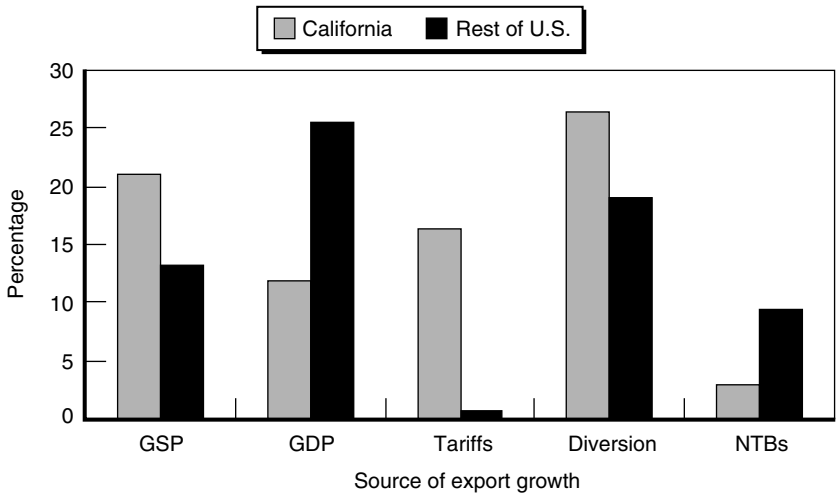


Figure 3.5—Percentage Contributions to Overall Trade Growth, 1996–2000

states. This is easily explained by the geographic orientation of California exports. As shown in Table 2.2, the concentration of California exports in Asian countries is roughly twice that for the rest of the United States. As these countries suffered from a very severe economic downturn in the 1997–1999 period, it is not surprising that California exports would be hindered by the economic crisis in the Asian Pacific rim countries.

The influence of changing trade barriers, both tariff levels and preferential treatment, is the most important factor in explaining California's export growth. The third set of bars in the chart indicates the influence of changes in tariff barriers abroad. The difference between the effect on California and the effect on other U.S. exports is striking. Although tariff reductions had a negligible effect on other U.S. exports, they contributed slightly more than 15 percent to California exports. Reductions in foreign tariffs reflect the implementation of prior commitments, such as those made by countries in the Uruguay Round of GATT negotiations, those from the NAFTA (primarily Mexico), and those from other unilateral liberalization initiatives around the world. That tariff reductions have served to benefit California more than other states is primarily because California tends to trade more with less-

developed countries than does the rest of the United States. These countries had higher barriers early in the decade, and they not only had the potential to enact greater liberalization but did.

Tariff preferences granted to U.S. trade also played an important role in expanding U.S. exports, although again, more for California than for other states. These preferences are almost exclusively from Mexico. The NAFTA is the only significant regional arrangement that played itself out in the late 1990s. That California differs so significantly in this regard from the rest of the country is very striking and will be examined in greater detail in the next section.

Finally there was a reduction in the incidence of nontariff barriers abroad during this period. Although their removal has had a relatively small influence on trade flows, the rest of the country has benefited more significantly than has California. Again, this results from the fact that reductions in nontariff barriers were not uniform across trading partners, and the set of countries that make up California's major trading partners differs significantly from the important markets for the rest of the country.

In short, three factors explain more than 78 percent of the growth in California exports and 68 percent of the growth in other U.S. exports during the latter half of the 1990s. For California, changes in foreign trade policy alone, and tariffs in particular, explain almost half of its export expansion. Although the model explains the majority of export growth for all U.S. exports, a significant proportion is unexplained: 22 percent for California and 32 percent for other U.S. exports. This part of the export growth is likely due to changes in the international demand for goods, changes in exchange rates, less-measurable changes in foreign trade policies, and efforts at the state level, through foreign trade offices, for instance, to expand California's export base. These are all factors that cannot be adequately captured with available data.

Mexico

The preferential trade liberalization from the NAFTA, and Mexico in particular, played a large role in the expansions of California exports. This section therefore focuses on trade with Mexico. The tariff liberalization specified in the 1993 agreement was relatively aggressive.

All in all, the unweighted average tariff that Mexico applied to U.S. imports declined from 13.8 percent in 1993 to 2.4 percent in 2000. About half of all Mexican tariffs on U.S. goods are now zero, with the remaining products facing tariffs that average 4.5 percent. However, more than 200 products are subject to tariffs above 10 percent, and some are as high as 200 percent. Therefore, although much liberalization has been accomplished, there is significant liberalization yet to come.

Looking back on U.S. trade with Mexico, it is clear that in the years since NAFTA was put in force, the growth in U.S. exports to Mexico has accelerated. In Figure 3.6, the first two bars show a dramatic increase in California exports to Mexico after 1993. In each section of the chart, the first bar presents the average annual growth in exports during the five years preceding the NAFTA. The second bar provides average annual export growth in the years since 1993. Before NAFTA, California's exports to Mexico grew at about the same rate as did exports from other states, approximately 20 percent per year. In the years after NAFTA, California export growth to Mexico was in excess of 27 percent per year.

A major concern with free trade areas such as NAFTA is that they will divert trade from one partner country to another rather than generating new commerce. In this case, one might expect that the

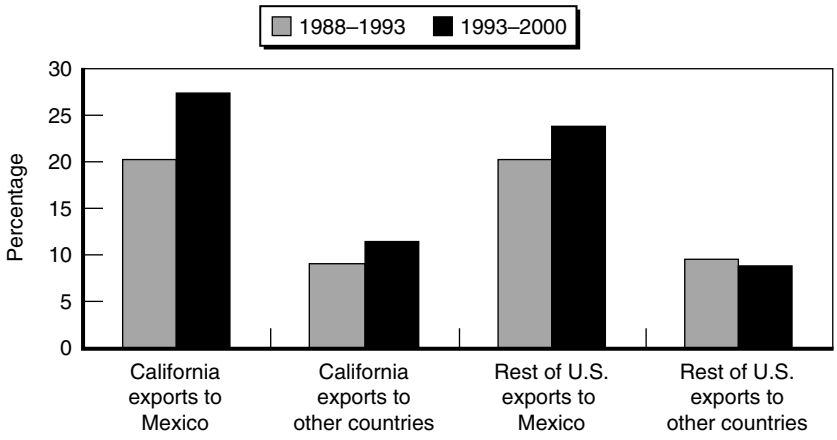


Figure 3.6—Average Annual Growth Rates of U.S. and California Exports to Mexico, 1988–2000

preferential treatment of U.S. exports in the Mexican market would lead U.S. exporters to shift their focus from other markets, perhaps in Asia, to Mexico with no real increase in trade. The second set of bars, those labeled "California exports to other countries," indicate that these worries have not applied to California exports. The growth rate of California's exports to countries other than Mexico also increased significantly in the post-NAFTA period. Although it is certainly possible that these exports would have grown faster were it not for NAFTA, the final two bars in the table suggest otherwise. California's non-Mexico exports grew faster at a time when exports from the rest of the United States began to grow more slowly. This pattern suggests that there was not a significant diversion of trade away from other countries and toward Mexico.

This observation, however, masks significant differences across industries. In five of 20 two-digit SIC industries, exports from California to Mexico increased, but exports to other parts of the world decreased. In some cases, the decline was quite significant. In the fabricated metal products industry, for example, trade with Mexico grew almost twice as fast after NAFTA, but trade with the rest of the world grew at just one-quarter the pre-NAFTA rate. The growth rate of fabricated metal products exports to countries other than Mexico fell from just over 19 percent in the years before NAFTA to just under 5 percent in the years following NAFTA. Although it appears that California exports in the aggregate have increased as a result of NAFTA, that result does not hold on an industry-by-industry basis.

4. The Implications for California of Eliminating Foreign Trade Barriers

The previous chapter illustrates the importance of foreign trade liberalization in generating rapid growth in California's exports during the 1990s. Despite the liberalization of the last decade and more than 50 years of trade-liberalizing negotiations, many significant barriers to U.S. exports remain. This chapter therefore examines the implications for California and other U.S. exporters of eliminating the world's remaining tariff barriers.

Although it is unlikely that worldwide tariffs will be eliminated anytime soon, this scenario is important for a variety of reasons. In particular, eliminating tariffs is the ostensible goal of ongoing negotiations under the auspices of the WTO; in December 2002, the Bush administration submitted a proposal to do just this. This scenario also aids in understanding the deleterious effects of current barriers on California's exports and the importance of their removal. Existing barriers to California exports appear to be relatively low, at a little over 2 percent. Although it is certainly the case that further tariff reductions could be important for export expansion, it is also possible that they are sufficiently low that they do not pose a serious impediment to exports.

This scenario also provides a benchmark against which the export-expanding potential of other U.S. trade liberalization initiatives can be judged. Although multilateral liberalization through the WTO is generally agreed to be important for world prosperity, it may be that the liberalization that can be achieved through APEC, or a series of bilateral initiatives, provides an equivalent amount of export stimulus for

California. Without this benchmark, such a determination cannot be made.

To understand the effects of the Bush administration proposal, this chapter presents the effect on U.S. exports of the removal of all tariffs in 81 countries.[1] These countries collectively accounted for about 80 percent of California trade in 2000, with Mexico, Japan, and Canada accounting for almost one-third of all California exports. Other major markets include Taiwan, the United Kingdom, Germany, and Korea.

The primary source of data on tariffs is the United Nations Conference on Trade and Development–Trade Analysis and Information System (UNCTAD TRAINS) project. These data are generally better for manufacturing industries than for other exports. They do not provide good coverage of the agricultural sectors and simply do not apply to services exports. An additional weakness of the data is in the reporting of tariff-rate quotas (TRQs). A TRQ is essentially a multitiered tariff. For the first quantity of imports, those within some quota or preset level, a low tariff is charged. For subsequent imports, those above the quota, a higher tariff is charged. The data report only the above-quota tariff, which is usually significantly higher than the within-quota tariff. As many of the quotas are not filled, there is no accurate information on the tariff rates that are actually imposed.

As TRQs are more commonly imposed in agricultural sectors than in manufacturing industries, any results that might pertain to agricultural products are suspect. Accordingly, the analysis is limited to manufacturing exports.[2] In 2000, manufacturing exports accounted for over 90 percent of the value of California's exports to the countries included in our analysis; therefore, the omission of agricultural products, although unfortunate, does not significantly undermine the importance of the results presented below.

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[1]See Appendix A for a detailed exposition of the methods used in this chapter.

[2]A list of all two-digit SIC industries is included in Appendix D. The manufacturing sectors included in our analysis are those between and including 20 and 39.

The result of this analysis is that if all California's trading partners eliminated their tariffs, California's manufacturing exports would increase by almost 24 percent. This is a bit more than the 20 percent increase in exports from the rest of the United States. This number is not staggeringly large in percentage terms, but it implies an increase in exports of $27 billion for California and $128 billion for the rest of the country. This $27 billion represents a significant increase in the demand for goods produced in California. In real terms, it is approximately equivalent to the actual growth in inflation-adjusted exports from California between 1995 and 2000.

Figure 4.1 illustrates the general direction in which the increased California exports will flow. The importance of trade liberalization with Southeast Asian and South Pacific countries for California is immediately apparent. Among countries to which exports expand, 73 percent of the expansion is absorbed by countries in this region. Europe and Central Asia are also important, taking in 18 percent of the increase in California

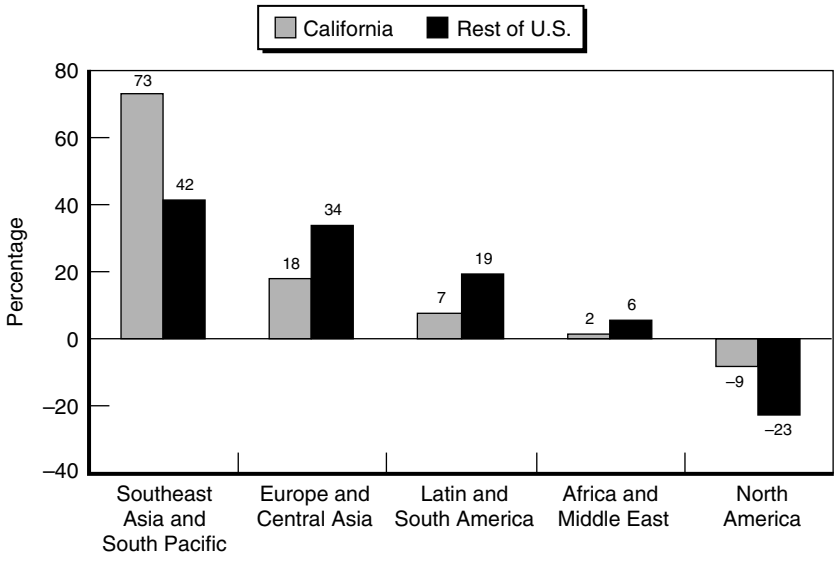

Figure 4.1—Share of Increased U.S. Exports Following Worldwide Tariff Elimination

exports. Africa and the Middle East are of relatively little consequence as are other countries in North and South America.[3]

Curiously, unilateral liberalization on the part of Canada and Mexico erodes almost 9 percent of the expansion of California exports and 23 percent of the increase in other U.S. exports. As will be discussed more fully below, when Canada eliminates all of its tariffs, the privileged position that U.S. exports have as a result of the NAFTA is eliminated. Recall from Chapter 2 that U.S. exports enter Mexico at an 11 percent tariff advantage over imports from other countries; the same figure for Canada is 1.3 percent. The elimination of this advantage significantly undermines U.S. exports to these countries.

The results in Figure 4.1 reflect higher barriers in some regions but also greater trade volumes today. That is, Southeast Asia is very prominent in the chart both because some countries currently have significant barriers and because California already has a significant trading relationship with them. The elimination of their barriers would therefore increase an already large trade flow. Note that the share of the increase in California exports that goes to Southeast Asia and the Pacific is much higher than the share of California's current exports that is destined for the region, which is approximately 45 percent.

Also note that the distribution of the export gains is very different for California and the rest of the country. It is immediately evident that Southeast Asia and the South Pacific are much more important for California than for the rest of the country, whereas trade liberalization in every other region is more important for exporters in the rest of the country, sometimes significantly so. In particular, liberalization in Latin and South America (the FTAA countries) provides California exporters with only 7 percent of the total export expansion; the comparable number for the rest of the country is over 19 percent.

This analysis masks significant variation within each region and does nothing to illustrate which goods are likely to be affected either positively

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[3]Admittedly, our data do not cover many of the African and Middle Eastern nations. Although this surely reduces the importance of tariff reductions in those regions, the excluded countries trade very little with California, and their tariffs are unlikely to have a significant trade-reducing effect. The Africa figure is an understatement, but the point would likely remain the same were all African countries included.

or negatively. The remainder of this chapter will therefore be devoted to providing country and industry detail for the export expansions that are the basis of Figure 4.1.

Country Details

On a country-by-country basis, most estimates of the percentage change in California exports resulting from tariff elimination are in the double digits.[4] In several cases, the elimination of tariffs may lead to much larger percentage changes in exports. Exports to Peru, for instance, could increase more than fivefold. This outcome results from a combination of tariffs of more than 12 percent and demand that is highly responsive to changes in those tariffs. Other countries that might see a significant percentage increase include Albania, Belarus, Cameroon, India, Malawi, Poland, and Tunisia. Only for India, to which California exported $547 million worth of goods in 2000, is current California trade of much consequence. Each of the other countries imported less than $250 million worth of goods from California in 2000.

Among countries to which California exports more than $1 billion worth of goods, only Brazil (with tariffs of 12.2 percent), China (with tariffs of 11.5 percent), and Korea (with tariffs of 5 percent) imposed significant tariff barriers in 2000. Among the most frequent users of NTBs are Mexico (32 percent), Japan (19 percent), Australia (34 percent), China (15 percent), and Brazil (27 percent). The other 14 countries receiving at least $1 billion in California exports impose NTBs on less than 10 percent of all imports.

Table 4.1 shows what happens to California exports to its largest trading partners should they eliminate all their tariff barriers to trade. The most striking feature of this table is that trade with Mexico and Canada actually declines when these countries unilaterally liberalize.

Unilateral liberalization implies that these countries allow imports from all countries to enter duty free, not just imports from the United States. Under NAFTA, U.S. goods already enter Canada almost duty free, whereas goods from other countries still face tariffs that are on

[4]See Appendix C, Table C.1, for results on a country-by-country basis.

Table 4.1

Change in the Value of U.S. Exports in California's Largest Markets Following Tariff Elimination

	California		Rest of U.S.	
Country	% Change	$ Billions	% Change	$ Billions
Mexico	–8.1	–1.4	–4.7	–4.3
Japan	5.6	0.8	6.7	3.2
Canada	–8.2	–1.1	–21.2	–33.7
Taiwan	33.3	2.4	38.9	6.4
United Kingdom	6.1	0.4	9.6	3.2

average about 1 percent, with some tariffs significantly higher. In Mexico, the preference given U.S. goods is much greater, with U.S. goods facing tariffs that are on average 11 percentage points lower than the tariffs imposed on other imports. By eliminating all tariffs, Canada and Mexico would make it more difficult for California products to compete in those countries.

California exports decline by something greater than 8 percent in both Canada and Mexico, with export responsiveness to Mexico almost double that of other U.S. exports. On the other hand, other U.S. exports are much more responsive to the elimination of Canadian tariffs, declining by more than 21 percent, whereas California exports fall again by 8 percent. Overall, California exports to these markets will increase by $1.1 billion as gains in the other three countries, most notably Taiwan, offset declines with our NAFTA partners. Exports from the rest of the United States, however, fall by $25.2 billion as the losses in exports to Canada exceed gains in the other countries.

As described in Appendix A, the decline in exports to NAFTA countries comes about because the framework allows for two separate effects of a preferential reduction in tariffs. The first is the trade-expanding effect arising from the lower average tariff that domestic consumers in Canada and Mexico now pay on each import. This effect applies to imports from all countries, whether or not tariffs have actually been reduced for all countries. That is, because some imports are cheaper, and consumers are assumed to enjoy a variety of different types of imports, consumers now purchase more of every variety, or more

from every country. In this simulation of the removal of all tariffs from all imports, this effect is especially strong. Accordingly, this effect suggests that Canada and Mexico will now purchase more from the United States than when they maintained barriers against imports form other countries.

The second effect is the result of tariff preferences. This is a country-specific effect and measures the extent to which imports from a given country are given preferential tariff treatment—whether or not they face a lower or higher tariff than is applied on average. Tariff preferences generally raise imports from the countries that receive these preferences. The United States, for instance, exports more to Mexico and Canada because of its preferential tariff status. As a consequence, when Mexico and Canada eliminate all their tariffs, the preferential status of imports from the United States is also eliminated and exports of U.S. products to these countries fall. Given the nature of the tariff preferences in 2000, this effect dominates the trade-expanding effect for U.S. exports to Canada and Mexico, and U.S. exports to these countries would fall with the elimination of their tariffs on imports from non-NAFTA countries.

Table 4.2 presents the countries with the largest increase in California export volumes. Three of these countries are significant markets for California: Korea, China, and Taiwan are the 6th, 11th, and 4th largest export markets for California's manufactured goods. Together, these three markets account for more than half of the $27 billion in increased exports that California would experience if all the world's tariffs were eliminated. The other markets, India and France, are smaller in size, but still see an increase in imports from California of more than $1 billion.

Another important element of this table is the comparison between California's export expansion and that of the rest of the country. With the exception of Korea, the priority listing is largely reversed, with large expansions in trade value for California corresponding to relatively small export expansions for the rest of the country. Particularly intriguing are the projected export expansions to France. These expansions come from the liberalization of food categories, and although California is a

Table 4.2

Change in the Value of U.S. Exports Following Tariff Elimination

	California		Rest of U.S.	
Country	% Change	$ Billions	% Change	$ Billions
Korea	158.1	10.4	150.1	8.2
China	142.9	4.6	113.7	5.3
Taiwan	33.3	2.4	38.9	6.5
India	239.6	1.3	192.3	13.7
France	38.0	1.1	48.8	30.6

NOTE: Sorted by increase in the value of California's exports.

significant exporter of food products, the European Union is not a significant destination for California exports of these products.

Industry Details

California's top five exporting sectors by volume include high-technology sectors as well as the transportation and chemicals sectors. These five industries account for over 80 percent of California exports but only 60 percent of the production of manufactured products in California. There are 20 two-digit SIC manufacturing industries in total, so this represents a reasonably high concentration of California exports.[5]

These five industries also represent four of the five industries with the largest change in exports, by value. California's food and kindred products exports would rise more than $2 billion, or a 43 percent increase (Table 4.4). Note that it is primarily smaller industries that lead the way in percentage terms. Tobacco and leather products, of which there is almost no production in California, experience the largest percentage point growth in exports.

A common thread in Tables 4.3 and 4.4 is that on an industry-by-industry basis, the priorities of California and the rest of the country line up much better than they do on a country-by-country basis. In particular, the export expansions in the top four industries in Table 4.3 are comparable. In the two largest industries, significant expansions for California are matched by significant expansions for the rest of the

[5]See Appendix D for a list of two-digit Standard Industrial Classification industries. Manufacturing industries begin with 20 and end with 39.

Table 4.3

Change Among California's Largest Export Commodities

	California		Rest of U.S.	
Industry	% Change	$ Billions	% Change	$ Billions
Electronic and other electric equipment	15.4	7.2	15.0	19.5
Industrial machinery and equipment	20.0	7.6	17.5	19.3
Instruments and related products	19.1	3.0	16.8	9.6
Transportation equipment	10.3	1.2	6.7	10.3
Chemicals and allied products	21.6	1.3	28.0	25.6

Table 4.4

Industries with the Largest Change in California Exports, by Value

	California		Rest of U.S.	
Industry	% Change	$ Billions	% Change	$ Billions
Industrial machinery and equipment	20.0	7.6	17.5	19.3
Electronic and other electric equipment	15.4	7.2	15.0	19.5
Instruments and related products	19.1	3.0	16.8	9.6
Food and kindred products	43.0	2.0	40.6	10.2
Chemicals and allied products	21.6	1.3	28.0	25.6

country. Chemicals industries are an outlier in this comparison, being relatively more important for non-California exporters.

Overall, U.S. exports of manufactured products would likely increase by more than 21 percent if the majority of U.S. trading partners eliminated all their tariffs. California's manufacturing exports, in particular, would increase more than $27 billion, or 24 percent of their 2000 level. The majority of these increases are to be found in sectors that are already major exporters, including high-technology products such as industrial machinery and electronic products. Furthermore, the results suggest that California's interests match reasonably well with those of the rest of the country when it comes to industry-by-industry liberalization but do not match on a country-by-country basis. As liberalization initiatives are more frequently undertaken between countries rather than in particular sectors, this is a potential source of concern.[6]

[6]The Information Technology Agreement is the most prominent exception to this pattern. In this 1996 agreement, 29 countries consented to the elimination of all duties on imports of information technology products.

5. Case Studies of Other Liberalization Initiatives

Although the elimination of all barriers to international trade is the goal of WTO negotiations, this goal is a long way down the road. Accordingly, this chapter presents case studies of various trade agreements that are also a part of the Bush administration's trade expansion strategy. These agreements are either already in place (as is APEC), in the process of being negotiated (as is the FTAA and a set of bilateral free trade agreements), or merely speculative (as is a free trade agreement between the United States and the European Union).

In place since 1989, APEC calls for deep liberalization by member nations. Despite significant liberalization in early negotiations, the enthusiasm of the United States government in pursuing further progress in this forum has recently waned. As many of the APEC member nations represent important markets for California exports, the analysis of this chapter will illustrate the further gains that could result from a renewed emphasis on liberalization in this forum. On the other hand, the FTAA is a high-priority initiative for the United States. Perhaps because of high trade barriers, these countries do not currently constitute significant export markets for U.S. products. The European Union combines a group of largely developed nations with which the U.S. trades heavily. The analysis provided below will evaluate the further gains that could be had from a free trade arrangement with the EU.

This chapter also provides analyses of the extent to which a number of proposed bilateral agreements will increase California exports. Singapore, Taiwan, Morocco, Australia, and Chile have been mentioned by the current administration as potential partners in free trade agreements. Negotiations with Chile and Singapore were concluded in December 2002 and May 2003, respectively, whereas those with Morocco, Taiwan, and Australia are in the early stages.

APEC

Aside from efforts in the WTO and its predecessor, the GATT, APEC is the longest-running organization through which the United States has sought to open foreign markets to U.S. exports. APEC is a forum for liberalizing trade that includes 21 member nations—all of the major nations bordering the Pacific Ocean other than Colombia. APEC was developed with the ultimate goal of eliminating tariffs in APEC member countries on terms generally referred to as "open regionalism."[1] There is no clear consensus on the meaning of this term, but the most optimistic interpretation is that barriers will be eliminated on imports from all countries of the world, not just on imports from APEC members. There has been movement in that direction, but much remains to be done.

Established in 1989, APEC is now a mature organization. In the early years, the commitment of its members to broad liberalization was evident. Tariffs declined by as much as 40 percent between 1988 and 1996 in member countries.[2] In the last eight years, however, tariff declines have been less significant. As of 2000, average barriers to U.S. imports among other APEC members still stand at more than 5 percent, about the same as the average tariff imposed on all U.S. exports to countries other than Mexico and Canada.

In the aggregate, completion of the tariff elimination agenda within APEC implies a $19 billion increase in California exports to the other APEC members. This is an expansion of total California exports by almost 14 percent. This contrasts with the 6 percent boost in exports from the rest of the United States to APEC members. This 14 percent increase reflects an increase in trade with every APEC member other than Canada and Mexico. As before, California exports to both of these countries would decline by a little over 8 percent. Once Mexico and Canada have been accounted for, the increase in exports to non-NAFTA APEC members is projected to be something in the neighborhood of $22 billion, or a 20 percent increase over current exports.

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[1] See Bergsten (1997) for more on this term.

[2] See Council of Economic Advisers (1998, p. 232).

The countries that account for most of this increase are the usual ones: Korea, China, and Taiwan (Table 4.2). Rounding out the top five are Japan and Peru, with a projected increase in California exports at just under $1 billion to each. The industries in which exports increase the most are the same for APEC as for California's exports more broadly (Table 5.1). These data reinforce the finding in Table 4.4 that the majority of export benefits from worldwide liberalization come from increased exports to APEC countries.

As before, on an industry-by-industry basis, the aggregate U.S. liberalization interests are closely aligned with California's interests. In each industry, the percentage change in California exports to these countries is comparable to that of the rest of the country.

Table 5.1

Industries with the Largest Change in California Exports, by Value

	California		Rest of U.S.	
Industry	%	$ Billions	%	$ Billions
Electronic and other electric equipment	19.3	6.8	20.2	17.8
Industrial machinery and equipment	21.2	6.4	19.8	16.3
Instruments and related products	16.3	2.2	13.1	6.1
Food and kindred products	48.9	1.7	43.5	7.8
Chemicals and allied products	20.7	1.0	20.8	14.6

FTAA

FTAA has the goal of concluding the negotiation of a comprehensive free trade agreement no later than 2005.[3] Discussions toward a hemispheric trade agreement began at the Summit of the Americas in Miami in December 1994. At this summit, 34 countries agreed to negotiate a free trade area in which barriers to trade and investment would be progressively eliminated.

This agreement would effectively extend the NAFTA to include all countries in Central and South America, countries with a combined GDP of over $1.5 trillion. This agreement is likely to be especially beneficial to U.S. exporters, as many countries in the region now grant

[3]See Council of Economic Advisers (1998).

each other preferential market access, to the detriment of U.S. products. In particular, the MERCOSUR arrangement—a customs union between Argentina, Brazil, Paraguay, and Uruguay—permits the duty-free movement of goods within these countries. Furthermore, free trade agreements between Chile and both Canada and Mexico disadvantage U.S. exports.

At first glance, the proposed FTAA appears to be very important to California. The 33 Western Hemisphere nations (only Cuba is excluded) negotiating with the United States absorbed more than 29 percent of California exports in 2001. However, those nations include Mexico and Canada, California's first- and third-leading export destinations, and the United States already has free trade agreements with those two countries. The 31 other proposed members of the FTAA absorbed $3.1 billion worth of California exports in 2001, only 2.9 percent of the total. This volume is smaller than the combined exports to Taiwan and China.

An analysis of the implementation of the comprehensive free trade area reveals an increase of approximately $4.6 billion worth of California goods shipped to these countries, or a 3.3 percent increase in total California exports. Increased exports for the rest of the country could amount to just under $58 billion, or 7.3 percent, in the event that tariffs in FTAA countries are eliminated.[4] These figures were generated by analyzing the trade-reducing effects of tariffs that were in place in these countries as of 2000.[5] This growth in exports arises primarily from the fact that, by world standards, barriers to U.S. exports in these countries are high. Figure 5.1 presents both the level of tariffs that U.S. exporters face in these countries and the extent to which the trade preferences work against U.S. exports.[6]

Whereas tariffs imposed by the United States and other developed nations average somewhere between 2 and 3 percent, the tariffs in the

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[4]This number is somewhat higher than the $53 billion prediction produced by the Council of Economic Advisers (2002), p. 281.

[5]Because of data limitations, the barriers for some countries are from earlier years.

[6]These are the only countries to which the United States exports at least $100 million worth of goods.

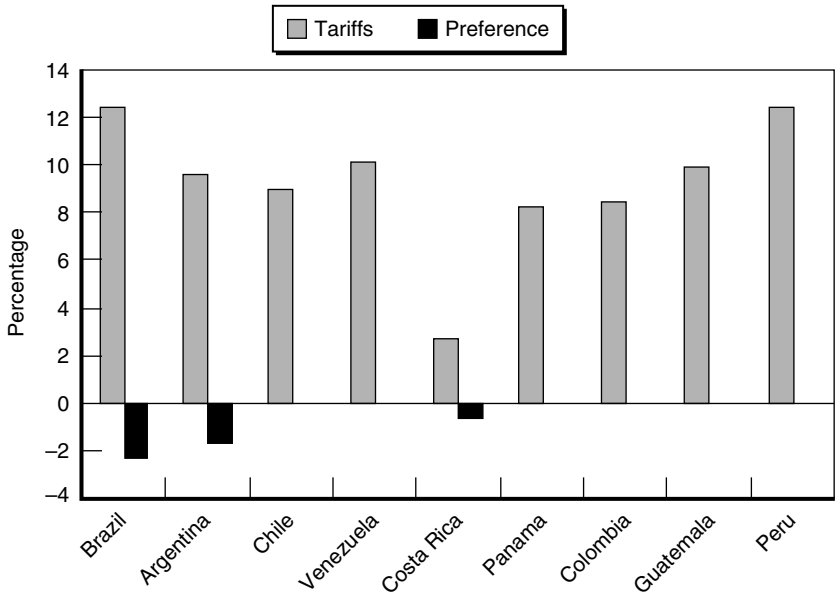

Figure 5.1—Tariffs in Large Central and South American Markets

markets represented in Figure 5.1 generally exceed 8 percent. On average, U.S. exports to FTAA countries face barriers on the order of 10 percent, and they enter with a tariff that is on average 0.6 percentage points higher than that on all other goods imported by these countries. Although on average the size of this disadvantage appears small, it is much larger in specific countries and industries.

The figure shows that U.S. products enter only three countries, Brazil, Argentina, and Costa Rica, at a higher tariff than do products from other countries. Brazil and Argentina are members of the MERCOSUR Customs Union and Costa Rica is a member of the Central American Common Market. Costa Rica also grants preferential access for imports from Mexico and Panama. Although on average, U.S. goods enter these markets at almost a 2 percent disadvantage relative to other products, this disadvantage is significant in specific product categories.

Table 5.2 details the FTAA-related growth in export volumes to five of the nine countries reported in Figure 5.1. Both the percentage and

Table 5.2

Increase in U.S. Exports to Top Five FTAA Countries, by Value

	California Change		Rest of U.S. Change	
Country	%	$ Billions	%	$ Billions
Brazil	255	3.2	249	34.5
Peru	473	0.6	460	6.9
Chile	161	0.4	135	4.1
Argentina	116	0.4	150	6.4
Mexico	1	0.1	–2	–2.3

value changes in California exports vary widely. Exports to Peru are projected to increase almost fivefold, whereas exports to Costa Rica and Venezuela will only increase by 12 and 13.8 percent, respectively. Brazil is currently the largest importer of California products and is expected to remain so when the FTAA is in place. Exports from California to Brazil are expected to grow by $3.2 billion, to more than three and a half times their current size. This phenomenal growth is both the result of currently high barriers and significant preferences offered by Brazil on imports from countries other than the United States.

A little surprising is the appearance of Mexico on this list. In the event of a unilateral liberalization by Mexico, California exports would fall by almost 8 percent. In arriving at this figure, two different effects were combined. The first is the effect of lower overall barriers. By lowering the average tariff imposed on imports into Mexico, Mexican consumers will buy more of all imports from every country. The second effect is the elimination of the tariff preferences for the United States. Goods from other countries become cheaper relative to U.S. exports than they were and Mexican consumers substitute away from U.S. products. In the case of unilateral liberalization, the second effect dominates the first.

In the case of the FTAA, the reverse is true, and California exports increase by approximately $100 million. Mexico imports goods from the United States that are not readily available from its southern neighbors. Granting these countries preferential status relative to the rest of the world does not significantly erode the preferential position of the United

States. The liberalization under FTAA retains preferences for the United States, reducing the size of the second effect.

It is worth comparing the FTAA results more generally to those from the unilateral liberalization exercise in the previous chapter. Figure 5.2 presents the changes that might be expected in California exports as a result of various changes in the trading environment. The first two sets of bars present the implications for California and other U.S. exports, respectively, to FTAA countries under each of three scenarios. The third and fourth sets of bars provide the same information but exclude the results for Canada and Mexico, which have already eliminated their tariffs on U.S. exports.

Within each set of bars, the first indicates the change in exports subsequent to unilateral liberalization among the FTAA countries. This

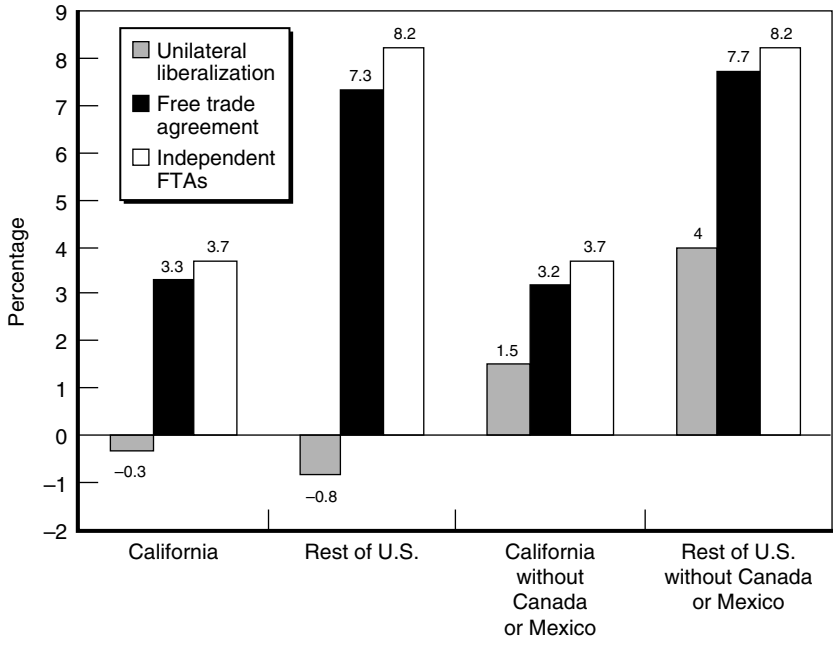

Figure 5.2—Change in U.S. Exports Resulting from Alternative Liberalization Schemes Among FTAA Member Countries

is analogous to the results presented in Chapter 4. The second bar corresponds to the formation of the FTAA. As this scenario involves the institution of preferences in all FTAA countries, for all other FTAA countries, including the United States, it results in a greater expansion of U.S. exports than does unilateral liberalization. The third bar reflects the interim approach of the federal government. Specifically, it simulates the creation of independent free trade areas with each of the FTAA countries. This arrangement involves a further increase in U.S. exports as each FTAA country provides preferential access to U.S. exports but not to exports of the other FTAA countries.

A striking feature of these results is that when Canada and Mexico are included, U.S. exports to all FTAA countries actually decline under the first two scenarios.[7] Canada and Mexico import less from both California and the rest of the country following the complete removal of their tariff barriers. When Canada and Mexico are excluded from the calculation, exports to the remaining FTAA countries do in fact increase, as displayed in the right-hand side of the figure.

Whether or not Canada and Mexico are included in the analysis, the increase under unilateral liberalization is significantly less than what might be expected from the formation of a free trade area with these countries. The formation of a free trade area implies that tariff barriers remain high with respect to countries outside the hemisphere, creating a preference for the purchase of goods from other FTAA members where there was none before. Curiously, under this scenario, including Mexico and Canada serves to increase California's exports to these countries but to reduce exports from the rest of the country. This comes about because Mexican imports from California are not as easily replaced by imports from other FTAA countries as are Mexican imports from the rest of the United States. Accordingly, the broad liberalizing effect of the FTAA on Mexican imports serves to increase California's exports to that country, whereas the ease of substituting away from products originating in the

[7]Their exclusion does not alter the results for the third scenario as the United States already has a free trade agreement with these countries that is independent of any other arrangements with FTAA countries.

rest of the United States leads to a reduction in non-California U.S. exports to Mexico.

If, as in the third scenario, smaller regional agreements are signed rather than one comprehensive agreement, U.S. exports get an added boost. This is because the only effect operating here is the granting of new preferences to U.S. exports at the expense of exports from other countries, including other FTAA participants. This preferred status confers a greater benefit to U.S. exporters than they receive under the broader regional FTAA.

Another result that stands out from Figure 5.2 is that non-California exports consistently increase approximately twice as fast as do California exports. For instance, in the scenario analyzing the entire FTAA agreement, California exports grow at 3.2 percent whereas non-California exports grow at 7.3 percent. As California exporters benefit less, this result is suggestive of a disconnect between the enthusiasm for an FTAA by California exporters and that by other U.S. exporters.

Other Pending Regional Agreements

The federal government is also pursuing regional free trade areas with the SACU countries of Africa and CAFTA countries in Central America in addition to the Free Trade Area of the Americas. Both agreements represent the liberalization of small amounts of U.S. exports when compared with NAFTA or FTAA. The SACU countries absorb less than 0.5 percent of all U.S. exports and less than one-fifth of one percent of California exports. The CAFTA countries absorb more of both California and other U.S. exports, 0.3 and 1.3 percent, respectively, but still represent small markets. Table 5.3 illustrates current export flows to the individual countries and the likely expansion of U.S. exports that would result from free trade agreements.[8]

Of these potential partner countries, only South Africa represents a significant amount of trade for California exports, with an increase

[8]Data on barriers to trade are available only for South Africa. The other countries are therefore omitted from the table.

Table 5.3

Increased U.S. Exports Resulting from Other Bilateral Agreements

	California			Rest of U.S.		
		Change			Change	
Country	Current Exports ($ Millions)	%	$ Millions	Current Exports ($ Millions)	%	$ Millions
CAFTA countries						
Costa Rica	140	15	21	2,296	31	713
El Salvador	48	14	7	1,710	27	468
Guatemala	95	19	18	1,770	13	244
Honduras	31	40	12	2,522	69	1,751
Nicaragua	15	72	11	355	73	259
SACU countries						
South Africa	236	105	248	2,770	182	5,032

following the development of a free trade area of some $248 million. The CAFTA countries cumulatively add less than $60 million to California exports. Although not representing a significantly larger share of exports, the increase in non-California exports is much larger in absolute value. Exports to South Africa alone increase by more than $5 billion, whereas the cumulative effect of the agreements is over $7 billion. Here, again, the interests of California and the interests of the rest of the country differ significantly.

European Union

Another agreement to consider is with the countries of the European Union. At the present time, such an agreement seems unlikely. However, the notion of a Trans-Atlantic Free Trade Area (TAFTA) has been mentioned in policy circles on a number of occasions.[9]

In terms of economic might, the EU is significantly larger than both the FTAA and APEC, exclusive of the United States. Given the size of the EU, the increase in California exports that might arise from an agreement with the EU is small. This analysis suggests a 3.7 percent

[9]The most recent discussion of this notion may well have been as far back as 1995. See *Inside U.S. Trade*, December 1, 1995. The then–Senior Economic Policy Adviser to President Clinton, Daniel Tarullo, suggests that the media were more interested in a TAFTA than either the U.S. or EU governments or the business community.

($5.2 billion) increase in California exports to EU members following the elimination of all EU tariffs on U.S. imports. As some 20 percent of all California exports are absorbed by these countries, the small increase in California exports means not that the EU is an unimportant market for California but rather that the EU barriers are relatively low to begin with. EU tariffs are in general lower than are U.S. tariffs.

Despite these low barriers, the response of California exports to individual countries may be quite large. In percentage terms, California exports are projected to grow by more than 50 percent to Denmark, Greece, and Portugal. Note, however, that in 2000, exports to these countries amounted to less than $300 million collectively. California's exports to four countries grow by more than $500 million: France, Ireland, Germany, and the Netherlands. Not only are these countries some of the larger California trading partners in Europe, they also exhibit a strong response to tariff liberalization.[10]

Figure 5.3 also presents the export expansion that California producers might expect in the event of a unilateral liberalization undertaken by the EU, as was simulated in Chapter 4. Given the already low tariffs imposed by EU countries and the large volume of intra-EU trade, the preferential nature of a TAFTA does not confer great benefits to California exports over unilateral liberalization by these same countries. In other words, importers in the EU are unlikely to alter their behavior dramatically in response to duty-free imports from the United States. The TAFTA would result in exports that are $700 million more than could be expected through unilateral liberalization.

The results in this figure provide an interesting contrast to those presented for the FTAA. Recall that U.S. exports generally increased twice as much with a free trade agreement than with unilateral liberalization. Here, the difference is much smaller. The FTAA, in the event of a free trade agreement, provides more preferential treatment to the United States than does an EU free trade agreement (FTA) relative to unilateral liberalization.

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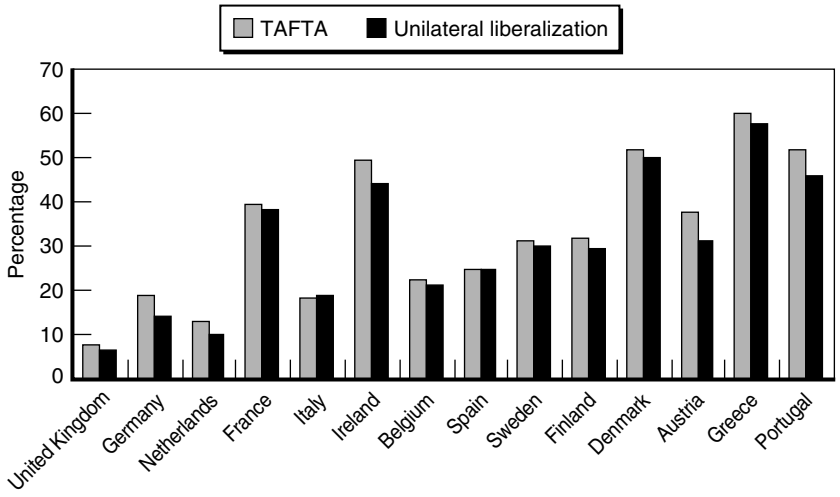
[10]The countries in Figure 5.3 are sorted from left to right by the size of California exports in 2000.



NOTE: The countries are sorted from left to right by the size of California exports in 2000.

Figure 5.3—Response of California Exports to Liberalization in EU Countries

Our results suggest that at the industry level exports do not increase significantly for any one industry. Table 5.4 lists the industries that experience the greatest increase in exports. These include California's four largest sectors, those incorporating industrial machinery and high-technology goods. In addition, food and kindred products are projected to increase significantly. The food and kindred products industry is the only one to increase by more than 10 percentage points.

The European Union countries do not present a major opportunity for California exports. Despite the fact that there is significant

Table 5.4

Change in U.S. Exports to the European Union, by Industry

	California Change		Rest of U.S. Change	
Industry	%	$ Billions	%	$ Billions
Electronic and other electric equipment	2.5	1.1	3.0	3.9
Industrial machinery and equipment	1.9	0.7	3.9	4.3
Instruments and related products	4.5	0.7	5.8	3.3
Transportation equipment	6.2	0.7	8.4	12.8
Food and kindred products	13.1	0.6	10.0	2.5

discrimination against U.S. exports by the European countries, relief of this discrimination is not a panacea for California exporters in the way that it might be for other U.S. exporters. Increased exports by the rest of the United States are double that of California on a percentage basis and more than ten times larger on a value basis. As with the FTAA, a regional agreement with Europe should not be a high priority among California policymakers.

Pending Bilateral Agreements

In addition to covering agreements involving multiple countries, the recent granting of Trade Promotion Authority by Congress to the president brings the list of potential bilateral free trade agreements one step closer to reality. Agreements with five countries—Australia, Chile, Taiwan, Morocco, and Singapore—have been indicated as possibilities in the near future. Some of these agreements are important for their trade-liberalizing effect, whereas others may well represent the pursuit of some other longer-term agenda. As with the CAFTA, a free trade agreement with Chile might represent a first step toward easing the path toward the culmination of the FTAA negotiations. An agreement with Singapore, although not providing much in the way of tariff barrier relief for U.S. exporters, may provide a stepping-stone for U.S. exports into other Southeast Asian countries. Additionally, as Japan has just completed a free trade agreement with Singapore, it will provide an even footing for U.S. goods with Japanese goods in Singapore's markets. An agreement with Taiwan is important for many reasons, not the least of which is the fact that despite its relatively high barriers, Taiwan is California's fifth-largest export destination.

Table 5.5 presents the liberalizing effect of each agreement on California exports. Exports to Australia, Chile, and Taiwan increase significantly, by more than $600 million in each case. In the case of Chile, this amounts to a more than doubling of California exports. The agreements with Morocco and Singapore provide very little in the way of greater access to these foreign markets. To begin with, California exporters ship almost nothing to Morocco, less than $20 million worth, and it is unlikely that significant volumes would traverse the great distance between these countries even if all institutional barriers were

Table 5.5

Increased U.S. Exports to Possible Bilateral Agreement Partners

	California			Rest of U.S.		
		Change			Change	
Country	Current Exports ($ Millions)	%	$ Millions	Current Exports ($ Millions)	%	$ Millions
Australia	2,373	27	648	9,750	50	4,909
Chile	272	242	659	3,035	245	7,448
Taiwan	7,203	9	666	16,811	11	1,911
Morocco	20	16	3	484	148	721
Singapore	4,937	0	0	12,655	0	0

removed. Singapore does not currently impose tariff barriers to imports. As a result, there is currently no formal impediment to California exports.[11] Accordingly, the agreement appears to provide little if any benefit to California exporters under this analysis.

Relative to the trade agreements of the past, in particular NAFTA, these agreements are not of great consequence for California exporters. Not only are the barriers in some of these countries not especially high, but, with the exception of Taiwan, the countries are not generally regarded as important export markets. However, for exporters in the rest of the country, these agreements lead to a significant expansion of exports; the cumulative increase in non-California exports exceeds $15 billion. The economies and societies themselves may be important for other economic or political purposes, but the immediate benefits for California exporters are likely to be small.

Of these five agreements, only an FTA with Taiwan holds more promise for California than for the rest of the country. With a Taiwan FTA, total California exports increase by about 0.5 percent, whereas other U.S. exports increase by about 0.25 percent. As a percentage of total exports, other U.S. exports increase by almost twice as much as do California's exports from the rest of the agreements, aside from Singapore. In each of these other three agreements, the difference in export expansion between California and the rest of the country is driven

[11]Singapore does impose a set of NTBs on imports, but our analysis is not well equipped to deal with these barriers.

by exports in the transportation equipment sector. In Chile, the chemicals and allied products sector also plays a large role. Although overall these markets are of more importance for non-California exports than for California exports, just one sector, transportation equipment, accounts for the difference.

6. Conclusions

International trade is becoming an increasingly important part of the California economy. In recent years, the rate of increase in exports from California industry has consistently outpaced the growth rate of overall economic activity in the state. Chapter 3 revealed foreign tariff reductions to be the most important contributor to this growth, with the preferential access granted by Mexico being especially important. The preferential nature of our trading relationship with Mexico was responsible for more than 25 percent of California's export growth in the latter half of the 1990s. Growth in the California economy and other reductions in tariff barriers abroad each accounted for something in excess of 20 percent of the growth in California exports.

The recent expansion of California exports provides a useful backdrop against which to assess the importance of future trade liberalization for California exporters. This report first assessed the benefits to California exporters of the total elimination of tariffs around the world. Although it is assumed that other nontariff barriers, such as quotas, remain in place, California's manufacturing exports are still projected to increase by 23 percent, or $27 billion, which is more than the projected 20 percent increase in other U.S. exports.

California's export gains would be very highly concentrated in Asia, with Korea, Taiwan, and China accounting for much of the increase. Exports to Europe and Central Asia account for an additional 18 percent. Surprisingly, exports to other countries in North America were found to decline significantly. This is the result of the elimination of tariff preferences by Canada and Mexico. In the event that these countries eliminate the tariffs that they currently impose on imports from countries other than the United States, California exports to Canada and Mexico are projected to decline by more than 8 percent each.

Recognizing that the elimination of worldwide tariffs remains a distant prospect, the analysis includes pending items on the U.S.

liberalization agenda. These items include progress in the APEC Forum, progress in the development of a hemispheric free trade area, the FTAA, and a set of smaller bilateral or regional agreements between the United Sates and Morocco, Taiwan, Singapore, Chile, Australia, and countries in southern Africa and Latin America. Some of these negotiations are well under way, whereas others are in the early stages. Liberalization under the APEC Forum could produce the largest benefits for California exporters. The FTAA and the bilateral agreements are significantly less important for California exporters.

This report also analyses the benefits of a free trade agreement between the United States and the European Union. As the primary source of trade friction between the United States and Europe is agricultural subsidies, and our methods are not able to incorporate the reduction of these subsidies, the gains for U.S. exporters from such an agreement are relatively small. The low level of tariffs among the EU countries is also responsible for the lack of a significant increase in U.S. exports to the European Union.

From a policy perspective that focuses on the expansion of exports, these results point to the importance of continued pressure on our trading partners for easing restrictions on international trade flows. The results for trade with Mexico are illustrative of the great gains that can result from liberalizing agreements. Although it is certainly not the case that every agreement will have the capacity of NAFTA to expand exports, one can reasonably expect that each agreement, no matter how small, will create opportunities for California's exporters.

An interesting finding was that exports tend to increase more significantly with preferential agreements than through unilateral liberalization by our trading partners. There are several perspectives on this issue in the economics literature. A first perspective addresses the welfare gains of various liberalizing patterns for the world as a whole. In the short term, it is argued, preferential agreements are likely to reduce welfare from a global perspective. They are thought to divert trade away from its natural patterns more than nondiscriminatory tariffs do. Although they may benefit the member countries, it is at the significant expense of countries excluded from the agreement.

A second perspective on the issue grew out of the NAFTA debate. It was argued that by pursuing a dual strategy of negotiating a multilateral agreement, the Uruguay Round of negotiations, at the same time it was pursuing a very significant preferential agreement, the NAFTA, the United States was able to bring about more significant liberalization than if it had pursued only the multilateral liberalization initiative. That is, in its pursuit of the NAFTA, the United States was able to extract more significant liberalization commitments from the 122 other countries participating in the Uruguay Round than if the United States had pursued the single track of multilateral liberalization.

It is from this second perspective that many of the small FTAs—those with Chile and the CAFTA countries—and the FTAA can appropriately be viewed, one being a catalyst for the other and both being a driving force for multilateral liberalization.

In the end, the pursuit of unilateral tariff liberalization, rather than preferential liberalization, is the noble agenda. Such liberalization does not harm other countries in the way that preferential agreements may. Some regional agreements, in particular liberalization in the APEC Forum, embrace this notion and are broadly consistent with the importance of unilateral or nondiscriminatory liberalization. California's and the world's best interests can be served by the pursuit of the entire liberalization agenda but most particularly by the pursuit of APEC negotiations and a commitment on the part of the federal government to the success of the ongoing Doha Round of multilateral negotiations.

A theme that has run throughout this report is the inconsistency of California's liberalization priorities with those of the rest of the country. California's exports are more highly concentrated in Asian markets and are more likely to be in the technology sectors. Furthermore, trade liberalization is found to be more important for California exporters than for exporters in the rest of the country. This was indicated both by the retrospective look at trade liberalization in the 1990s, during which time the effects on California exports were much greater than for other states, and through the forward-looking analysis of multilateral, regional, and bilateral negotiations. In particular, on a percentage basis, California's manufacturing exports will expand much more significantly (24 percent)

as foreign tariffs are reduced than will exports from the rest of the country (20 percent).

By highlighting these differences, this report reveals the importance of action on the part of state officials in pursuing California's liberalization priorities. Because state lawmakers have little control over the key policy levers, it is all the more important that these priorities be communicated to those setting the national agenda. As stated at the outset, California has clearly marked the expansion of exports as an important policy objective. This agenda is best pursued by encouraging the liberalization of trade in Asian economies.

Although trade policies are set at the national rather than the state level, they are likely to be of greater consequence for California than for other states. For this reason, California's firms, policymakers, and congressional delegation should consider these findings when discussing liberalization efforts with trade officials.

Appendix A

Research Methods

Underlying Theoretical Construct

Within the study of international economics, a variety of models, or theoretical constructs, can be used to gain insight into an issue or set of issues. The simplest of these models is one of homogeneous products and perfect competition. Other models add complexity along one or more dimensions. For example, they may take into account the fact that there are a variety of different types of automobiles available for purchase; such a model might be classified as a model with "differentiated products." Other models may take into account the small number of producers in a given market; these would be models with imperfect competition.

Given the broad scope of the current manuscript, the analysis in this report has an underlying construct based on a model with imperfect competition and the existence of varieties. To make the problem tractable, however, the results are from a partial equilibrium analysis that neglects many of the complexities inherent in a general equilibrium world. A general equilibrium approach would address the issues in a broader context, taking into account the linkages among industries. Although this approach does abstract away from a number of important features of trade liberalization, it broadens the scope of issues that can be addressed.

Preferential tariff liberalization, such as that taking place under NAFTA, grants tariff preferences to a country or set of countries while maintaining higher tariffs on imports from countries not participating in the negotiations. For any particular industry, these preferences can have one of two effects. The first and, indeed, the most likely, is no effect. That is, domestic prices will remain unchanged, but more will be imported from the country obtaining the preferences. The second, and generally considered to be less likely, effect is to reduce the domestic

price of the good by the amount of the tariff. This will happen only if imports are now entirely supplied by the country or countries receiving the benefits: Canada or Mexico in the case of NAFTA. In the former case, the only real change is that now money that would have been collected in tax revenues by the U.S. government is collected by Mexican exporters in the form of higher prices. That is, Mexican producers now get to raise their prices in the same way that U.S. producers are able to. Domestic consumers do not realize any drop in price.

Statistical Methods

Calculation of the Fundamental Statistics

In addition to the more complex analysis presented in the body of the report, three fundamental types of statistics are reported. The first type is a trade share. These shares can be the share of California trade with a particular country or trade in goods from a particular industry. In either case, they are calculated as follows:

$$\text{SHARE}_I = \frac{\sum_{j=1}^{m} X_{I,j}}{\sum_{i=1}^{n}\sum_{j=1}^{m} X_{i,j}},$$

where $X_{i,j}$ represents the exports of a particular good to a particular country, i represents a particular country, and j represents a particular industry when calculating a country trade share (or i represents an industry and j a country when calculating an industry share).

The second type of statistic is a trade-weighted average tariff. This statistic is calculated as follows:

$$\text{Ave Tariff} = \frac{\sum_{i=1}^{n}\sum_{j=1}^{m} X_{i,j} * \tau_{i,j}}{\sum_{i=1}^{n}\sum_{j=1}^{m} X_{i,j}},$$

where X_{ij} is country i's tariff on imports in industry j. This calculation generates statistics such as those presented in Table 2.4—an aggregate measure of the tariffs on all exports from California or the rest of the country.

Alternatively, average tariffs by industry and by country are calculated. In each of these cases, one summation is removed from the equation and the average tariff is calculated as follows:

$$\text{Ave Tariff}_I = \frac{\sum_{j=1}^{m} X_{I,j} * \tau_{I,j}}{\sum_{j=1}^{m} X_{I,j}},$$

In this case, if I is a country, a bilateral average tariff, a measure of the tariff on California exports to any single country, is being calculated. Similarly, I could represent an industry, in which case the barriers to the export of a particular good to the rest of the world would be measured.

The final statistic is a coverage ratio. A coverage ratio is calculated in the same way as a trade-weighted tariff, with the exception that the value of τ is no longer a continuous variable. In the case above, it was the percentage rate of a tariff but is now an *indicator* of the presence of a barrier. For countries i in which there is a nontariff barrier imposed on imports of good j, $\tau_{i,j} = 1$, otherwise, $\tau_{i,j} = 0$. This calculation yields the fraction of exports that face some sort of a barrier but not the size or effect of the barrier.

Shortcomings of the Fundamental Trade Statistics

The trade-weighted average tariff and the coverage ratios are both statistics with significant flaws. However, they are both widely accepted as measures of the significance of tariffs and nontariff barriers. As they are conceptually and computationally different, their flaws are also different.

Tariffs are biased or flawed primarily because the weights used to construct the average tariff are determined by the tariffs. High tariffs in one export market will suppress exports to that market relative to those with lower tariffs. As an extreme case, a very high or prohibitive tariff will eliminate exports altogether. If exports are zero, then the weight on prohibitive tariffs will be zero and they will be excluded from the calculation, causing the statistic to underreport tariff barriers abroad. It is in principle possible for weighted average tariffs to rise over time not

because imposed tariffs have increased but rather because tariffs decrease. If a prohibitive tariff is reduced, but remains above the average of all other tariffs, exports will flow to that market and the calculated average tariff will rise. In this case, the average tariff will report an increase in protection when in fact protection has declined. At the same time, tariffs can be observed to fall when in fact they have become prohibitive in some markets. Neither phenomenon is believed to be pervasive, but it is generally possible that the lowering of high barriers can raise the weighted average tariff.

Nontariff barriers are subject to this flaw and a host of others. First, NTBs that are quite different in their nature are treated as equivalent instruments. For example, two very common types of NTBs are quantity and quality restrictions. Quantity restrictions, or import quotas, put numerical limits on the amount of a given good that a country permits to be imported. Quality restrictions, on the other hand, serve to restrict the type or characteristics of imports rather than the quantity. As one can see, these barriers can have very different influences on trade but are treated equivalently in the computation of this statistic.

A second criticism stems from the fact that an NTB may be imposed in such a way as to have no effect on the level of imports. A quota, for instance, may be set at a level higher than imports would naturally be. In this case, the barrier has no practical effect but will be reflected in the coverage ratio as commonly and feasibly reported.

Third, some NTBs will eliminate trade altogether. In this instance, as with the tariff measure, high barriers would be eliminated from the statistic, causing the statistic to understate the *true* level of barriers in foreign markets.

Finally, coverage ratios are not influenced by the presence of multiple nontariff barriers in a single market. If a country were to impose both a quantity and a quality barrier, the coverage ratio would be the same as if it imposed only one or the other of the barriers.

Another way to put all of this is that the dollar value, or the protective effect, of a given NTB plays very little role in the calculation of a coverage ratio. As it is generally the case that any two NTBs can affect trade in very different ways, this represents a serious problem in the interpretation of changes in measured coverage ratios. Despite these

limitations, however, the measure is both widely used and accepted and the best that is available.

Econometric Methods

Chapters 3 through 5 of this manuscript rely on an econometric specification first detailed in Haveman, Nair-Reichert, and Thursby (2003). That article develops and employs a framework for understanding the effects of trade barriers in a context of monopolistic competition, differentiated products, and preferential market access. Chapter 3 applies this methodology to aggregate bilateral trade flows between country pairs, using data from 1996 and 2000. Chapters 4 and 5 apply the procedure to highly disaggregated international trade flows.

In Chapter 3, the goal is to evaluate the contribution of economic growth, tariffs, tariff preferences, and nontariff barriers to the expansion of California exports and exports from the rest of the United States in the latter half of the 1990s. As mentioned above, the empirical specification is applied to aggregate trade flows. Separate analyses are undertaken for California trade and the combined trade of the other 49 states. The underlying data are pooled across years, from 1996 to 2000, and countries. Observations include only U.S. trade flows. In addition, the specification includes measures of bilateral idiosyncracies. In particular, a measure of the distance between country pairs and indicator variables for whether the countries share a common border or language are included as explanatory variables. From the econometric results it is possible to break out the role played by changes in the included variables in explaining the growth of U.S. exports. The results displayed in Figure 3.5 are the percentage of total changes in trade explained by each variable.

In Chapters 4 and 5, the methodology employed is much closer to that presented in Haveman, Nair-Reichert, and Thursby (2003). The regressions are performed on observations of trade at the six-digit Harmonized System (HS) level. Separate regressions are run on California and other U.S. trade flows to individual countries. Each individual regression includes all commodity flows between the United States and a particular importer. Table A.1 provides a sample of the results.

Table A.1

Regression Results for U.S. Exports to Canada

	California	Rest of United States
Average tariff	–13.48	–21.33
	(2.67)	(0.74)
Tariff preference	–22.80	–9.77
	(1.68)	(0.51)
NTB	–3.00	–0.97
	(0.15)	(0.05)
Specific tariff	–4.86	–0.57
	(0.50)	(0.15)
1995 dummy	–65.19	0.35
	(0.16)	(0.06)
1996 dummy	–0.51	–0.09
	(0.16)	(0.06)
1998 dummy	–0.20	0.01
	(0.16)	(0.06)
1999 dummy	–0.12	0.01
	(0.16)	(0.06)
2000 dummy	0.17	0.01
	(0.16)	(0.06)
Constant	4.47	13.65
	(0.23)	(0.08)
Psuedo R-squared	0.23	0.17

NOTE: Standard errors are reported in parentheses.

In this table, the first column reports the variable name, the second column reports the results for California's trade with Canada, and the third column reports results for other U.S. exports to Canada.[1] Also included in the regression specification is a set of 19 dummy variables indicating the two-digit SIC sector to which the six-digit HS trade flow belongs. The variables are defined as follows:

- *Average tariff:* This is the import weighted average tariff that Canada applies on imports from all countries on goods in the particular six-digit HS category to which this observation

[1]Separate regressions were run for each country. The effects of tariffs are therefore allowed to vary across countries.

belongs. This estimated coefficient is expected to be negative as a higher tariff leads to a reduced trade flow.

- *Tariff preference:* This is the difference between the tariff that is applied to U.S. exports and the average tariff that Canada applies to imports from outside the United States. A positive value for the explanatory variable indicates that U.S. goods are discriminated against. The estimated coefficient is expected to be negative as a higher degree of discrimination implies reduced imports from the United States.
- *NTB:* This is an indicator variable for the presence of a nontariff barrier imposed against U.S. imports into Canada. The expected sign here is ambiguous as some NTBs may lead to an expansion in the value of trade but a decline in the volume of trade.
- *Specific tariff:* This is an indicator variable for the presence of a specific tariff. Most tariffs are imposed as a percentage of the value of the imported product, so-called ad valorem tariffs. On some products, however, the tariff is a specific amount per unit or weight. This is referred to as a specific tariff. The expected sign here is negative as specific tariffs have the same effect on the value of trade as do ad valorem tariffs.

Appendix B

Data Sources

Bilateral Trade Data

The state-level trade data used in this study are from the Global Trade Information Service (GTIS), which, in conjunction with the International Trade Division at the U.S. Bureau of the Census, has recently begun providing state bilateral trade data at the six-digit HS level. U.S. trade data are available in two different series. There is the "origin of movement" series (OM) and the "exporter location" series (EL). The OM data refer to the location where the product was produced, whereas the EL data likely refer to the location of a shipment or of the shipper. Although the data employed in this study are from the OM series, concerns persist that not all data are coded correctly. The source of the data is the Shippers Export Declaration, which asks for "the state where the product began its journey to the point of export." That state is not necessarily the state of manufacture, or where the product was grown or mined. It may in some cases be the state of a broker or wholesaler or the state of consolidation of shipments. This issue results in some inflation of exports for the major port states, such as California. Despite this limitation, these data are generally acknowledged as the best available on state exports.

Both datasets employed in this study, the Massachusetts Institute for Social and Economic Research (MISER) and GTIS, are subject to this potential bias. However, it is unlikely that this bias poses significant problems in the present study. First, even if some portion of California's measured trade represents California as transit location rather than a production location, this does not make the relevant flows immaterial to California's welfare. Rather, the transportation industry in California greatly benefits from its coastal transit location; reductions in trade hurt this industry even if within-California production is not affected. Second, U.S. exports are increasingly air-shipped, decreasing the

importance of overland-to-California followed by sea shipping, and limits the overcounting of California's exports.[1] Finally, Cronovich and Gazel (2000) provide a detailed comparison of the MISER data with more-limited Census data that more accurately identify the location of production and find that for most purposes the two are reasonable substitutes.

Trade Barrier Data

The data on trade barriers are from the UNCTAD TRAINS. The 1994, 1998, 1999, 2000, and 2001 versions of this CD-ROM provided the detailed data. Information on these data are provided at http://www.eiit.org/Protection/.

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[1]See Hummels (1999) for more on the increasing share of exports that are air-shipped.

Appendix C

Complete Country Listing of Export Expansions

Table C.1

Export Expansions Resulting from the Unilateral Liberalization Scenario

	California			Rest of U.S.		
	2000	Change in Exports		2000	Change in Exports	
Country	Exports	%	$ Millions	Exports	%	$ Millions
South Korea	6,569	158	10,386	20,413	150	30,643
China	3,244	143	4,636	12,025	114	13,677
China, Taiwan	7,204	33	2,399	16,811	39	6,542
India	547	240	1,311	2,904	192	5,585
France	2,859	38	1,085	16,845	49	8,217
Japan	15,860	6	978	47,581	8	3,676
Peru	120	713	852	1,492	691	10,304
Chile	272	276	752	3,035	263	7,997
Germany	5,179	14	745	23,387	26	6,073
Philippines	1,888	33	616	6,829	42	2,876
Ireland	1,209	44	537	6,424	82	5,242
Netherlands	4,933	10	484	25,656	18	4,542
Thailand	1,967	20	396	4,541	27	1,217
United Kingdom	5,803	6	359	33,558	9	3,185
Australia	2,373	13	300	9,750	23	2,236
Italy	1,497	19	278	9,275	24	2,242
Saudi Arabia	369	64	236	5,662	69	3,895
Russia	142	155	220	1,875	193	3,622
Belgium	1,042	21	218	12,452	66	8,216
Brazil	1,270	16	208	13,838	24	3,309
Sweden	669	30	201	3,787	49	1,857
Spain	803	25	198	5,264	49	2,554
Indonesia	371	50	187	1,943	77	1,495
Hungary	145	121	174	416	149	618
Malaysia	2,937	6	164	7,919	7	590
Turkey	255	52	133	3,434	87	2,974
Argentina	370	34	125	4,256	58	2,466
Poland	121	104	125	612	210	1,287
Denmark	242	50	121	1,228	53	655
Finland	336	30	100	1,208	66	801
Greece	165	57	95	1,036	67	697
Egypt	98	81	80	3,223	76	2,444
New Zealand	351	22	76	1,565	21	331
Austria	209	31	65	2,347	87	2,033
Venezuela	202	21	42	5,245	23	1,217
Morocco	21	191	39	485	219	1,059
Sri Lanka	62	62	38	141	41	57
Bangladesh	38	99	38	191	109	209
Oman	16	223	36	179	207	371
Uruguay	27	129	34	503	122	612
Portugal	73	46	34	882	66	586
Colombia	120	27	33	3,472	30	1,047

Table C.1 (continued)

	California			Rest of U.S.		
	2000	Change in Exports		2000	Change in Exports	
Country	Exports	%	$ Millions	Exports	%	$ Millions
Guatemala	95	32	30	1,770	24	417
Romania	25	97	24	204	132	269
Honduras	31	61	19	2,522	97	2,455
Norway	170	10	16	1,352	10	134
South Africa	236	6	15	2,771	11	306
Albania	2	828	13	19	522	101
Zimbabwe	8	153	12	42	202	86
Tunisia	13	90	12	272	113	307
Brunei	112	9	10	43	9	4
Ecuador	42	24	10	976	29	286
El Salvador	48	21	10	1,710	34	580
Iceland	17	50	8	236	45	105
Bolivia	6	139	8	241	147	354
Nicaragua	15	48	7	355	47	165
Costa Rica	140	5	7	2,296	12	265
Slovenia	25	27	7	112	25	28
Algeria	12	28	3	844	52	437
Latvia	7	24	2	124	71	88
Belarus	1	137	2	29	97	29
Tanzania	3	59	2	33	57	18
Lithuania	7	21	1	51	13	7
Mauritius	2	60	1	21	178	38
Paraguay	9	13	1	432	16	70
Papua New Guinea	2	67	1	21	101	21
Cameroon	1	80	1	52	193	101
Zambia	2	29	1	16	57	9
Gabon	1	95	1	61	83	50
Estonia	13	4	0	73	4	3
Nepal	2	14	0	33	25	8
Malawi	0	39	0	12	156	19
Bhutan	0	54	0	1	340	2
Trinidad	16	1	0	1,067	0	5
Moldova	0	2	0	27	1	0
Central African Republic	0	0	0	1	149	2
Chad	0	0	0	10	40	4
Hong Kong	4,033	0	0	10,249	0	0
Singapore	4,938	0	0	12,655	0	0
Switzerland	885	0	–2	8,039	0	0
Canada	13,492	–8	–1,108	159,209	–21	–33,721
Mexico	17,308	–8	–1,407	92,778	–5	–4,316
All countries	113,693	24	26,845	624,448	20	127,994

Table C.2

Export Expansions Resulting from the Individual Free Trade Agreement Scenario

	California			Rest of U.S.		
	2000	Change in Exports		2000	Change in Exports	
Country	Exports	%	$ Millions	Exports	%	$ Millions
Mexico	17,308	28	4,869	92,778	31	28,443
South Korea	6,569	59	3,876	20,413	55	11,203
Brazil	1,270	276	3,501	13,838	269	37,179
Japan	15,860	16	2,588	47,581	27	12,801
Malaysia	2,937	65	1,917	7,919	87	6,855
France	2,859	39	1,129	16,845	50	8,469
China	3,244	34	1,113	12,025	26	3,165
Germany	5,179	19	989	23,387	32	7,501
Bangladesh	38	2581	987	191	2207	4,210
China, Taiwan	7,204	9	666	16,811	11	1,912
Chile	272	242	659	3,035	245	7,448
Australia	2,373	27	648	9,750	50	4,910
Netherlands	4,933	13	625	25,656	23	6,019
Ireland	1,209	49	597	6,424	90	5,755
Argentina	370	126	465	4,256	161	6,849
India	547	61	334	2,904	49	1,421
Peru	120	267	320	1,492	328	4,895
Hungary	145	202	292	416	236	982
Egypt	98	282	277	3,223	270	8,710
Italy	1,497	18	276	9,275	24	2,182
South Africa	236	105	248	2,771	182	5,032
Belgium	1,042	23	234	12,452	71	8,840
Sri Lanka	62	372	231	141	232	327
Sweden	669	31	209	3,787	52	1,970
Spain	803	25	199	5,264	48	2,549
Saudi Arabia	369	41	152	5,662	27	1,534
Philippines	1,888	7	136	6,829	10	658
Poland	121	111	134	612	231	1,415
Turkey	255	49	125	3,434	87	2,985
Denmark	242	52	125	1,228	55	680
Finland	336	32	106	1,208	69	835
Greece	165	60	99	1,036	72	749
Oman	16	578	94	179	549	984
New Zealand	351	24	83	1,565	23	357
Austria	209	38	79	2,347	92	2,165
Colombia	120	50	60	3,472	55	1,918
Thailand	1,967	3	59	4,541	5	249
Bolivia	6	864	51	241	824	1,985
Zimbabwe	8	630	50	42	657	278
Russia	142	27	39	1,875	40	747
Portugal	73	52	38	882	74	648

Table C.2 (continued)

	California			Rest of U.S.		
	2000	Change in Exports		2000	Change in Exports	
Country	Exports	%	$ Millions	Exports	%	$ Millions
Indonesia	371	10	37	1,943	17	330
Gabon	1	4546	26	61	3838	2,322
Uruguay	27	83	22	503	77	387
Venezuela	202	10	21	5,245	12	618
Costa Rica	140	15	21	2,296	31	714
Romania	25	61	15	204	82	167
Guatemala	95	15	15	1,770	11	189
Nicaragua	15	72	11	355	73	259
Norway	170	6	10	1,352	6	80
Honduras	31	30	9	2,522	58	1,457
Lithuania	7	108	8	51	42	21
Paraguay	9	81	7	432	85	368
Ecuador	42	12	5	976	17	169
El Salvador	48	8	4	1,710	20	350
Morocco	21	16	3	485	149	722
Tunisia	13	20	3	272	13	35
Canada	13,492	0	3	159,209	0	342
Brunei	112	2	2	43	3	1
Cameroon	1	250	2	52	648	338
Papua New Guinea	2	95	2	21	147	30
Mauritius	2	81	2	21	212	46
Iceland	17	10	2	236	9	22
Slovenia	25	6	2	112	3	3
Malawi	0	143	1	12	403	50
Algeria	12	3	0	844	9	75
Belarus	1	20	0	29	4	1
Tanzania	3	7	0	33	3	1
Latvia	7	1	0	124	2	3
Trinidad	16	0	0	1,067	0	3
Zambia	2	2	0	16	3	1
Bhutan	0	8	0	1	157	1
Estonia	13	0	0	73	0	0
Albania	2	0	0	19	3	1
Central African Republic	0	0	0	1	478	7
Chad	0	0	0	10	277	28
Hong Kong	4,033	0	0	10,249	0	0
Moldova	0	0	0	27	0	0
Nepal	2	0	0	33	9	3
Singapore	4,938	0	0	12,655	0	0
Switzerland	885	0	0	8,039	0	0

Appendix D

Standard Industrial Classifications

01	Agricultural production: crops
02	Agricultural production: livestock
07	Agricultural services
08	Forestry
09	Fishing, hunting, and trapping
10	Metal mining
12	Coal mining
13	Oil and gas extraction
14	Nonmetallic minerals, except fuels
15	General building contractors
16	Heavy construction, excluding building
17	Special trade contractors
20	Food and kindred products
21	Tobacco products
22	Textile mill products
23	Apparel and other textile products
24	Lumber and wood products
25	Furniture and fixtures
26	Paper and allied products
27	Printing and publishing
28	Chemicals and allied products
29	Petroleum and coal products
30	Rubber and miscellaneous plastics products
31	Leather and leather products
32	Stone, clay, and glass products
33	Primary metal industries
34	Fabricated metal products
35	Industrial machinery and equipment
36	Electronic and other electric equipment
37	Transportation equipment
38	Instruments and related products
39	Miscellaneous manufacturing industries
40	Railroad transportation
41	Local and interurban passenger transit
42	Trucking and warehousing
43	U.S. Postal Service
44	Water transportation
45	Transportation by air

46	Pipelines, except natural gas
47	Transportation services
48	Communication
49	Electric, gas, and sanitary services
50	Wholesale trade: durable goods
51	Wholesale trade: nondurable goods
52	Building materials and garden supplies
53	General merchandise stores
54	Food stores
55	Automotive dealers and service stations
56	Apparel and accessory stores
57	Furniture and home furnishings stores
58	Eating and drinking places
59	Miscellaneous retail
60	Depository institutions
61	Nondepository institutions
62	Security and commodity brokers
63	Insurance carriers
64	Insurance agents, brokers, and service
65	Real estate
67	Holding and other investment offices
70	Hotels and other lodging places
72	Personal services
73	Business services
75	Auto repair, services, and parking
76	Miscellaneous repair services
78	Motion pictures
79	Amusement and recreation services
80	Health services
81	Legal services
82	Educational services
83	Social services
84	Museums, botanical, zoological gardens
86	Membership organizations
87	Engineering and management services
88	Private households
89	Services, not elsewhere classified
91	Executive, legislative, and general
92	Justice, public order, and safety
93	Finance, taxation, and monetary policy
94	Administration of human resources
95	Environmental quality and housing
96	Administration of economic programs
97	National security and international affairs
99	Nonclassifiable establishments

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