Occasional Papers

California and the Global Economy: Recent Facts and Figures

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Prepared for the California Trade Education Center
For Presentation at the California Council for International Trade's 7th Annual California Trade Policy Forum
San Diego, California
February 23-25, 2005

Public Policy Institute *of* California

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Summary

This paper presents current patterns and recent trends in California's exports, foreign direct investment, and port activity, three key measures of the state's international business activity. These are some of the major findings:

- In 2003, California's exports grew for the first time since 2000, increasing by more than $1.7 billion from the previous year to $93.9 billion.

- California's exports have since hit $81.5 billion for the first three quarters of 2004, suggesting a significant annual increase over 2003.

- Asia continues to be the major destination for California's exports. Recent growth, however, has been concentrated in the NAFTA partners, particularly Mexico.

- California's exports include proportionately more technology products and fewer transportation and chemicals products than exports from the rest of the United States.

- California's growth in agricultural exports in 2003 was exceptionally strong, following a five-year period in which exports grew in only one year.

- The European Union and Canada helped drive California's agricultural exports sharply upward.

- Almonds and cotton were important contributors to strong growth in California's agricultural exports.

- California was the leading state for foreign direct investment in 2002, with 697,000 employees in foreign-owned firms.

- In 2002, foreign-owned firms in California owned property, plant, and equipment valued at $118.7 billion.

- Among majority-owned foreign affiliates, those from the United Kingdom employed the most workers, 110,300.

- Majority-owned foreign affiliates from Japan employed the most manufacturing workers, 33,200, and owned the most property, plant, and equipment, $22.8 billion.

- Of all Californians who worked in majority-owned foreign affiliates in 2002, 68.4 percent worked in nonmanufacturing sectors.

- California's seaports processed 23 percent of all U.S. waterborne trade by value and 42 percent of all U.S. container trade in 2003.

Introduction

Californians engage with the global economy in many different ways. Numerous organizations in the state try to expand this activity, and others oppose it or want to see its governance modified. In addition, officials in various levels of state government are considering whether and how California should involve itself with helping residents of the state expand their international economic engagement.

The state interacts with the global economy in three important ways: goods and services trade, international investment, and gateway services provided by California's seaports, airports, and land crossings.

In goods trade, California manufacturers supply the world with exports of computer technology, and the state's citizens purchase imported cars, toys, and clothing. In services trade, the state exports services when, for example, foreign students study in California's universities and when foreign residents watch Hollywood movies abroad; it imports services when Californians travel to other countries. With $93.9 billion in goods exports in 2003, the latest full-year of data available at the time of writing, California was the second-leading goods export state and was expected to remain so for 2004. Texas was first, with $98.8 billion, and New York was third, with $39.2 billion.

In the area of international investment, specifically foreign direct investment (FDI), California companies set up wholesaling and manufacturing facilities abroad both to serve foreign markets and to produce cheaper inputs or final goods for use back home, and foreign companies do the same in California. As of 2002, in the most recent available data, 697,200 people worked in foreign-owned firms in California, more than in any other state. New York was second, with 444,800, and Texas third, with 386,500.

Regarding gateway services, California hosts three of the largest container ports in the country, Los Angeles, Long Beach, and Oakland, which together handled 8.8 million twenty-foot equivalent units (TEUs) of containers in 2003, 42 percent of the U.S. total. Combined, Los Angeles and Long Beach constitute the third-largest container port in the world, behind only Hong Kong and Singapore. California's airports also serve as major trade gateways, and Los Angeles International and San Francisco International are leading export gateways in the state.

This paper presents current patterns and recent trends in California's exports, foreign direct investment, and port activity. In doing so, it provides policymakers, trade professionals, and state residents and businesses with an updated set of facts about California's interactions with the international economy.

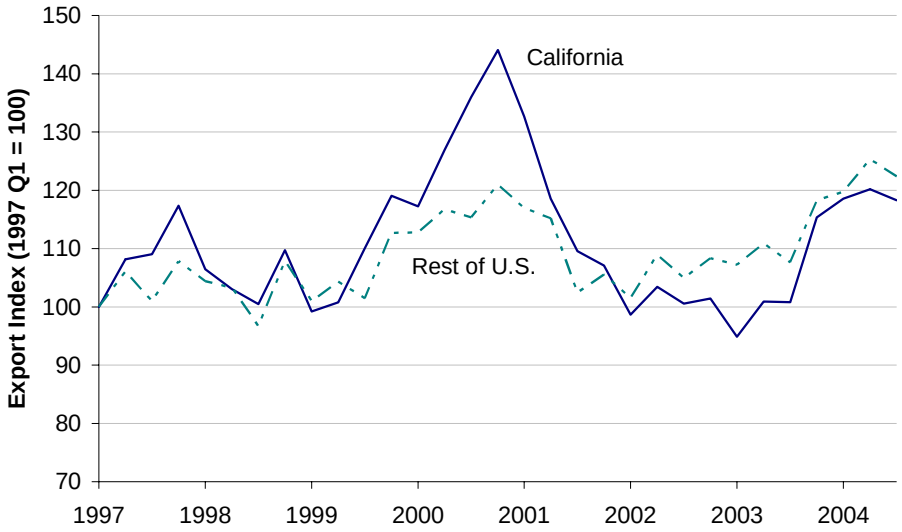
California's Exports

Having declined in the previous two years, exports of goods from California began to recover in 2003, increasing by more than $1.7 billion from the previous year to $93.9 billion. That same year, California accounted for 13 percent of all U.S. exports.[1] However, California's economy accounted for roughly 13.3 percent of the aggregate U.S. economy. Thus, California's share of U.S. exports is proportionate to its share of the U.S. economy, making California's producers about as export-oriented as producers in the rest of the country.[2] Nonetheless, California accounts for a larger share of U.S. trade than all but one other state. In 2003, Texas accounted for 13.7 percent of U.S. exports. California and Texas are by far the largest exporting states. New York, the next largest exporter, accounted for only 5.4 percent of all U.S. exports.

For much of the period between 1997 and 2004, California's goods exports followed the trends of those in the rest of the country fairly closely.[3] Between early 1997 and the third quarter of 2004, quarterly exports from California had risen by 18.3 percent, and exports from the rest of the country had risen by 22.4 percent**.** As Figure 1 shows, however, the period between 1999 and 2001 represents a striking anomaly. Largely driven by an expansion of computer and electronic products exports, California's exports grew by 40 percent between early 1999 and mid-2000. By early 2002, however, they had plummeted to levels comparable to early 1997. In late 2003, exports from both California and the rest of the country started an upward trajectory similar to that of earlier years.

[1] For a more detailed explanation of state export data, please see Appendix B.
[2] From 1990 to 2002, California's share of total U.S. output ranged from a high of 14 percent in 1990 to a low of 12.6 percent in 1996.
[3] Because the U.S. government introduced a new industrial classification system in 1997, much of our description of California exports trends starts in that year. The state export data go back to 1988, and when possible and relevant, we discuss longer trends.

Figure 1
California and Rest of U.S. Goods Exports



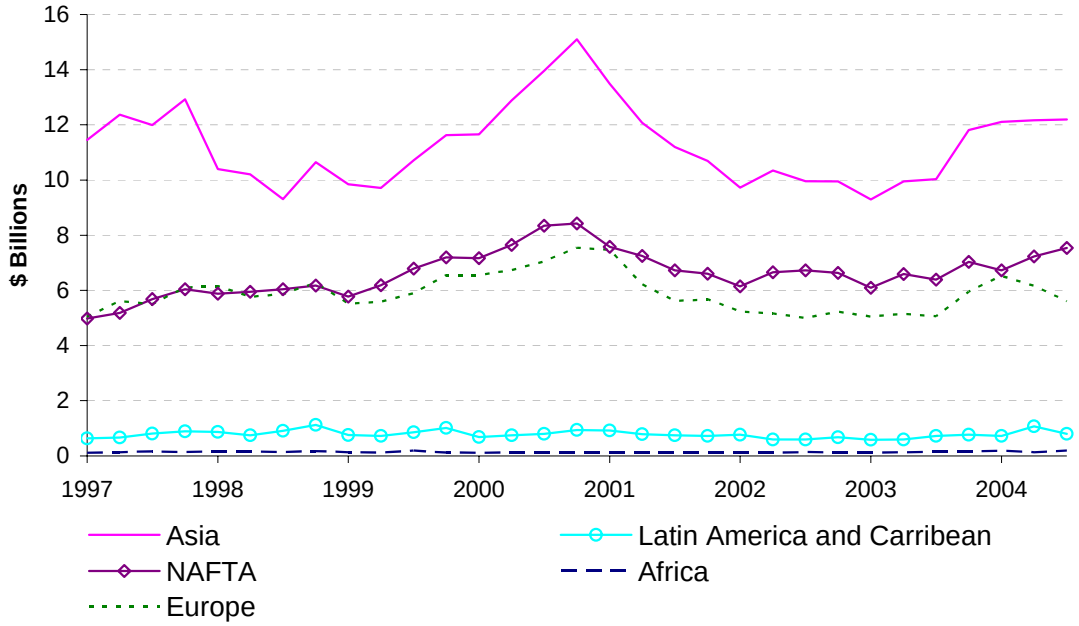
Note: Figure shows time path for quarterly exports.

Source: World Institute for Strategic Economic Research (WISER), www.wisertrade.org.

From 1990 to 1997, California's exports grew on average 9.4 percent per year compared to 8.1 percent for other states. From 1997 to 2002, however, the state's exports declined at an annual average rate of 0.7 percent, albeit with high volatility, compared to an increase of 0.6 percent for the rest of the United States. In 2003, California's exports were again sluggish, growing at 1.9 percent as compared to 4.8 percent for the rest of the United States. For both California and other states, this growth occurred almost entirely in the fourth quarter of the year. Export growth through the third quarter of 2004, however, has been exceptionally strong, and particularly so for California. California's exports increased by 20.4 percent between the first three quarters of 2003 and the same period in 2004, whereas exports from the rest of the United States increased by 12.8 percent. Given the volatility of exports in recent years, and for California in particular, it is not clear whether this growth will persist.

Although California's export growth has fluctuated significantly in recent years, several characteristics have remained constant. California's exports are highly concentrated in the high-technology sector, and a significant share is headed for Asia. These concentrations are responsible for the dramatic run-up and decline of California's exports. A regional breakdown of export trends shows that exports to Asia grew in 2000 and sank in 2001, with a recovery in the second half of 2003 that has continued into 2004 (Figure 2). The same pattern is evident in the sectoral breakdown of exports (Figure 3). The computer and electronic products industry experienced a dramatic increase in 2000 and an even more dramatic decline in 2001, again picking up in late 2003.

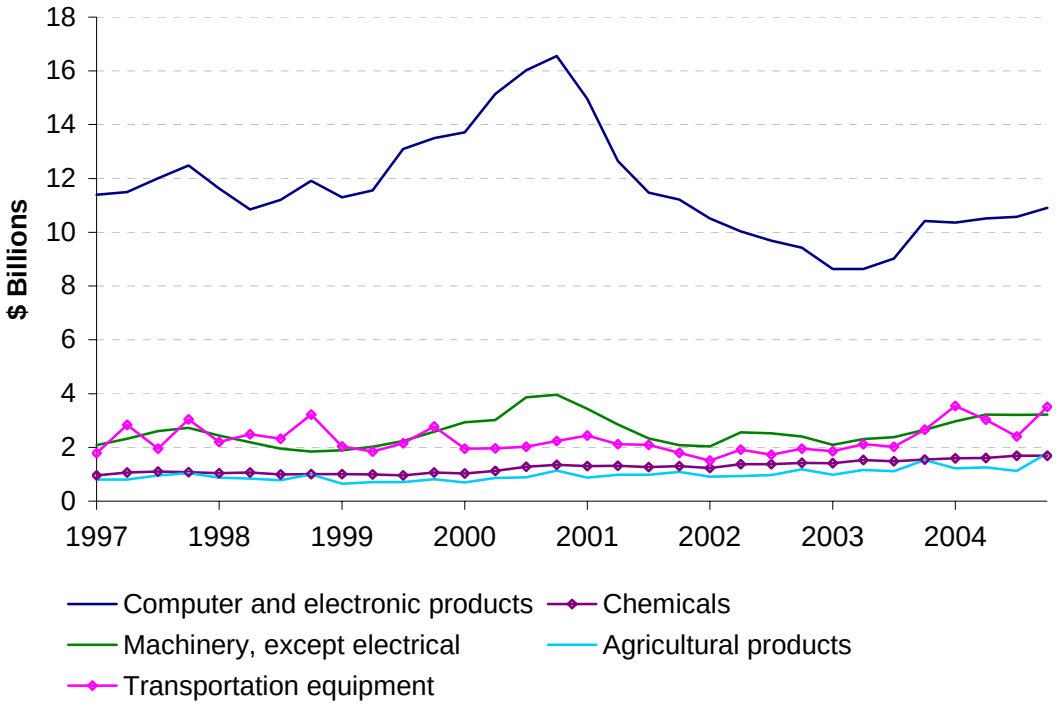
Figure 2
California Goods Exports by Destination Region



Notes: Figure shows time path for quarterly exports.

Source: WISER.

Figure 3
California Goods Exports in Top Five Sectors



Notes: Figure shows time path for quarterly exports.

Source: WISER.

Exports by Regions and Countries

California's goods exports are highly concentrated in three regions. In 2003, markets in Asia, North America, and Europe accounted for 94 percent of California's goods exports (Table 1). Although these shares have been reasonably stable over time, exports to North America — the North American Free Trade Agreement (NAFTA) partners Canada and Mexico — have been growing more quickly. With a larger share going to NAFTA partners, the European, Latin American, and African markets have lost share. These changes coincided with the entry into force of the U.S.-Canada Free Trade Agreement in 1989, with NAFTA in 1994, and with the economic stagnation of Japan in the 1990s.

Table 1
California Goods Exports by Region and Top Countries

Region	2003 Level ($ millions)	2003 Share (%)	Growth Through Q3 (%) 2003-04	Average Annual Growth Rate (%) 1997-2003
Asia	41,083	43.7	24.6	-1.7
NAFTA partners	26,104	27.8	12.7	3.6
Europe	21,213	22.6	19.9	-0.1
Latin America and Caribbean	2,675	2.8	36.9	-1.2
Africa	547	0.3	31.4	-1.2
Top 15 export destinations				
Mexico	14,872	15.8	16.9	5.7
Japan	11,755	12.5	16.8	-3.8
Canada	11,232	11.9	7.1	1.5
China	5,465	5.8	44.6	19.3
South Korea	4,833	5.1	25.5	1.0
Taiwan	4,443	4.7	23.1	-2.3
United Kingdom	4,360	4.6	20.9	-1.5
Hong Kong	4,179	4.5	25.2	2.6
Germany	3,560	3.8	0.6	0.2
Netherlands	3,412	3.6	21.4	2.8
Singapore	3,371	3.6	32.3	-6.7
France	1,915	2.0	60.8	-1.6
Australia	1,899	2.0	20.6	-2.4
Malaysia	1,730	1.8	22.5	-5.9
Belgium	1,425	1.5	21.9	5.3
All countries	93,995	100.0	20.4	-0.2

Source: WISER.

Overall, the top three trading partners are the same for both California and the rest of the United States, but Japan receives a significantly larger share of California exports whereas the rest of the country sends a larger share of its exports to Canada (Table 2). California's

exports are also more geographically diverse than exports from other states. As Table 2 shows, California's exports are more equally distributed across these countries.

Table 2
Top Goods Export Destinations, 2003

	Export Share (%)			Rank	
Country	**California**	**Rest of U.S.**	**Difference**	**California**	**Rest of U.S.**
Mexico	15.8	13.1	2.7	1	2
Japan	12.5	6.4	6.1	2	3
Canada	11.9	25.1	-13.2	3	1
China	5.8	3.6	2.2	4	6
South Korea	5.1	3.1	2.0	5	7
Taiwan	4.7	2.1	2.6	6	11
United Kingdom	4.6	4.7	-0.1	7	4
Hong Kong	4.4	1.5	2.9	8	14
Germany	3.8	4.0	-0.2	9	5
Netherlands	3.6	2.7	0.9	10	8
Singapore	3.6	2.1	1.5	11	11
France	2.0	2.4	-0.4	12	9
Australia	2.0	1.8	0.2	13	13
Malaysia	1.8	1.5	0.3	14	14
Belgium	1.5	2.2	-0.7	15	10

Source: WISER.

Asia

California's goods exports are highly concentrated in Asia. In 2003, $41.1 billion of the state's goods exports—43.7 percent of all California's goods exports—were destined for Asian markets. California is also a dominant source of all U.S. exports to Asia. In 2003, California accounted for 19.9 percent of all U.S. exports to Asia, more than any other individual state. Texas, Washington, and New York accounted for 11.1 percent, 8.9 percent , and 6.0 percent, respectively.

During the 1990s, California exports to the region experienced robust growth, fueled by dramatic economic growth in Southeast Asia and East Asia. At the peak of the economic boom in the tiger economies (1995-1996), exports to Asia hovered around 53 percent of California's total, or $54.7 billion—more than double the $26.7 billion exported in 1990.[4]

However, the onset of the Asian financial crisis in 1997 proved detrimental to California. In 1998, California's exports to Asia declined 16.8 percent. A quick recovery by some key Asian markets, such as South Korea, coupled with an increase in global demand for high-technology

[4] The four tiger economies include Hong Kong, South Korea, Singapore, and Taiwan. Other Asian countries experiencing significant economic growth included China, Malaysia, and Thailand.

products, led to a 27.9 percent surge in exports to the region in 2000. This dramatic increase did not continue, but was instead followed by an 11.5 percent decline in 2001 and a 15.9 percent decline in 2002. More recently, California's exports to Asia grew by 2.8 percent in 2003 and then grew at an even more rapid pace in the first three quarters of 2004, increasing by 24.6 percent. Despite the recent growth, California's Asian exports have not yet recovered. Between 1997 and 2003, these exports fell on average by 1.7 percent per year.

Seven of California's top fifteen export destinations are in Asia, underscoring Asia's importance to California's exporters. These seven economies combined account for 37.9 percent of all California exports. In contrast, the same seven economies account for only 20.3 percent of exports from the rest of the United States. European countries tend to rank higher in the share of exports received from the rest of the United States than from California.

Most recently, exports to China have shown dramatic growth, rising 44.6 percent in the first nine months of 2004 compared to the same period a year earlier. This increase in exports showed up in many commodities, but airplanes, raw cotton, and integrated circuits were the top three and accounted for one-third of the growth. Growth for the full year may be different, depending on how the last three months of 2004 compare to the last three months of 2003.

NAFTA Partners

Combined, Canada and Mexico represented the fastest-growing market for California's exports from 1997 to 2003 with an average annual growth rate of 3.6 percent. During this period, the share of the state's exports to Mexico more than doubled, from 6.8 percent to 15.8 percent, and the share to Canada rose from 8.4 percent to 11.9 percent.

Annual growth accelerated during the second half of the 1990s after the signing of NAFTA (14.9 percent compared to 10.2 percent for the first half of the 1990s). In 1999, the NAFTA countries surpassed all European countries combined to become the second-leading destination for California exports. Despite this tremendous growth, the share of California's exports heading for Mexico and Canada is smaller than that from the rest of the United States. In 2003, California sent 27.7 percent of its exports to Mexico and Canada, whereas the rest of the United States sent 38.2 percent. This difference is due to California's lower relative exports to Canada. In 2003, the rest of the United States sent 25.1 percent of its exports to Canada, while California sent only 11.9 percent.

Europe

California also exports a smaller share of its total exports (22.6 percent) to Europe than does the rest of the United States (23.8 percent). Europe's relative importance as a destination for the state's exports declined during much of the last decade but has recently rebounded. In 2003, Europe received more than $21 billion, or 22.6 percent, of California's exports, with the 15 members of the European Union accounting for 92.4 percent of these exports. California's exports to Europe fell slightly between 1997 and 2003, but had the second-highest rate of change, among regions, during this period.

Recently, exports to France showed dramatic growth, rising almost 61 percent in the first nine months of 2004 compared to the same period in the previous year. Exports of airplanes accounted for the increase in a series of very large sales recorded in March, April, and May, the first large-scale sale of these goods to France since at least 2000.

Latin America and the Caribbean (excluding Mexico), and Africa

Latin America, the Caribbean, and Africa do not represent significant markets for California's exports. The share of total exports heading for these regions remains below 3 percent, despite an impressive 154 percent increase in exports destined for Latin America and the Caribbean during the 1990-1995 period. Following average annual declines of 1.2 percent between 1997 and 2003, California's exports to Latin America and the Caribbean were $2.7 billion, and exports to Africa amounted to only $547 million. Most of the decline in trade with Latin America is due to a sharp drop of 37.3 percent between the final quarter of 2000 and the second quarter of 2002. In 2003, however, exports to Latin America showed a 2.3 percent increase over 2002. The decline in California's exports to Africa since 1997 merely extends a decline that began in 1990.

Exports by Sector

Manufactured goods dominate California's goods exports (Table 3 and Table 4). In 2003, manufactured goods accounted for 89.7 percent of total goods exports, up from 86.6 percent in 1988, the first year for which these data are available. Nine of California's top ten export sectors are manufactured goods, with the remaining sector, agriculture, contributing only 5.1 percent of California's exports, despite the fact that it is the fifth-largest export sector.[5]

[5] Other nonmanufacturing exports include Livestock and Livestock Products, Forestry Products, Oil and Gas, and Minerals and Ores.

Table 3
Share of Total Exports for Top Goods Export Sectors, 2003

Sector	California (%)	Rest of U.S. (%)
Computer and electronic products	39.1	18.0
Machinery (except electrical)	10.0	10.4
Transportation equipment	9.2	19.1
Chemicals	6.3	13.5
Agricultural products	5.1	4.1
Food and kindred products	4.4	3.7
Electrical equipment, appliances, and components	3.1	3.2
Fabricated metal products	2.4	2.9
Plastics and rubber products	1.7	2.4
Apparel and accessories	1.1	0.7
Total	82.4	78.0

Note: In our sectoral rankings, we exclude the categories "miscellaneous manufacturing" and "special classification provisions, not elsewhere specified or included (nesoi)."

Source: WISER.

Table 4
Exports from California's Top Goods Export Sectors

Sector	2003 Level ($ millions)	2003 Share (%)	Growth Through Q3 (%) 2003-04	Average Annual Growth Rate (%) 1997-2003
Computer and electronic products	36,715	39.1	19.5	-3.0
Machinery (except electrical)	9,434	10.0	38.4	2.3
Transportation equipment	8,643	9.2	49.7	-0.9
Chemicals	5,964	6.3	10.3	6.3
Agricultural products	4,784	5.1	8.2	5.9
Food and kindred products	4,168	4.4	3.0	4.1
Electrical equipment, appliances, and components	2,936	3.1	18.8	3.1
Fabricated metal products	2,299	2.4	13.0	4.8
Plastics and rubber products	1,575	1.7	10.6	3.0
Apparel and accessories	1,040	1.1	-3.1	-1.7
All sectors	93,994	100.0	20.4	-0.2

Source: WISER.

California's manufacturing exports are highly concentrated in the computer and electronic products sector. In 2003, exports from this industry accounted for 39.1 percent of all the state's goods exports and 43.5 percent of all California's manufacturing exports, despite a 40

percent decline from 2001 through 2003. As with the state's exports in general, a large share of these computer and electronic goods are destined for Mexico, Canada, and Japan, which together receive 33 percent of all exports by that industry.

California's high concentration of computer and electronics, or information technology, exports is a dramatic departure from the pattern in the rest of the United States. Another departure is California's smaller share of exports of transportation equipment (the rest of the nation's largest sector) and chemicals, the sector that includes pharmaceuticals.

In 2003, 24.5 percent of all U.S. exports in the information technology sector originated in California, illustrating the state's dominance. Although California's dominance is not what it was in 2000, it is still greater than the shares of the next two largest information technology exporting states, Texas and Florida, which together accounted for 23.8 percent. California's large share of information technology exports, and the tremendous growth in worldwide demand for information technology throughout the 1990s, helps explain the dramatic growth of California's exports during that decade. California also experienced vigorous growth in exports in the 1990s because the state exported goods whose share of world trade was increasing to countries that until 1998 were growing rapidly. The rapid growth of California's information technology exports during the 1990s came to an abrupt end in 2000. Despite a nearly 30 percent increase from 1997 to 2000, exports of these products fell dramatically between 2000 and 2002, to a level nearly $9 billion below their 1997 level.

Agricultural Exports

California is both the top producer and the top exporter of agricultural products in the United States. State-level export data compiled by the U.S. Census Bureau and the U.S. Department of Agriculture do not adequately measure actual state-level agricultural exports. This paper therefore relies on separate data compiled by the Agricultural Issues Center (AIC) at the University of California, Davis. In 2003, California exported $7.5 billion in agricultural products, 11.3 percent of all U.S. agricultural exports. The AIC estimates the value of California agricultural exports at approximately $6.5 billion for each of the three preceding years. These figures again represent approximately 11 percent of total U.S. agricultural exports in each year.

Agricultural exports are relatively small compared to California's manufacturing exports (Table 5).[6] In 2003, they totaled only 7.5 percent of the value of manufacturing exports, up from 2000 when manufacturing exports were at their peak, but down from 1997.

[6] Figures in Tables 5 and 6 are not consistent with those presented in Table 4. Although state data are available from the Census Bureau for agricultural trade, data from the Agricultural Issues Center at the University of California, Davis are more reliable (see Appendix B).

Table 5
California Agricultural and Manufacturing Exports, 1997 to 2003

	1997	2000	2003
Agricultural exports ($ million)	7,588	6,785	7,491
Average annual growth, 3 previous years (%)	--	-0.6	3.6
Manufacturing exports ($ million)	91,292	111,529	99,630
Average annual growth, 3 previous years (%)	--	7.5	-8.7
Agriculture relative to manufacturing (%)	8.3	6.1	7.5

Source: Agricultural export data are from the Agricultural Issues Center, University of California, Davis. Manufacturing export data are from WISER.

For California's top 50 agricultural export commodities, the total value of exports relative to the total value of production was almost 21 percent in 2003. This represented an increase from the previous two years, in which exports relative to output were 18 percent and 17 percent, respectively.

Until 2003, agricultural exports actually declined every year since 1997, except 2000, making growth in 2003 all the more exceptional. The annual average growth rate from 1997 to 2002 was -1.4 percent. The cause of these declines is not clear. Agricultural prices are notoriously volatile, and these declines may have been due to price decreases, quantity decreases, or both.

California's agricultural exports can be found in markets around the world (Table 6). They are concentrated in the European Union, Canada, and Japan, which together received half of all agricultural exports in 2003. Mexico and China (including Hong Kong) round out the top five. Exports to Mexico grew an average of 29 percent per year between 1997 and 2000, but then fell by 25 percent between 2000 and 2002. Exhibiting a remarkable rebound in 2003, California's exports to Mexico grew by 45 percent, to a level 15 percent above that in 2000.

Table 6
California Agricultural Exports by Destination

	2003 Level ($ millions)	2003 Share (%)	Average Growth 1997-2003 (%)	Growth 2002-2003 (%)
European Union	1,411	18.8	--	25.1
Canada	1,367	18.2	5.3	14.0
Japan	913	12.2	-6.0	0.1
Mexico	452	6.0	12.6	54.3
China and Hong Kong	431	5.8	--	24.9
South Korea	312	4.2	-0.2	13.9
Taiwan	184	2.5	--	-17.5
India	123	1.6	--	30.9
Indonesia	118	1.6	--	16.8
Pakistan	83	0.1	--	--
Rest of the world	2,097	28.0	--	--
Total agricultural exports	7,491	100.0	1.4	15.8

Source: Agricultural Issues Center, University of California, Davis.

California's agricultural export products are as diverse as their destinations. In 2003, California's top agricultural export commodities included almonds, cotton, wine, table grapes, oranges, and dairy products (Table 7). With a share of 14.4 percent, almonds are the dominant single export crop. The largest commodity group is the grape complex — wine, table grapes, raisins, and grape juice — which in 2003 totaled more than $1.1 billion, or 15.1 percent of all agricultural exports.

Table 7
California Agricultural Exports by Commodity, 2003

	2003 Level ($ millions)	2003 Share (%)	Average Growth 1997-2003 (%)	Growth 2002-2003 (%)
Almonds	1,081	14.4	6.0	30.4
Cotton	676	9.0	-5.8	31.7
Wine	549	7.3	11.8	12.9
Table grapes	386	5.2	3.2	5.2
Oranges	344	4.6	-0.4	13.5
Dairy	326	4.4	8.7	8.4
Tomatoes, processed	231	3.1	8.2	7.1
Rice	217	2.9	3.1	29.5
Beef and products	215	2.9	4.2	37.0
Walnuts	214	2.9	6.0	16.3
Total agricultural exports	7,491	100	2.9	15.8

Source: Agricultural Issues Center, University of California, Davis.

The growth of almonds to 14.4 percent of agricultural exports is a significant share increase after hovering just over 10 percent between 1999 and 2001. The increase in share is a result of dramatically higher levels of almond exports rather than decreases in other exports. After falling by 20 percent in 1999, almond exports increased by 73 percent from 1999 to 2003, with most of this growth occurring between 2001 and 2003. Growth in agricultural exports was hardly limited to almonds. Between 2002 and 2003, each of the top ten sectors grew by more than 5 percent, with seven of them experiencing double-digit growth. Cotton exports also grew sharply in 2003, but were still only 10 percent higher than in 2000. After growing rapidly in that year, the sector experienced reduced exports in both 2001 and 2002.

Services Exports

A final component of exports is services exports. World trade in services is growing, and the Uruguay Round Agreements of 1994 formally brought services trade under international discipline through the General Agreement on Trade in Services. In 2003, services exports accounted for more than 30 percent of total U.S. exports.

Private services exports are divided into spending by tourists and other travelers, passenger fares, payments for transportation services (such as port services), royalties and license fees, and other private services, such as education, banking and finance, and professional services. For example, all spending by a foreign student at a California university is considered an export of education services. Any spending by foreign tourists visiting California is considered an export of travel services.

There are no official estimates of services exports by state. In 2002, the most recent year for which data on GSP of private industries are available, U.S. private services relative to U.S. private aggregate gross state product (GSP) measured 3.1 percent. If California had exported

private services in the same ratio, total private services exports from California would have totaled $37.3 billion. This figure is greater than California's combined exports that year from California's second- through eighth-ranked manufacturing export sectors—machinery (except electrical), transportation equipment, chemicals, miscellaneous manufacturing, food and kindred products, electrical equipment, and fabricated metals.

It is likely that California's services exports were higher for two reasons. First, the state has a larger services sector, relative to its overall economy, than does the rest of the United States. Second, the state has a greater international orientation with its coastal location, large immigrant population, and highly internationalized manufacturing and agricultural sectors. Leading sectors for services exports include travel, international freight services, intellectual property services, research and development, and film.

California's Foreign Direct Investment

California is the leading state for foreign direct investment (FDI) in the United States. FDI is investment by foreigners into operating businesses rather than financial instruments such as bonds. In 2002, the most recent year of available data, 697,200 employees worked in foreign-owned firms, also known as foreign affiliates, in California. In the United States as a whole, about 6 million employees worked in foreign-owned firms, with California's share amounting to 11.8 percent. California has had the highest level of employment in foreign-owned firms since at least 1977, the first year of available data. Employment in foreign owned firms amounted to approximately 4.8 percent of California's total employment, compared to 4.6 percent in the rest of the country.

As is the case with total employment in foreign-owned firms, California has the highest level of manufacturing employment in foreign-owned firms. In 2002, manufacturing employees in the state's foreign-owned firms totaled 170,300, or 24.4 percent of all employees in foreign-owned firms. These 170,300 workers accounted for 8.7 percent of all manufacturing employees in foreign-owned firms in the United States. Manufacturing employees in foreign-owned firms in California totaled 10.4 percent of all California manufacturing employees in 2002, whereas the comparable figure was 13 percent for the rest of the United States.

Foreign affiliates own more property, plant, and equipment (PPE) in California than in any other state. Much of that is in the form of commercial property. In 2002, total PPE owned by foreign-owned firms reached $118.7 billion, of which almost $31.8 billion was commercial property. Those values are 10.1 percent and 18.9 percent of the U.S. totals, respectively.

Although official 2003 data are not available, FDI in California likely has remained steady since 2002, as FDI in the United States has seen only a small increase. In 2002, the direct investment position of foreign investors in the United States totaled $1.34 trillion, and in 2003 this total increased 3 percent to $1.38 trillion. These values reflect a small recovery from the previous year. FDI into the United States increased 27 percent in 2000 and then 9 percent in 2001, but decreased slightly from 2001 to 2002.[7]

[7] For a more detailed explanation of foreign direct investment data, please see Appendix B.

FDI by Source Regions and Countries

As Table 8 shows, of the top ten investors in California, European nations make up the majority, with the United Kingdom and Switzerland taking the number one and number three slots. Of California's big three export markets — Canada, Mexico, and Japan — Japan is the FDI leader, followed by Canada. Although a major export market, Mexico is a small investor.

Because of a change in data supplied for California by U.S. statistical authorities, all 2002 regional and sectoral data refer to majority-owned affiliates rather than all affiliates and therefore offer only a rough comparison with previous years, which included data for all affiliates with more than 10 percent foreign ownership. Approximately 88 percent of employment in foreign-invested firms in 2002 was in majority-owned foreign firms, and 77 percent of PPE owned by foreign-invested firms was owned by majority-owned foreign firms.[8]

Europe

Europe is by far the largest source of FDI in California. Sixty-three percent of all people in California who worked for a majority-owned foreign firm worked for a European-owned firm. European ownership applied to a bit less than half of all foreign-owned PPE, implying European-owned firms are more labor-intensive than other firms.

About 42 percent of European-owned PPE in 2002 was in manufacturing, compared to about 27 percent for all other foreign investors. The largest manufacturing sector for European investment is chemicals, which includes pharmaceuticals. European investment is also stronger in information industries, which include publishing, motion pictures, sound recording, broadcasting, telecommunications, and data processing.

Europe's leading investor in terms of employment, the United Kingdom, is also California's leading investor among all countries as of 2002. From 1990 through 2001, Japanese-owned foreign affiliates had the highest level of employment in California. However, those data are for foreign-owned affiliates of any size, whereas the 2002 data are for majority-owned foreign affiliates. Therefore, it is difficult to say whether the rise of the United Kingdom to the top spot represents a change in the overall order.

Europe's recent share of nearly 63 percent of employment in all foreign-owned affiliates suggests that Europe is becoming a more prominent investor in California. Between 1977 and 1985, Europe's share of employment in all foreign-owned firms ranged from 56 percent to more than 60 percent, but fell to as low as 48 percent in 1997, due to a rise in investment from other countries rather than an absolute decrease in investment from Europe. Most recently, this share and the absolute level of employment have increased, to 58 percent in 2000 and 60 percent in 2001. Europe's share of PPE actually fell from more than 68 percent in 1979 to a low of 39 percent in 1997, but has hovered around 50 percent in the years since then.

[8] In addition, the most recent 2002 data are preliminary and are to be given a final revision by the U.S. Bureau of Economic Analysis.

Table 8
Foreign Direct Investment in California by Region and Country, 2002

Region or Country	Employment	Manufacturing Employment	Property, Plant, and Equipment	Commercial Property
	(000s)		($ millions)	
All Countries	616.4	149.5	91,936	25,063
Regions				
Europe	385.9	79.2	44,385	7,913
Asia Pacific	136.5	39.7	33,670	13,205
NAFTA	49.6	12.0	5,838	1,713
Latin America	38.2	15.7	6,129	872
Middle East	1.0	0.0	1,313	1,200
Africa	0.6	0.1	145	106
Top Countries				
United Kingdom	110.3	28.4	14,991	2,369
Japan	104.4	33.2	22,760	6,430
Switzerland	75.0	9.6	4,906	333
Germany	58.8	10.5	8,615	1,871
France	53.1	12.9	6,011	1,703
Canada	38.6	7.8	4,423	1,667
Netherlands	36.5	9.1	6,345	1,061
Bermuda	32.0	14.8	4,498	341
Sweden	26.5	1.7	1,042	332
Australia	11.9	3.2	5,400	3,414
Mexico	11.0	4.2	1,415	46

Notes: All data are for majority-owned foreign affiliates only. Figures for PPE for NAFTA and Mexico and for commercial property for Australia are authors' estimates. Manufacturing employment for affiliates owned by Middle Eastern investors is 50 workers or less. Figures for Latin America exclude Mexico, which is included in NAFTA.

Source: U.S. Bureau of Economic Analysis.

Asia

Asia is second to Europe as a source of investment activity in California. In 2002, Asian firms employed 22 percent of the work force in majority-owned foreign firms and owned a much greater share (37 percent) of the PPE. Asian-owned firms are particularly strong in computers and electronic products and real estate. In 2002, they owned nearly one third of all foreign-owned computer and electronics product industry PPE in California, with Japanese investors responsible for approximately 90 percent of this.

As a share of total employment in foreign-owned firms of all levels of ownership, employment in California at Asian-owned firms peaked in 1992 at more than 36 percent. It then fell dramatically, to 30 percent in 1999 and 25 percent in 2001. Asian-owned firms in California in 2001 employed a higher proportion of manufacturing workers relative to other workers, at 32

percent, than did foreign-owned firms overall, and owned a much higher overall share of commercial property relative to total PPE, at 47 percent.

NAFTA Partners

Firms majority-owned by investors from the NAFTA countries employed 49,600 Californians in 2002, about 9 percent of all workers in all majority-owned foreign firms. Of these employees, approximately 22 percent worked in Mexican firms. This portion is far higher than in the United States as a whole, where Mexican-owned firms employed 9 percent of workers in NAFTA-owned firms.

Canada's FDI in California far surpasses that of Mexico. In 2002, employment in Canadian majority-owned foreign affiliates reached 38,600. In 1977, more than 15 percent of workers in all foreign-owned affiliates in California worked in Canadian affiliates. That portion fell to a low of less than 7 percent in 1992 and after rising in the late 1990s, was again at approximately that level in 2001, representing about 54,300 workers.

Latin America (excluding Mexico), Middle East, and Africa

FDI from Latin America, the Middle East, and Africa into California represents a very small portion of total FDI, but it has been rising recently. This increase, however, is due entirely to growth from Latin America, as investment from the other two regions has stayed unchanged in recent years. In 2002, about 6.5 percent of all workers in majority-owned foreign affiliates in California worked in affiliates owned by companies from these three regions. Employment rose from 12,800 in 1991 to 38,200 in 2001 in all Latin American-owned firms, dropped from 1,100 to 1,000 in Middle Eastern-owned firms, and remained unchanged at just under 1,000 in African-owned firms.

FDI by Sector

By far the largest share of foreign activity in California takes place in the nonmanufacturing sectors, which employed more than two-thirds of all Californians who worked in majority-owned foreign affiliates in 2002 (Table 9). In fact, California has seen a steady erosion of relative employment in foreign-owned manufacturing since the late 1970s. In 1979, the peak year, almost 57 percent of all California workers in foreign-owned businesses worked in manufacturing. That figure had fallen to about 32 percent by 2001. This decline mirrors trends in the United States as a whole. In 1979, more than 57 percent of all U.S. workers in foreign-owned businesses worked in manufacturing, but by 2001 that figure had fallen to about 33 percent. The period 1997-1999 saw a slight reversal of this trend. Employment in manufacturing foreign affiliates in California rose 16.6 percent in that period, whereas in nonmanufacturing foreign affiliates it rose 9.9 percent. For the United States as a whole, those figures were 17.5 percent and 15.3 percent, respectively.

Table 9
FDI in California by Sector, 2002

Sector	Employment	PPE	Commercial Property
	(000s)	($ millions)	
All sectors	616.4	91,936	25,063
Manufacturing	194.5	31,295	1,841
Nonmanufacturing	421.9	60,641	23,222
Miscellaneous nonmanufacturing	217.7	15,627	4,510
Wholesale trade	94.1	18,883	1,828
Information	41.4	6,341	2,790
Retail	25.1	2,283	1,087
Finance and insurance	21.4	2,024	916
Professional, scientific, and technical services	18.0	1,341	129
Real estate	4.3	14,142	11,963

Notes: All data are for majority-owned foreign affiliates only. Miscellaneous nonmanufacturing includes agriculture, mining, utilities, construction, transportation and warehousing, and other services; information includes publishing, motion picture and sound recording, broadcasting and telecommunications, and information services and data processing; finance and insurance excludes depository institutions.

Source: U.S. Bureau of Economic Analysis.

More than 50 percent of total employment in foreign-owned nonmanufacturing sectors is in a broad group that includes administration facilities, hotels and restaurants, agriculture, mining, utilities, construction, transportation and warehousing, and miscellaneous services. The next two most important nonmanufacturing sectors for foreign ownership are the wholesale trade and information industries, the latter of which includes publishing, motion pictures and sound recording, broadcasting and telecommunications, and information services and data processing. Of these nonmanufacturing sectors, finance and information industries have grown the fastest in recent years. Finance and insurance grew 39.4 percent in employment between 1997 and 2001, and information grew 31.0 percent.

Among manufacturing sectors, the computer and electronic products industry is by far the leading sector, employing 53,800 workers in majority-owned foreign affiliates in 2002, or nearly 28 percent of all such workers in the manufacturing sector. The chemical sector is the second-largest sector, employing 26,000 workers, of which 16,900 were in the pharmaceuticals and medicines subsector. The third-leading sector is the manufactured food industry, which employed 22,400 workers in majority-owned foreign affiliates in 2002.

California's Ports

California is host to three of the nation's ten largest seaports ranked by the value of trade. These are the Ports of Los Angeles, Long Beach, and Oakland. These ports alone process in excess of 21 percent of all U.S. waterborne trade flows. Including the remaining seaports in the state, California processes 23 percent of total U.S. waterborne trade flows — 25 percent of waterborne imports and 16 percent of waterborne exports.

Table 10
Trade Flows Through California's Largest Seaports, 2003

Port	2003 Value ($ millions)			Change 1998-2003 (%)		
	Total	Imports	Exports	Total	Imports	Exports
Los Angeles	122,100	105,200	16,860	53.4	59.6	23.1
Long Beach	95,860	78,700	17,160	19.5	21.3	12.9
Oakland	25,140	17,380	7,762	-4.0	6.0	-20.6
Port Hueneme	5,362	5,222	139	32.4	39.6	-55.2
San Diego	4,539	4,463	76	49.3	67.2	-79.7
Richmond	2,066	1,836	230	178.8	251.1	5.6
El Segundo	1,560	1,559	1	163.5	168.8	-93.9
Carquinez Strait	983	937	46	44.8	342.1	-90.1
San Francisco	692	582	109	17.0	59.1	-51.5
Martinez	508	458	51	2,492.9	2,656.6	1,561.8
Total – All California Ports	260,060	217,258	42,767	32.0	39.2	4.8
Total – All U.S. Ports	807,112	604,631	202,481	31.6	46.3	1.3

Source: U.S. Department of Transportation, Maritime Administration, *U.S. Foreign Waterborne Transportation Statistics*.

Increasingly, the productivity of a seaport is not measured by the value or volume of trade it processes but by the number of ocean shipping containers that pass through it. In 2003, California's largest container ports processed nearly 9 million loaded twenty-foot equivalent units (TEUs). This number balloons to nearly 12 million when empty containers are included. The Port of Los Angeles is the largest single container port in the United States, having processed nearly 4.7 million TEUs in 2003. Combined, California's container ports handled 42 percent of all containers entering or departing U.S. shores, including 47 percent of all loaded import containers and 31 percent of all loaded export containers (Table 11).

Table 11
Loaded Container Flows Through California's Primary Container Ports, 2003

Port	2003 Container Volumes (Thousands of TEUs)			Change 1998-2003 (%)		
	Total	Imports	Exports	Total	Imports	Exports
Los Angeles	4,664	3,642	1,022	103.4	117.7	64.8
Long Beach	3,091	2,368	838	8.4	15.6	-10.0
Oakland	1,064	517	548	18.0	38.2	3.8
Total – California	8,819	6,527	2,293	45.8	59.4	17.5
Total – U.S.	21,289	13,899	7,389	36.9	55.8	11.3

Source: Port Import Export Reporting Service (PIERS).

Container ports in California have experienced rapid growth in the number of containers processed in recent years. From 1998 to 2003, the number of loaded containers passing through California's ports increased by 46 percent, with import containers increasing by nearly 60 percent. The number of export containers has grown somewhat less quickly, at 17.5 percent. Forecasts of growth in the number of containers passing through California's ports indicate roughly a tripling between 2003 and 2020. Substantial growth in import volumes through the ports of Los Angeles and Long Beach between July and November of 2004 lends support to these forecasts. These ports were largely unprepared to accommodate this growth, and significant volumes of trade were diverted to other points of entry, including those on the West Coast of the United States and Mexico as well as those on the East Coast as carriers made more intensive use of the Panama Canal.

Seaports are not the only important California trade gateways. The state's airports and its land borders with Mexico are also important. By at least one value measure, Los Angeles International Airport (LAX) and San Francisco International Airport (SFO) are the number-one and two export gateways in the state, processing $33.8 billion and $20.8 billion in exports in 2003, respectively. However, LAX and SFO are the third and fourth most important gateways in California when considering the total value of trade passing through them, processing $65.4 billion and $46.9 billion in combined imports and exports, respectively. The leading land crossing is the Otay Mesa port of entry in San Diego County. It handled more than $20 billion of goods flowing between California and Mexico in 2003.

Final Observations

In the last several years, California's exports have largely mirrored the growth trend exhibited by the rest of the United States. However, because of the high concentration of computer and electronic products, California's exports have also experienced disproportionate volatility during the technology-driven expansion and collapse between 1999 and 2001.

Asia continues to be the major destination for exports. Much of the recent growth, however, has been concentrated in the NAFTA partners, particularly Mexico.

Throughout 2004, exports have grown robustly. In the first three quarters of 2004, California's exports increased by more than 20 percent compared to the same period for the previous year. This outpaces both overall U.S. growth of 14 percent and Texas's growth of 19 percent. Among major export destinations, growth of exports from California has been particularly rapid in China, South Korea, Hong Kong, Singapore, and France.

California is the largest host state of FDI in the United States, with Europe by far the largest investor. Considering investment in only majority-owned affiliates, affiliates owned by investors from the United Kingdom have the largest number of employees (110,300), whereas affiliates owned by Japanese investors have the largest number of manufacturing employees (33,200), and own the most PPE ($22.8 billion) and commercial property ($6.4 billion).

Appendix A. California's Exports to Selected Countries

Table A.1
Mexico

Top Five Sectors	2002	2003	2003 Through Q3	2004 Through Q3	Change 2002-2003	Change 2003-2004 Through Q3
	($ billions)				(%)	
Computer and electronic products	6.29	4.82	3.38	4.34	-23.29	28.39
Machinery, except electrical	1.68	1.84	1.38	1.48	9.38	7.51
Transportation equipment	0.64	0.75	0.50	0.72	16.91	45.13
Fabricated metal products	0.81	0.81	0.60	0.69	0.16	14.98
Chemicals	0.87	0.71	0.53	0.60	-18.48	12.13
Total top five	10.28	8.93	6.39	7.83	-13.13	22.54
Total all sectors	16.08	14.87	10.79	12.62	-7.49	16.93

Japan

Top Five Sectors	2002	2003	2003 Through Q3	2004 Through Q3	Change 2002-2003	Change 2003-2004 Through Q3
	($ billions)				(%)	
Computer and electronic products	3.51	3.32	2.45	3.07	-5.59	25.21
Machinery, except electrical	1.02	1.47	0.99	1.49	44.18	50.93
Transportation equipment	1.50	1.45	1.08	1.20	-3.75	10.69
Food & kindred products	0.87	1.10	0.79	0.68	26.22	-13.83
Chemicals	0.64	0.73	0.53	0.58	14.17	8.91
Total top five	7.54	8.06	5.84	7.02	6.90	20.20
Total all sectors	11.11	11.75	8.56	9.99	5.85	16.79

Canada

Top Five Sectors	2002	2003	2003 Through Q3	2004 Through Q3	Change 2002-2003	Change 2003-2004 Through Q3
	($ billions)				(%)	
Computer and electronic products	3.84	3.97	2.81	3.23	3.37	15.24
Transportation equipment	0.91	1.53	1.15	1.09	67.39	-5.49
Agricultural products	1.00	1.14	0.85	0.90	13.58	6.24
Machinery, except electrical	0.62	0.55	0.42	0.48	-11.16	12.54
Chemicals	0.40	0.56	0.42	0.47	38.35	13.31
Total top five	6.78	7.75	5.65	6.17	14.31	9.20
Total all sectors	10.08	11.23	8.28	8.87	11.48	7.07

China

Top Five Sectors	2002	2003	2003 Through Q3	2004 Through Q3	Change 2002-2003	Change 2003-2004 Through Q3
	($ billions)				(%)	
Computer and electronic products	2.21	2.21	1.60	2.00	-0.21	24.83
Machinery, except electrical	0.63	0.55	0.37	0.65	-12.39	78.96
Food and kindred products	0.13	0.25	0.18	0.26	97.91	40.94
Transportation equipment	0.15	0.43	0.11	0.25	182.43	40.94
Chemicals	0.21	0.26	0.18	0.23	22.14	25.95
Total top five	3.34	3.71	2.44	3.39	11.08	38.93
Total all sectors	4.48	5.47	3.60	5.20	21.92	44.56

South Korea

Top Five Sectors	2002	2003	2003 Through Q3	2004 Through Q3	Change 2002-2003	Change 2003-2004 Through Q3
	($ billions)				(%)	
Computer and electronic products	2.02	1.82	1.33	1.65	-9.70	24.30
Machinery, except electrical	0.65	0.69	0.47	0.86	7.25	83.24
Transportation equipment	0.42	0.42	0.31	0.39	1.05	23.17
Agricultural products	0.19	0.26	0.21	0.20	33.92	-4.60
Food and kindred products	0.32	0.43	0.28	0.18	33.04	-35.27
Total top five	3.60	3.62	2.60	3.28	0.56	26.15
Total all sectors	4.71	4.83	3.51	4.40	2.58	25.45

Notes: Countries are California's top five export markets for the period 2004 through the third quarter. All sectors are ranked by value for the same period.

Source: WISER.

Appendix B. Notes on Data

Goods Exports

The U.S. Census Bureau's Foreign Trade Division provides data for state goods exports based on origin of movement. These data are then distributed by several resellers, including the World Institute for Strategic Economic Research, the source for this paper. These data are available from 1988 through the present and are the most widely used data on state exports. There was a change in industrial classification systems in 1997. Therefore, we use 1997 as a base year for growth data in our tables. When possible and relevant, we discuss longer trends.

Technically, the Census Bureau's series gives the transportation origin of the good — where it started its export journey — and was developed to meet the needs of transportation planners. Although not meant to represent actual production for export, the data come close in many cases. They perform less well for bulk commodities, and so this paper relies on data from the Agricultural Issues Center at the University of California at Davis for more detailed estimates of California's agricultural exports.

Foreign Direct Investment

Foreign direct investment (FDI) in the United States is defined as ownership or control by one foreign person or entity of at least 10 percent of a U.S. business, known as a foreign affiliate. The U.S. Bureau of Economic Analysis (BEA), the agency in charge of FDI statistics, does not report FDI at the state level, but instead reports data on the operations of foreign affiliates in each state, including employees; manufacturing employees; ownership of property, plant, and equipment; and ownership of commercial property.

Through 2001, these data reflect the operations of all foreign affiliates. Starting with 2002, however, the state-level data on operations of foreign affiliates are being reported only for majority-owned foreign affiliates, those with more than 50 percent foreign ownership. This break in the series precludes comparisons with previous years.

Ports

Data for seaports comes from the U.S. Maritime Administration and from the Port Import Export Reporting Service. In both cases, the data represent the port of unlading, rather than the port of customs clearance. Goods can enter at one port but then get cleared at another, so that two sets of port data are available. Port of unlading is more meaningful for understanding the level of port activity. Export data for the airports are from the U.S. Census Bureau, and trade data for land crossings are from the U.S. Bureau of Transportation Statistics.

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