International Trade and the Bay Area Economy

Regional Interests and Global Outlook 2010–2011

Bay Area Council Economic Institute

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Contents

Executive Summary

After a severe recession in 2008–2009, the global economy is recovering. While growth in developed economies such as Europe, the United States and Japan remains slow, large emerging economies like China and India have bounced back quickly.

The recession also severely impacted trade, leading not just to slower growth but to an absolute decline in global trade in 2009. Trade growth steadily fell from 9 percent in 2006 to 6 percent in 2007, 2 percent in 2008 and -12 percent in 2009. Mirroring the broad return to economic growth in 2010, however, trade is recovering. Global exports grew at an annualized rate of 20 percent in the first half of 2010, and the World Bank projects full year growth of 12 percent and 6 percent for 2011. While fiscal austerity is likely to constrain markets in much of Europe, this will be counterbalanced by faster growth in emerging economy markets.

Multilateral negotiations to reduce trade barriers through the Doha Round, which began in 2001, remain stalled. Many nations are continuing, however, to negotiate bilateral and regional free trade agreements (FTAs). In the United States, three FTAs negotiated during the Bush years—with Colombia, Panama and Korea—have been stalled in Congress. Of these, the agreement with Korea is most important to California and the Bay Area, due to the size of Korea's economy and its status as a major trading partner. President Obama has stated his support for the agreements.

In December 2009, the Obama Administration began negotiations for a regional agreement—the Trans-Pacific Partnership (TPP)—with seven Asia-Pacific economies (Australia, Brunei, Chile, New Zealand, Peru, Singapore and Vietnam), most of which already have bilateral free trade agreements with the U.S. In January 2010, the President also announced a National Export Initiative (NEI), with the goal of doubling exports in the next five years. The NEI creates an inter-agency Export Promotion Cabinet and would expand federal resources to support exports by small- and medium-sized businesses.

In another development of direct significance for California and the Bay Area, the United States will host the next APEC (Asia-Pacific Economic Cooperation) Leaders Summit in 2011. While the Summit itself will take place in Honolulu in November, the final preparatory Senior Officials Meeting (SOM 3) will be held in San Francisco in September, bringing ministers, ambassadors, senior officials and business leaders from 21 economies to the Bay Area for fifteen days. This will be the largest high-level diplomatic event to be held in San Francisco since the U.N. Charter signing in 1945. Several high-profile business forums that are planned to coincide with the governmental consultations will provide an opportunity to profile economic issues that are of particular importance to the region. The CalAPEC Committee, which has led the effort to bring SOM 3 to San Francisco, is hosted by the Bay Area Council Economic Institute.

The Bay Area is the fourth largest exporting region in the U.S.—after New York-New Jersey, Houston, and Los Angeles-Long Beach—with nearly $50 billion in exports in 2008. Of those overseas sales, $27 billion originated in the San Jose-Sunnyvale-Santa Clara Metropolitan

Statistical Area (which includes Silicon Valley), and $20 billion in the San Francisco-Oakland-Fremont MSA. The two areas respectively account for 17.8 percent and 13.4 percent of California's merchandise exports, or nearly one-third combined. Computer and electronic equipment is the region's dominant export, with its largest markets in Asia and the Pacific.

While large companies account for the lion's share of Bay Area goods exports by value, 95 percent of exporting companies in the region are small- and medium-businesses. If service exports were counted, these totals and the Bay Area's ranking as an international trade center relative to other regions would likely be higher, due to the Bay Area's strong financial services, consulting, design and engineering, software, tourism, and education base.

Across both large and small companies, national studies consistently find that workers in industries that export earn higher incomes than workers in industries that do not. This is based principally on the increased competitiveness of those companies and the higher skill levels of their workers.

Major Bay Area companies across a range of industries continue to benefit from global sales. The historical trend in which leading Bay Area companies have derived a progressively larger share of revenues from overseas rather than domestic markets stalled in 2008–2009, due to the broad decline in global economic activity. The net sales index of leading companies in the region (produced by the Economic Institute in alternating years since 2003) found that in the 2008–2009 period, of the 41 companies tracked, 23 saw both their international sales and their domestic sales fall, 4 saw their international sales fall while their domestic sales increased, 3 saw their domestic sales fall while their international sales increased, and 11 saw both international and domestic sales increase. More significantly for this analysis, 17 saw their *share* of revenues from domestic markets increase relative to international markets and 13 saw their share of revenues from international markets increase relative to domestic markets (11 saw the ratio of international to domestic sales remain the same). These counts reflect the broad-based decline in both the global and domestic economies and the general stalling of economic activity in 2008–2009. Resumed trade growth in 2010, however, suggests that the historical trend of increasing orientation toward revenue from global markets is likely to continue.

Infrastructure—ports and airports and their related road and rail networks—is critical to trade growth. Freight volumes moving through Bay Area ports and airports fell in 2009, but are once again rising and are expected to see high sustained growth in the coming years. The Port of Oakland, the fifth largest container facility in the U.S., has driven several critical infrastructure projects, including completion of the -50 foot dredging of its shipping channel (necessary to accommodate the next generation of larger vessels) and track and tunnel improvements over Donner Pass (required to accommodate double-stacked inter-modal containers and tri-level auto-rail cars transiting California to Midwest and East Coast destinations). Improvements are also planned to heavily-trafficked highways such as I-80, I-580, and I-880. Like other California ports, Oakland will be challenged in the future by rising costs relating to air pollution abatement in surrounding neighborhoods, and by growing competition from Gulf and East Coast ports for shipping traffic from Asia, caused primarily by congestion in California and by the planned expansion of the Panama Canal.

1

Global Economic Outlook

After a severe recession in 2008–2009, the global economy is recovering. While growth in developed economies such as Europe, the United States and Japan remains slow, large emerging economies like China and India have bounced back quickly.

After the most severe worldwide recession in 70 years, the global economy is recovering. World output is projected to rise by 4.25 percent in 2010, more than 1 percentage point above the International Monetary Fund's October 2009 estimate. The International Monetary Fund, the World Bank, and the Organization for Economic Cooperation and Development (OECD) all predict sustained but slowing growth in 2011. Continuing a long-term trend, developing economies are on the whole experiencing higher rates of economic and trade growth than advanced economies.

Three recent developments have the potential to alter global trade flows. In China, the recent announcement that monetary authorities will allow more flexibility in the exchange rate of the yuan has particular implications for the United States, which absorbs nearly 25 percent of China's exports. In Europe, austerity measures designed to scale back government spending and correct major fiscal imbalances through budget cuts and tax increases could slow the pace of global recovery by dampening European demand. However, the inability of governments to successfully reduce rising deficit and debt levels could have even more negative economic implications in the long term. Finally, national stimulus programs, which ramped up spending in a number of major economies, are winding down, removing one factor that has helped support demand.

The following forecasts are based on July 2010 International Monetary Fund data, supplemented by recent reporting.

Canada

Canada, the United States' largest trading partner, is expected to recover from 2.5 percent growth in 2009, to 3.6 percent in 2010 and 2.8 percent in 2011.

Mexico

Mexico is also expected to see higher growth, from -6.5 percent in 2009, to 4.5 percent in 2010 and 4.4 percent in 2011.

Europe

Growth in the Euro Area, which slowed sharply in the early stages of the global recession, is expected to increase from -4.1 percent in 2009 to 1.0 percent in 2010 and 1.3 percent in 2011. The Euro Area is struggling with structural economic issues brought on by the 2010 debt crisis in Greece, Ireland, Spain, Portugal and other member countries. How this process is managed will affect growth and trade, as well as the strength of the euro against other currencies.

Russia and Eastern Europe

The economies of Eastern Europe stand to benefit modestly from economic recoveries in Western Europe and the United States. Growth rates are expected to recover from -3.6 percent in 2009 to 0.4 percent in 2010, but drop again in 2011 to 0 percent.

A stronger recovery is expected in Russia, due largely to its strength in commodities, from -7.9 percent growth in 2009 to 4.3 percent in 2010 and 4.1 percent in 2011.

Japan

Japan's economy resumed a prolonged downward trend in 2008 and 2009 with growth rates of -1.2 percent and -5.2 percent, respectively. In March 2010, the government pushed a record budget of 92.3 trillion yen ($1 trillion) through parliament with the objective of stimulating growth and may consider additional stimulus measures. However, the sustainability of high government spending is a concern, as Japan's public debt is already twice the size of its economy. The International Monetary Fund projects growth to be 2.4 percent in 2010 and 1.8 percent in 2011.

China

China's economy continued to expand, though at a reduced rate of 9.1 percent in 2009, even during the global financial crisis. Since then, it has quickly returned to its pre-crisis growth levels, with projections of 10.5 percent in 2010 and 9.6 percent in 2011.

Korea

The growth rate of Korea's economy is expected to increase from 0.2 percent growth in 2009 to 4.5 percent in 2010 and 5.0 percent in 2011.

India

Like China, India's economy saw slower but positive growth at 5.7 percent in 2009. It too has bounced back quickly, with 9.4 percent growth expected in 2010 and 8.4 percent in 2011.

Southeast Asia

Shrinking demand for Southeast Asian exports in Europe and the U.S. led to reduced growth (1.7 percent) within the region in 2009. However, growth is expected to resume in pace with global markets, reaching 6.4 percent in 2010 before slowing to 5.5 percent in 2011. Performance by individual countries in the region will vary.

Latin America

The International Monetary Fund expects growth in Latin America to recover from -1.8 percent in 2009 to 4.8 percent in 2010 and 4.0 percent in 2011. As in Southeast Asia, economic performance by individual countries in the region will vary.

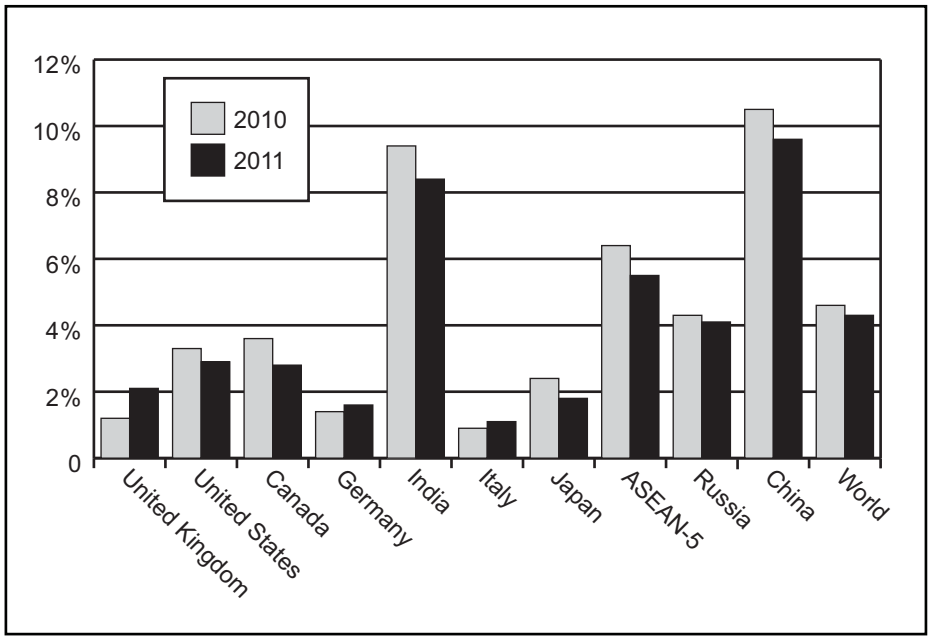
Africa

Africa's economies maintained positive growth rates (2.2 percent) in 2009, due to sustained global demand for commodities. Growth is expected to increase to 5 percent in 2010 and 5.7 percent in 2011.

Middle East

Oil revenues helped sustain positive rates of growth in the Middle East throughout the recession. Economic growth of 2.4 percent in 2009 is projected to increase to 4.5 percent in 2010 and 4.9 percent in 2011.

Projected Real GDP Growth, 2010 and 2011
(Annual Percent Change)



Source: International Monetary Fund, *World Economic Outlook Update*, July 2010.

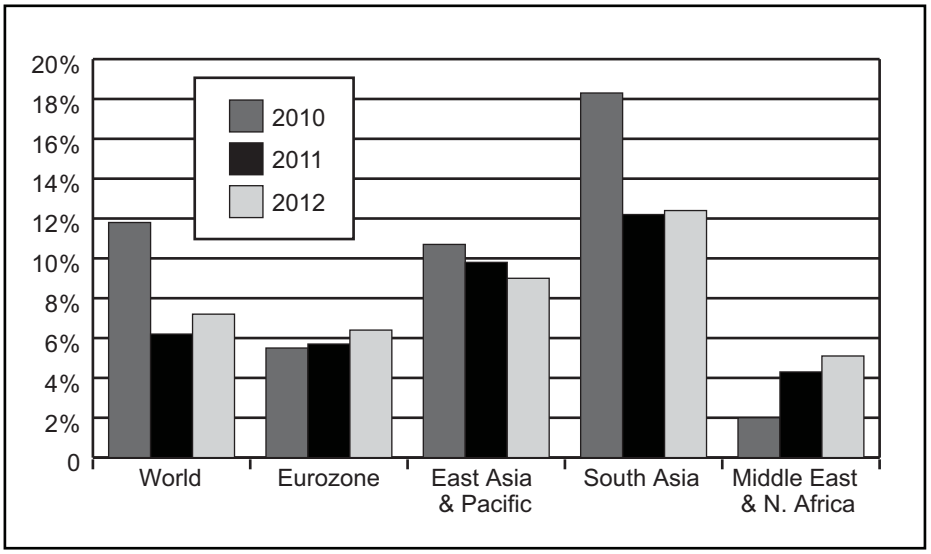
2

Global Trade Outlook

Reversing a long-term growth trend, global trade declined in 2009. Mirroring the return of global economic growth, however, trade is now making a strong recovery. Fiscal austerity is likely to constrain trade and market growth in much of Europe, but this will be counter-balanced by faster trade growth in developing economy markets.

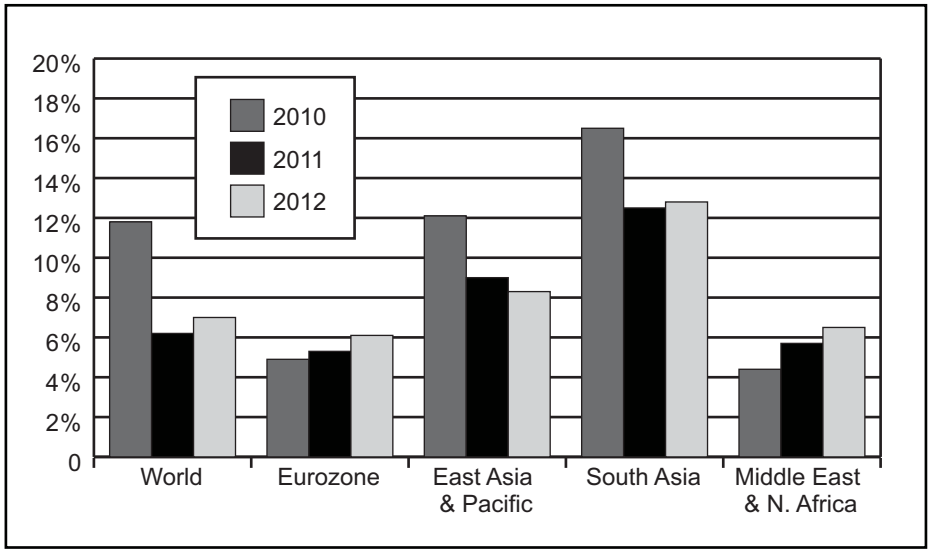
Trade slowed sharply during the recession after a strong showing in the 2002–2006 period. From 9 percent growth in 2006, trade growth fell to 6 percent in 2007, 2 percent in 2008, and -12 percent in 2009. This decline reflected the broad downturn in the global economy. The World Trade Organization projects a return to positive growth of 9.0 percent in 2010, reflecting global economic recovery. As of mid-2010, world trade was growing at an annualized rate of 20 percent. The strong recovery in trade is expected to continue into 2011 and 2012.

Projected Global Exports, 2010–2011
(Annual Percent Change)



Source: World Bank, *Prospects for the Global Economy*, June 2010.

Projected Global Imports, 2010–2011
(Annual Percent Change)



Source: World Bank, *Prospects for the Global Economy*, June 2010.

Despite this encouraging movement, global merchandise import volume at the start of 2010 remained 6 percent below January 2008 levels. The gap was larger (10 percent) for high income countries, while import volumes for developing economies were 6 percent above pre-crisis levels.

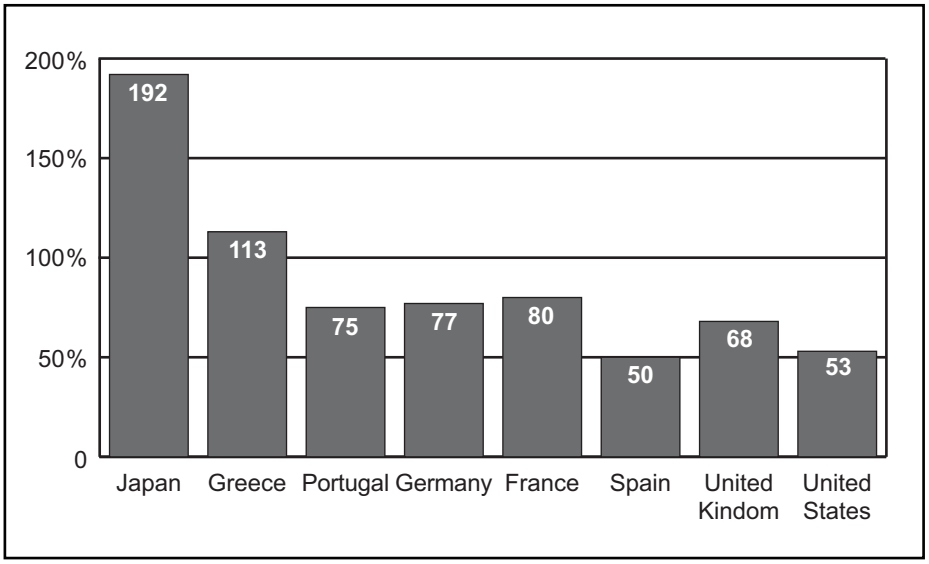
Austerity and Government Spending in Europe, the United States and Japan

Since April 2010, when Greece requested financial assistance from other European countries and the International Monetary Fund to help cover maturing debt, other governments have begun to reassess their debt levels. The World Bank reports persistently high levels of debt across developed countries in Europe and North America, as well as in Japan. In 2009, Japan recorded a debt-to-GDP ratio of 192 percent. (Greece's public debt, by comparison, was 113 percent.) Public debt in France, Portugal, Germany, and the United Kingdom ranged from 68 to 80 percent of GDP, while levels for the United States were close to 50 percent.

The countries at the heart of the Euro Area debt crisis (Greece, Portugal and Spain), sensing pressure from the bond markets, now must come up with realistic plans to rebalance their budgets. Spain's policymakers have outlined fiscal cuts that exceed 1 percent of gross domestic product. Germany, France and the United Kingdom have also announced plans to raise taxes and cut benefits, albeit on a smaller scale. German officials have planned budget cuts totaling around 0.4 percent of GDP.

While debt reduction is an essential step towards economic sustainability, fiscal stringency in the near term is likely to lead to lower consumption and hence reduced trade.

Debt Compared to Gross Domestic Product in Advanced Economies (Percent GDP, 2010)



Source: U.S. Central Intelligence Agency, *Country Comparison: Public Debt*, 2010.

Exchange Rates, China and the U.S. Trade Balance

In July 2005, China (responding to U.S. pressure) revalued its currency upward by 2.1 percent, and afterward allowed the yuan to appreciate within a controlled range. The yuan appreciated 21 percent against the dollar from 2005 to 2008, but as the world economy began to falter, Chinese policymakers in July 2008 locked the exchange rate at 6.83 to the dollar. In May 2010, the government, again under pressure from its trading partners in the U.S., Europe and Japan, announced that it would allow more flexibility but that any appreciation would be gradual. In the months immediately following, the yuan appreciated only 1 percent, disappointing many observers. A stronger yuan would make Chinese exports more expensive in foreign markets and make foreign goods cheaper for Chinese consumers.

United States Trade Balance with China (Billions of Dollars)

2002	2003	2004	2005	2006	2007	2008	2009
-103.065	-124.068	-162.254	-202.278	-234.101	-258.506	-268.040	-226.877

Source: U.S. Census Bureau, *Foreign Trade Statistics*, April 2010.

Reflecting the impact of the global recession on trade, China's overall merchandise exports fell 1.4 percent to $1.2 trillion in 2009, and imports fell 1 percent to $1 trillion (approximately 2007 levels). Of the $1.2 trillion in exports, 24 percent (about $300 billion) went to the United States. Reflecting the global recovery, however, Chinese exports and imports will grow 29 percent and 65 percent respectively in 2010, according to World Trade Organization predictions.

Understanding the bilateral trade balance with China is complicated by the growth of intra-firm trade and of trade in intermediate goods within Asia. Approximately half of Chinese exports are produced by foreign firms, who import as much as two-thirds of their components from other countries and also capture a large share of the final products' value. McKinsey & Company estimates that imported goods account for 40 to 55 percent of the total value of Chinese exports. Other Asian economies that once exported technology products directly to the U.S. are now exporting components to China, where they are assembled into finished products for export to global markets. This has happened as manufacturing assembly has increasingly shifted from countries such as Japan, Hong Kong, Taiwan and Korea to the Chinese mainland. As a reflection, intra-Asian trade increased from 4.8 percent of world trade in 2006 to 5.8 percent in 2009.

Through these intra-firm and intermediate goods transactions, China runs a large trade surplus with the U.S. and Europe but runs deficits with other trading partners. This has the effect of magnifying Chinese trade surpluses (at the point of export) with the U.S., while diluting bilateral U.S. deficits with other Asian economies.

In the face of persistent bilateral deficits, Congress has threatened retaliatory action against China based on alleged currency manipulation. The latest measure, passed by the House in September 2010, would allow the U.S. government to estimate the degree of a currency's undervaluation and impose countervailing duties—effectively classifying currency undervaluation as an unfair subsidy. It would also allow U.S. companies to file trade complaints against Chinese imports based on alleged currency undervaluation, leading to a possible proliferation of protective trade actions. If the measure is passed by the Senate and signed into law, the unilateral nature of this determination would almost certainly make it the subject of legal challenges in the World Trade Organization and would possibly induce retaliation by affected partners.

Focusing on currency realignment will not by itself fundamentally alter the U.S.-China trade balance and as a strategy may be misdirected. Despite the 21 percent appreciation of the yuan against the dollar between 2005 and 2008, the bilateral trade gap in the same period actually increased by $66 billion. This was due not to exchange rates, but to the low U.S. propensity to save and high propensity to consume, and in some degree to unilateral restrictions on the export of technology. It should also be noted that China's $2.5 trillion in foreign exchange reserves, accumulated primarily through exports, is heavily recycled to finance the U.S. budget deficit. Estimates by economists Ben Steil and Paul Swartz put Chinese holdings of Treasury notes at $850 billion, plus $420 million in U.S. agency debt, almost half of total foreign government holdings.

Should the dollar weaken and the yuan strengthen permanently, the U.S. would almost certainly suffer a long-term diminution in global economic influence. Trade strategy based on a weakened currency is a two-edged sword.

Updating the U.S. Export Control Regime

There is broad consensus among businesses and trade specialists and in Congress that U.S. policies controlling the export of militarily sensitive technologies need to be updated. Critics of recent policies point to issues of both inadequate protection of sensitive dual-use (civilian-military) technologies and inefficiency and outdated control lists that unnecessarily hamper exports. The Obama Administration presented an export control reform proposal in August 2010 that included creation of an Export Enforcement Coordination Center to fill gaps and reduce duplication across responsible departments, a single tiered list of controlled technologies, and a single set of policies applying to each tier. The proposal has received strong support from business organizations and trading partners ranging from NATO allies to China and India. While only a small segment of exports are subject to these licensing requirements, they may have a disproportionate impact on California and Bay Area exports, which focus heavily on technology. The initiative also delivers on a key element of the President's recently announced National Export Initiative (see Section 3, The Trade Negotiating Agenda).

Imports, Exports and the Trade Balance

In 2009, the U.S. trade deficit (including both goods and services) fell to $418 billion, a decline of 41 percent from 2007 levels. Bilateral deficits with major trading partners (China, Japan, Canada, Mexico and the European Union) all decreased. The drop was primarily driven by shrinking demand for imports in the United States. Strong trade growth in the first half of 2010 suggests that this very recent trend will reverse and that deficits will start to increase. Exports of goods and services increased 10.3 percent in the second quarter of 2010, following an 11.4 percent increase in the first; imports increased 28.8 percent in the second quarter, after a first quarter increase of 11.2 percent.

While bilateral U.S. import and export balances are important, the paradigm for how global trade is conducted has evolved beyond the traditional model, in which products are made in one country and shipped to another, toward a more distributed process where the final product contains intellectual property, components and processing contributed by several countries. In this model, basic research might be done in one country, applied (product) research in another, with final assembly done in a third, from components sourced in multiple locations.

This globally distributed process is particularly prevalent among multinationals and large companies in the IT sector. A technology product from China might count as a Chinese import in U.S. trade data but may contain mostly imported components produced by U.S. or other multinational companies. If Intel designs a processor in California but manufactures it in a plant in Israel or Ireland, trade statistics don't capture the value of the design, and if the finished product is later sold in the U.S., it is classified as an import, even though the lion's share of the value and profit accrues to Intel. The interpretation of data regarding bilateral trade balances is therefore not as simple as the raw figures might suggest.

The effect of these patterns on estimates of trade value can be seen, for example, in the following table from a 2010 analysis that identified the component cost and inputs in Apple's iPhone 4.

Major Components in the Apple iPhone 4 (16 GB), 2010

Subsection: Part Description	Supplier	Supplier HQ Location	Component Cost as % of Total	Component Cost
Applications Processor	Samsung	Korea	5.73%	$10.75
Applications Processor: DRAM Memory	Samsung	Korea	7.36%	$13.80
Flash Memory	Samsung	Korea	14.40%	$27.00
Radio Frequency: Baseband	Infineon	Germany	6.25%	$11.72
Radio Frequency: Transceiver	Infineon	Germany	1.24%	$2.33
Radio Frequency: Memory	Intel	U.S.	1.44%	$2.70
Radio Frequency: Misc. PAM Components	Skyworks	U.S.	—	[inc. in misc. costs below]
Radio Frequency: Misc. PAM Components	TriQuint	U.S.	—	[inc. in misc. costs below]
Radio Frequency: SAW Module	Murata	Japan	—	[inc. in misc. costs below]
Radio Frequency: Misc. Costs	[see above]		4.40%	$8.25
Connectivity: WiFi/BT	Broadcom	U.S.	4.16%	$7.80
Connectivity: GPS	Broadcom	U.S.	0.93%	$1.75
Interface & Sensors: Touchscreen Controller	Texas Instruments	U.S.	0.66%	$1.23
Interface & Sensors: Audio Codec	Cirrus Logic	U.S.	0.61%	$1.15
Interface & Sensors: Accelerometer	ST Micro	Switzerland	0.35%	$0.65
Interface & Sensors: Gyroscope	ST Micro	Switzerland	1.39%	$2.60
Remaining Misc. Components	Unidentified	—	51.08%	$95.78
Total			100%	$187.51

Source: iSuppli Corporation, "iPhone 4 Carries Bill of Materials of $187.51, According to iSuppli," June 2010, with calculations by Bay Area Council Economic Institute.

Yet another reason why raw data may paint an incomplete picture of the trade balance concerns software, which is often sold through overseas subsidiaries and, where that occurs, isn't booked as a U.S. export. Overseas sales by Internet companies such as Google and Yahoo also don't show up in some comparisons, because they are classified as services rather than goods.

Summary of World Trade Volumes (Annual Percent Change)

	Ten-Year Averages										Projections	
	1992–2001	2002–2011	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
World Trade (Average of annual percent change for world exports and imports)												
Volume	6.6	4.7	3.6	5.4	10.7	7.7	8.8	7.2	2.8	-10.7	7.0	6.1
Price Deflator												
In U.S. Dollars	-1.1	4.7	1.1	10.4	9.6	5.4	5.5	8.3	11.4	-10.9	6.7	1.9
In SDRs	-0.3	2.8	-0.6	2.1	3.7	5.6	5.9	4.1	7.9	-8.7	7.3	2.2
Volume of Trade												
Exports												
Advanced Economies	6.4	3.6	2.5	3.3	9.1	6.2	8.6	6.3	1.9	-11.7	6.6	5.0
Emerging and Developing Economies	8.0	7.5	7.1	11.0	14.8	11.5	10.4	9.7	4.0	-8.2	8.3	8.4
Imports												
Advanced Economies	6.6	3.2	2.7	4.2	9.2	6.5	7.6	4.7	0.6	-12.0	5.4	4.6
Emerging and Developing Economies	6.5	8.4	6.3	10.3	15.9	11.7	10.9	12.7	8.5	-8.4	9.7	8.2

Advanced Economies Export Volumes in Goods and Services (Annual Percent Change)

	Ten-Year Averages										Projections	
	1992–2001	2002–2011	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Advanced Economies	**6.4**	**3.6**	**2.5**	**3.3**	**9.1**	**6.2**	**8.6**	**6.3**	**1.9**	**-11.7**	**6.6**	**5.0**
United States	5.8	4.5	-2.0	1.6	9.5	6.7	9.0	8.7	5.4	-9.6	11.6	5.9
Euro Area	6.7	2.4	1.9	1.3	7.2	5.2	8.5	6.2	0.8	-12.9	4.2	3.5
Germany	5.9	3.8	4.3	2.5	10.2	7.7	12.9	7.5	2.9	-14.2	4.4	2.2
France	6.7	1.0	1.4	-1.2	3.7	3.4	5.0	2.5	-0.6	-11.2	4.2	4.2
Italy	6.0	-0.8	-2.9	-2.0	4.9	1.1	6.2	4.6	-3.9	-19.1	2.8	3.5
Spain	9.5	2.2	2.0	3.7	4.2	2.5	6.7	6.6	-1.0	-11.5	6.3	3.7
Japan	3.2	5.1	7.3	9.2	14.0	7.0	9.7	8.4	1.7	-24.2	15.6	8.6
United Kingdom	6.3	2.8	1.0	1.8	5.0	7.9	11.3	-2.8	1.1	-10.6	8.7	6.3
Canada	7.8	-0.0	1.2	-2.3	5.0	1.9	0.8	1.1	-4.7	-14.0	6.7	5.7
Other Advanced Economies	7.7	5.8	6.1	8.0	13.1	7.8	9.2	8.1	3.3	-7.1	5.2	5.8
Major Advanced Economies	5.7	3.0	1.3	1.8	8.3	5.8	8.9	5.4	1.6	-14.0	8.1	5.0
Newly Industrialized Asian Economies	8.9	8.2	9.9	13.2	17.2	9.4	10.9	9.6	3.8	-5.5	7.3	7.3

Advanced Economies Import Volumes in Goods and Services (Annual Percent Change)

	Ten-Year Averages										Projections	
	1992–2001	2002–2011	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Advanced Economies	**6.6**	**3.2**	**2.7**	**4.2**	**9.2**	**6.5**	**7.6**	**4.7**	**0.6**	**-12.0**	**5.4**	**4.6**
United States	9.0	3.1	3.4	4.4	11.0	6.1	6.1	2.0	-3.2	-13.9	11.2	6.8
Euro Area	5.9	2.2	0.4	2.7	6.8	6.0	8.4	5.5	0.9	-11.4	1.9	2.6
Germany	5.3	3.0	-1.4	5.4	7.3	6.6	11.9	4.8	4.3	-8.9	0.5	1.3
France	5.9	2.3	1.6	1.3	6.4	6.3	5.9	5.4	0.6	-9.7	3.3	3.2
Italy	4.5	0.3	0.2	1.2	4.2	2.1	5.9	3.8	-4.3	-14.5	3.0	3.6
Spain	8.9	2.5	3.7	6.2	9.6	7.7	10.2	8.0	-4.9	-17.9	3.4	2.3
Japan	3.9	1.9	0.9	3.9	8.1	5.8	4.2	1.6	0.9	-17.1	6.2	7.1
United Kingdom	7.2	2.5	4.9	2.2	6.9	7.1	8.8	-0.7	-0.5	-11.9	6.4	3.9
Canada	6.0	3.1	1.7	4.1	8.0	7.1	4.7	5.8	0.8	-13.4	8.3	5.5
Other Advanced Economies	6.9	5.7	6.3	7.4	13.5	7.6	8.9	8.5	3.7	-9.8	6.2	5.9
Major Advanced Economies	6.4	2.6	2.0	3.7	8.3	6.1	7.1	2.9	-0.5	-12.7	6.2	4.6
Newly Industrialized Asian Economies	7.7	6.8	8.7	10.2	15.9	7.6	9.5	8.4	3.4	-8.2	7.4	7.0

Source: International Monetary Fund, *World Economic Outlook*, April 2010.

3

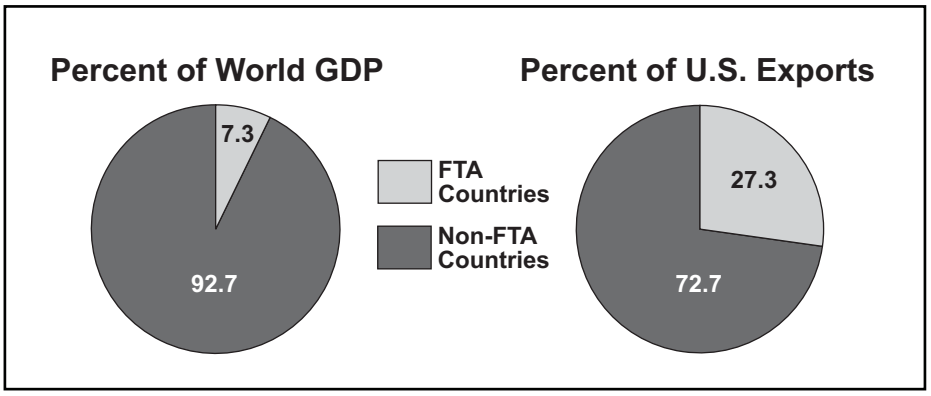
The Trade Negotiating Agenda

With 95 percent of the world's consumers outside the United States, and 13 percent of U.S. gross domestic product tied to exports, the stakes for California companies in an open trading system with increased market access are high. New initiatives in the Asia-Pacific region show promise, but other Free Trade Agreements remain stalled in Congress.

In recent years, regional and bilateral trade agreements have been important vehicles for reducing barriers to trade. The United States currently has Free Trade Agreements (FTAs) in force with seventeen countries. Global (multilateral) agreements, however, remain the backbone of trade liberalization, and World Trade Organization (WTO) members are continuing talks to reduce barriers more comprehensively through the Doha Round.

After years of talks, progress in the multilateral Doha Round negotiations remains stalled, and three bilateral agreements concluded in recent years—with Colombia, Panama, and Korea—remain blocked in Congress. However, U.S. trade officials have recently begun negotiations with a group of seven Asia-Pacific countries (Australia, Brunei, Chile, New Zealand, Peru, Singapore and Vietnam) to develop a Trans-Pacific Partnership agreement which would act as a platform for economic integration across the Asia-Pacific region.

Free Trade Agreements, 2009



Source: International Trade Administration, U.S. Dept. of Commerce,
"Free Trade Agreements," June 2010.
(Note: FTA countries are those with which the U.S. has existing FTAs.
Non-FTA countries are those with which the U.S. does not have existing FTAs.)

Trade Negotiations in the WTO

Ministers of 142 countries launched the latest round of global trade talks in Doha, Qatar on November 14, 2001, with a target for completion by January 2006. That date has long since passed and participants in the round do not appear close to reaching a consensus. Talks focus on the core agenda of market access for agriculture, manufactured goods and services. The major sticking points relate to agriculture and industrial goods. Developing nations, led by countries such as India, China and Brazil, want cuts in U.S. farm subsidies and E.U. agricultural import tariffs, while industrial nations want better access to developing countries' markets for manufactured goods and services.

Normally, these differences would be reconciled through cross-sectoral trade-offs. In July 2006, however, the disputes were so contentious and positions so far apart that the negotiations were suspended.

Negotiations resumed in July 2008, but stalled after nine days over a special safeguard mechanism that would grant developing countries the ability to impose special tariff measures on certain agricultural goods in the event of an import surge or price drop. The United States, China, and India were unable to agree on a threshold at which the mechanism would be deployed, with the United States maintaining that the threshold had been set too low.

Talks are also continuing on the General Agreement on Trade in Services (GATS) to open new service sectors to trade, and to eliminate restrictions in existing services. Progress there, however, has also been slow.

Information on the current status of the Doha Round negotiations can be accessed on the WTO website at http://www.wto.org, and on the U.S. Trade Representative's website at http://www.ustr.gov.

Trade and Climate Change: Issue or Opportunity?

While international labor and environmental standards have been debated for many years in trade circles and have directly impacted negotiations for all U.S. bilateral free trade agreements since NAFTA (North American Free Trade Agreement), there are signs that climate change could be added to the list of issues impacting trade relations and negotiations. Although the Copenhagen Climate Conference in December 2009 failed, climate policies considered by the European Union have surfaced the possibility that foreign producers of goods for the U.S. market could be penalized for production processes deemed to cause excessive CO_2 emissions and that U.S. exports to other countries (particularly the E.U.) could be subject to similar provisions.

Potential measures that could be applied include import tariffs or the requirement to purchase emission permits. While the lack of comprehensive legislation in the U.S. makes unilateral U.S. action less likely, action in Europe could potentially destabilize existing trade agreements, slow the development of market opening initiatives, and generate trade conflicts.

It is unclear whether or not measures of this kind would be authorized under WTO environmental rules. They would almost certainly, however, face legal challenge.

The elimination of tariffs on trade in clean energy technologies has been proposed by free trade advocates as a less disruptive means for achieving climate change goals. The European Union has been pushing the WTO since 2006 to eliminate tariffs on clean power and renewable energy technologies, and the issue has since become a part of the Doha Round. Zero tariffs would boost the global market for environmental technologies and investment in green industries, both of which are important to combating climate change. Disagreements have arisen, however, over how to define the scope of products which would receive a zero tariff. While the Doha Round is unlikely to be concluded in the near future, it is also possible that the WTO, or a group of its members, may seek to eliminate tariffs on green products by means of a separate agreement. Progress in this area would particularly benefit the Bay Area, which has emerged as a major global center for cleantech development.

Trade, Recession and Protection

One consequence of the recent global recession has been an increased focus by governments on protecting their companies from competition. According to a study conducted by the Swiss Institute for International Economics, compliance with the G-20's no-protectionism pledges has been inconsistent. Even after the global recovery began in the last quarter of 2009, governments across a range of economies implemented protectionist measures at a rate of 100 measures per quarter. The study estimates that G-20 countries were responsible for approximately 64 percent of these measures. Over 600 of the measures implemented since the first crisis-related G-20 summit in November 2008 remain in place, at an estimated cost to the world economy of $1.6 trillion (more than one tenth of world imports in 2008). On the whole, however, governments have avoided overt measures to limit trade.

National Export Initiative

In January 2010, President Obama announced the National Export Initiative, with the goal of doubling U.S. overseas sales over the next five years. (Exports have already risen 17 percent in 2010.) The initiative calls for increased funding for the U.S. Commercial Service and its role in supporting small- and medium-sized exporters, and the creation of an Export Promotion Cabinet, reporting to the President, consisting of officials from the Departments of Commerce, State and Agriculture; the Export-Import Bank; the U.S. Trade Representative; and the Small Business Administration.

Asia-Pacific Economic Cooperation (APEC)

In November 2011, the United States will host the annual Leaders Summit of APEC (Asia-Pacific Economic Cooperation), an international body of 21 Asia-Pacific economies—including many of the Bay Area's top trading partners—that deals with regional trade cooperation and

liberalization. The APEC economies ring the Pacific: Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei (Taiwan), Thailand, the United States and Vietnam. The Summit will be held in Honolulu, but the Senior Officials Meeting (SOM), which will lay the groundwork for the summit, will take place in San Francisco in September 2011. The meeting will bring approximately 1,000–2,000 ministers, ambassadors, senior officials, business leaders and media to the area over approximately five days, for events including working group and committee meetings, public-private forums involving government and business leaders, and a high-level meeting of energy and transportation officials. With topics on the table including digital prosperity, healthcare, innovation, energy and transportation, tourism, food safety, disaster management, wine regulation, and women's issues, the SOM in San Francisco will present a unique opportunity for engagement on trade-related issues of direct interest to California. Planning for the meeting is being led by the CalAPEC Committee, under the auspices of the Bay Area Council Economic Institute.

Washington and Free Trade Agreements

While at the outset the Obama Administration chose to focus trade policy primarily on exchange rates and enforcement of existing trade agreements, as the National Export Initiative and the proposed Trans-Pacific Partnership (see page 23) suggest, enforcement alone may be not be enough to significantly increase exports.

Much of the focus in the last twenty years has been on the negotiation of bilateral Free Trade Agreements (FTAs). With the expiration of Trade Promotion Authority (TPA) in 2007, which enabled trade agreements to be voted on by Congress in a simple up-or-down vote (with no amendments), the United States' scope for negotiating new bilateral and regional agreements narrowed sharply. Agreements with Panama, Colombia and Korea that were concluded during the Bush Administration and prior to the expiration of TPA are grandfathered under the old TPA rules. New agreements not covered by TPA will be subject to being reopened on a line-by-line basis in the congressional approval process.

Free Trade Agreements have been politically contentious. Congressional opposition, primarily among Democratic legislators, has historically focused on the adequacy of standards and enforcement regarding the labor and environmental policies of negotiating partners. While these issues have divided Republicans and Democrats, a compromise was reached in early 2007 that allowed a proposed Peru agreement to go forward, and another 2007 agreement between House leaders and the White House spurred three other countries with pending FTAs (Panama, Colombia and Korea) to implement measures designed to address congressional concerns.

Democratic support for FTAs has also been linked to the Trade Adjustment Assistance Act (TAA), which provides transitional training and support for workers displaced by trade agreements. Recent changes have extended benefits to include software developers, who are affected by offshoring practices at large IT vendors.

The United States has free trade agreements in effect with 17 (mostly smaller) countries, with 3 additional FTAs—with Colombia, Panama and Korea—on the table but stalled in Congress. In the meantime, other countries are continuing to expand their FTA portfolios. China, for example, has 10 agreements in effect and another 2 under negotiation. The E.U. has 29 FTAs in effect and 4 under negotiation. Most recently, the European Union and South Korea have concluded an FTA, and Malaysia has begun talks with the E.U. The United States, China, and the European Union do not have FTAs with one another. President Obama has recently expressed his support for ratification of the Colombia, Panama and Korea agreements, but to get them through Congress he will have to spend political capital.

Latin America

Because of the difficulty of reaching agreement with all Latin American countries as a group, the United States has endeavored to negotiate agreements with individual countries or groups of countries in the region, avoiding the larger countries (such as Brazil and Argentina) with sharper differences and stronger bargaining power. So far, agreements have been concluded with 9 countries in the region in addition to Mexico and Canada.

U.S.-Chile Free Trade Agreement

The U.S.-Chile Free Trade Agreement went into effect on January 1, 2004. Chile's economy is the most open and stable in South America and receives high marks for competitiveness, transparency and a low level of corruption. Under the agreement, tariffs have been eliminated on 90 percent of U.S. exports to Chile and 95 percent of Chilean exports to the United States.

U.S. exports to Chile increased by more than 300 percent between 2003 and 2009, from $2.7 billion to $9.3 billion. This compares favorably to overall U.S. exports, which grew just 54 percent during the same period. In addition to strengthening bilateral trade, the agreement has helped U.S. companies compete with companies from other countries, such as Canada and Japan, which also have FTAs with Chile.

U.S.-Central America and Dominican Republic Free Trade Agreement

The U.S.-Central America and Dominican Republic Free Trade Agreement (CAFTA-DR) was signed in May 2004 and approved by Congress in July 2005. Participants include the United States, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic. Like other U.S. FTAs, the CAFTA-DR agreement covers trade in manufactured goods, services and agriculture, as well as investment and intellectual property protection, and gives duty-free access to the region for approximately half of all U.S. farm exports and 80 percent of consumer exports. The remaining tariffs will phase out over 10 years for manufactured and consumer products, and 15–18 years for agricultural products. The agreement also immediately eliminates many non-tariff service and investment barriers, and increases standards for intellectual property protection.

Although CAFTA-DR nations are small, cumulative two-way trade is significant, totaling $38.8 billion in 2009. The region constitutes the third largest U.S. export market in Latin America, behind Mexico and Brazil. The United States maintains a trade surplus with CAFTA-DR countries. Agriculture accounts for just over 10 percent of U.S. exports and just over 16 percent of all CAFTA-DR country exports to the United States.

U.S.-Peru Free Trade Agreement

Congress approved the U.S.-Peru FTA in December 2007. The agreement particularly enables increased market access for U.S. goods such as machinery, electronics, plastics and agriculture. In 2009, U.S. exports to Peru totaled $4.92 billion, up from $2.56 billion in 2008. Nearly all products from Peru had already entered the U.S. duty-free; the FTA provides U.S. exporters reciprocal access.

U.S.-Colombia Free Trade Agreement

Congressional approval is still pending on a U.S.-Colombia FTA. Two-way trade exceeded $20 billion in 2009. The United States is Colombia's largest trading partner, and like Peru, 90 percent of Colombia's exports already enter the U.S. duty-free. Approval would increase reciprocity by expanding access to local markets for U.S. exporters. California cut flowers producers could see increased competition, but agricultural exports as a whole would benefit from the substantial reduction in Colombian tariffs.

Approval is also seen as a way to support Colombia's government in its struggle with drug traffickers and terrorists, and to offset the regional influence of Venezuela's president Hugo Chavez. Opponents in Congress have stalled the agreement, alleging that Colombia's government hasn't done enough to curb violence against union organizers. Congressional confrontation sharpened in March 2008 when the House Democratic leadership changed a long-standing rule requiring a vote within 90 days of submission of the agreement by the White House, deferring consideration of the agreement indefinitely. Since the major terms of the Colombia agreement are similar to those already approved by Congress in the U.S.-Peru Free Trade Agreement, the reasons for the delay appear largely political.

Since the agreement with the U.S. was submitted, Colombia has concluded free trade agreements with Brazil, Argentina, Paraguay and Uruguay, and most recently with Canada, costing the U.S. significant market share in agricultural products. President Obama has indicated that he would like to see the agreement approved.

U.S.-Panama Free Trade Agreement

Negotiations for a bilateral FTA between the United States and Panama were completed in June of 2007, and this agreement is also awaiting action by Congress. The agreement eliminates tariffs and other barriers to trade in goods and services between the United States and Panama. It also includes agreements relating to customs administration and trade facilitation,

technical barriers to trade, government procurement, investment, telecommunications, electronic commerce, intellectual property rights, and labor and environmental protection.

Two-way trade between the United States and Panama amounted to $4.2 billion in 2009 (with a positive U.S. balance of $4 billion), up from $3.7 billion in 2007. Under the agreement, 88 percent of U.S. exports of consumer and industrial goods would immediately become duty-free, with the remaining barriers being reduced progressively over ten years. The agreement also seeks to reinforce political ties between the United States and Panama—a consideration, given growing U.S. reliance on the Panama Canal for trade between Asia and U.S. East and Gulf Coast ports. Though the agreement is stalled in Congress, as with Columbia, President Obama has expressed support for its approval.

Asia

ASEAN Trade and Investment Framework Agreement

In August 2006, the U.S. concluded a Trade and Investment Framework Agreement (TIFA) with the ten ASEAN countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam). Under the TIFA, the United States maintains free trade relations with ASEAN countries that are committed to the kinds of economic reforms inherent in an FTA with the United States. With the combined population of all ten ASEAN countries exceeding 600 million, the economies of the ASEAN region represent a major market for export producers in the United States. ASEAN is the United States' fifth largest trading partner, with approximately $200 billion in two-way trade.

U.S.-ASEAN Free Trade Efforts

Country	FTA	TIFA	WTO	GSP
Brunei		✓	✓	Not eligible
Burma			✓	Not eligible
Cambodia			✓	✓
Indonesia		✓	✓	✓
Laos			Negotiating accession	Not eligible
Malaysia	Launched	✓	✓	Not eligible
Philippines		✓	✓	✓
Singapore	✓	✓	✓	Not eligible
Thailand	Negotiating	✓	✓	✓
Vietnam			Negotiating accession	Not eligible
ASEAN-10		Negotiating		

Source: United States Trade Representative.
(FTA = Free Trade Agreement, TIFA = Trade and Investment Framework Agreement, WTO = World Trade Organization, GSP = Generalized System of Preferences, ASEAN = Association of Southeast Asian Nations)

U.S.-Singapore Free Trade Agreement

The U.S.-Singapore agreement, reached in 2003, was the first FTA between the United States and an Asian nation. The agreement is relatively limited in its effect, since Singapore does not impose tariffs on imported goods. However, the elimination of non-tariff barriers has probably led to the expansion of U.S. exports.

U.S.-Australia Free Trade Agreement

The U.S.-Australia Free Trade Agreement entered into effect in January 2005. This was the first FTA between the United States and a developed country since the U.S.-Canada Free Trade Agreement in 1988. The agreement eliminates 99 percent of tariffs on U.S. manufactured goods exports. (Manufactured goods account for 93 percent of all U.S. exports to Australia). Some import restrictions remain for sensitive farm products such as sugar.

Whether the agreement produces a significant expansion of trade remains to be seen. In 2004, Australia ranked number 14 among U.S. export markets and number 30 as a source of imports into the United States. As of the end of 2009, its export market rank was unchanged (even though U.S. exports to Australia grew more slowly than did overall exports), but its rank as a source of imports fell more than 20 places.

U.S.-Korea Free Trade Agreement

Negotiations concluded in April 2007 on a U.S.-Korea Free Trade Agreement that would eliminate tariffs within three years on 95 percent of product categories traded between the two countries. Seoul has agreed to phase out its 40 percent tariff on U.S. beef over 15 years and immediately remove its 8 percent duty on cars. Services would benefit, as U.S. banking, securities firms, insurers and asset managers would be able to acquire or establish financial institutions in Korea, open branches, and provide cross-border services. Agriculture would also benefit from the immediate elimination of tariffs on more than half of current U.S. farm exports to Korea. U.S. agricultural exports currently face an average applied tariff of 52 percent. Overall, U.S. exports now face an average applied tariff of 11.2 percent, while Korean imports into the U.S. face an equivalent tariff of 3.7 percent.

In 2009, two-way trade totaled nearly $68 billion, ranking Korea seventh among U.S. trading partners. The United States exported $28.6 billion, making Korea the eighth largest destination for U.S. exports. Within specific sectors, it is the fifth largest global market for U.S. agricultural exports, the tenth largest for U.S. information technology exports, and the second largest market in Asia for U.S. services. Korea is also the seventh largest source of U.S. imports.

The International Trade Commission estimates that implementation of a Korea-U.S. FTA will result in $9.7 to 10.9 billion in increased U.S. merchandise exports which, according to the Commerce Department, would support an additional 70,000 U.S. jobs. The U.S. Chamber of Commerce estimates that failure to approve the agreement will cost the U.S. 345,000 jobs—primarily lost to competitors in Europe and Canada.

Korean farmers and auto workers, fearful of U.S. competition, have opposed the agreement. In the United States, opposition has focused on alleged Korean non-tariff barriers regarding beef and autos. The debate on beef concerns Korean restrictions on imports of beef more than 30 months old, a residual from past concerns over mad cow disease in the U.S. This affects only 5 percent of Korea's beef import market but is politically sensitive for Korean negotiators. The debate on autos, driven largely by Detroit and organized labor, revolves around Korean tax rates, which tax large displacement engines more than engines with small displacements. (Most U.S. vehicles are larger that Korean or Japanese cars, so have larger engines). Korean emission standards, which require foreign car makers to make adjustments for the local market and therefore could increase costs, are also an issue.

At this writing, the agreement has not been formally submitted to Congress. President Obama, however, has expressed his support for ratification. On December 3, the administration announced the successful conclusion of supplementary bilateral talks to resolve outstanding issues that impede ratification. While the beef issue was not resolved, agreement was reached on the more important issue of autos, in which import restrictions in both countries will be removed progressively rather than immediately.

In the meantime, the European Union has just concluded a free trade agreement with Korea, Canada is pursuing one, and a Korea-China deal is under consideration—which could put U.S. exports at a competitive disadvantage without a U.S.-Korea FTA. The proposed U.S.-Korea agreement is particularly significant since it is one of the few free trade agreements the U.S. has negotiated with a major global economy (Korea's is the 4th largest in Asia and the 15th largest in the world), and Korea is a key trading partner for the U.S. and California.

Other Negotiations in the Asia-Pacific Region

Trans-Pacific Partnership

In December 2009, the Obama administration announced that the United States would pursue a new regional Asia-Pacific Free Trade Agreement. The United States approached an initial group of seven countries (Australia, Brunei, Chile, Peru, New Zealand, Singapore, and Vietnam), and held three rounds of negotiations in 2010, the first in Melbourne in March, the second in San Francisco in June, and the third in Brunei in October. Malaysia also joined the negotiations, and Japan has shown interest (though its high agricultural import barriers are a major obstacle to its inclusion). Although the U.S. already has FTAs with Australia, Chile, Malaysia, Peru and Singapore, it is looking for additional avenues for structured economic engagement in Asia. This stems in part from concern that Asia-Pacific countries might one day consider a regional trading arrangement that excludes the United States. That is a significant possibility, as Asia-only trade arrangements have been periodically proposed. Reflecting growing intra-Asian trade, U.S. exports to the region increased 63 percent from 2003 to 2008, but the share of Asia-Pacific trade fell 3 percent.

The Trans-Pacific Partnership is important for several more immediate reasons. According to the East-West Center, Asia already accounts for 27 percent of total U.S. export-related jobs, and that employment from exports to Asia grew 12 percent from 2002 to 2006. This trend

should continue. The International Monetary Fund forecasts that, as a group, Asia-Pacific economies will experience faster growth than the world average through at least 2014.

Middle East and Africa

Trade liberalization with countries in the Middle East started in 1985 with the implementation of the U.S.-Israel Free Trade Agreement, the first bilateral FTA with any country. This was followed in 2000 by the U.S.-Jordan Free Trade Agreement, which eliminates tariff and non-tariff barriers to trade in nearly all industrial goods and agricultural products. Although a comprehensive regional agreement is unlikely, recent FTAs negotiated with Bahrain (2006) and Oman (2009) have strengthened the base for trade relations between the United States and specific countries in the region.

U.S.-Oman Free Trade Agreement

The United States entered into a free trade agreement with Oman in January 2009. Under the agreement, Oman provides duty-free access for U.S. agricultural products and has pledged to eliminate tariffs on remaining products within 10 years. The agreement also provides for substantial access across Oman's services market, legal protections for U.S. investors operating in Oman, an effective system for enforcing labor and environmental laws, and a more secure intellectual property framework. U.S. exports in 2009 were $1.13 billion, down from $1.4 billion in 2008, with a surplus of $218 million.

U.S.-Morocco Free Trade Agreement

The U.S.-Morocco FTA was approved by Congress in July 2004. In addition to boosting trade and investment, the agreement was designed to bolster Morocco's position as a moderate Arab state. In 2009, the United States enjoyed a $1.16 billion trade surplus, on total two-way trade of just over $2 billion—over ten times the surplus of $94 million in 2003, the year before the agreement went into force, and an increase of over $500 million from 2008.

U.S. goods exports in 2009 were $1.63 billion, up $130 million from the previous year. U.S. imports of Moroccan goods were $468 million, down substantially from 2008.

More than 95 percent of bilateral trade in consumer and industrial products is now tariff-free, with all tariffs scheduled to be eliminated within nine years. The agreement covers all agricultural goods, particularly benefiting California.

U.S.-Bahrain Free Trade Agreement

The U.S.-Bahrain FTA has been in effect since August 2006. Under the agreement, all bilateral trade in consumer and industrial products is duty free, and tariffs on the remaining handful of agricultural product lines are set to be phased out by 2015.

The U.S. trade surplus with Bahrain decreased from $291 million in 2008 to $204 million in 2009. U.S. exports to Bahrain were $667 million, down from $830 million in 2008. U.S. imports in 2009 were $464 million, down from $539 million in 2008.

Bay Area Exports to Priority Regions for Trade Liberalization

(Countries included are limited to those discussed in the preceding text as having an agreement in place or in process.)

		Bay Area Exports in 2009 ($ Millions)					% Share of Ttl. NAICS Exports				%
NAICS	Description	Latin America	ASEAN	Middle East & Africa	All	Total Trade	Latin America	ASEAN	Middle East & Africa	All	Share of Ttl. Trade
	Total	755.6	1,607.6	671.1	5,293.4	31,088.3	2.4	5.2	2.2	17.0	100.0
334	Computer and Electronic Product Mfg.	249.4	1,045.7	321.3	2,671.7	17,188.7	1.5	6.1	1.9	15.5	55.3
333	Machinery Mfg.	48.4	147.2	63.8	548.8	2,534.2	1.9	5.8	2.5	21.7	8.2
325	Chemical Mfg.	38.5	93.9	37.5	318.7	2,483.9	1.5	3.8	1.5	12.8	8.0
339	Miscellaneous Mfg.	20.8	27.4	127.8	249.9	1,765.6	1.2	1.6	7.2	14.2	5.7
336	Transportation Equipment Mfg.	40.1	30.8	29.4	202.7	1,029.9	3.9	3.0	2.9	19.7	3.3
324	Petroleum and Coal Products Mfg.	294.5	158.6	0.5	691.0	1,723.0	17.1	9.2	0.0	40.1	5.5
335	Electrical Equipment, Appliance, and Component Mfg.	7.3	21.9	11.0	106.2	593.8	1.2	3.7	1.9	17.9	1.9
311	Food Mfg.	14.5	25.8	31.4	152.9	960.1	1.5	2.7	3.3	15.9	3.1
332	Fabricated Metal Product Mfg.	5.1	12.4	6.1	95.8	475.3	1.1	2.6	1.3	20.1	1.5
111	Crop Production	9.8	7.2	25.5	74.2	576.4	1.7	1.3	4.4	12.9	1.9
312	Beverage and Tobacco Product Mfg.	6.5	7.9	2.0	39.6	604.6	1.1	1.3	0.3	6.5	1.9
331	Primary Metal Mfg.	1.5	8.2	2.7	27.5	278.6	0.6	2.9	1.0	9.9	0.9
326	Plastics and Rubber Products Mfg.	3.0	5.1	3.0	19.9	195.1	1.5	2.6	1.5	10.2	0.6
322	Paper Mfg.	1.7	2.9	0.4	8.9	144.4	1.2	2.0	0.2	6.2	0.5
327	Nonmetallic Mineral Product Mfg.	1.8	7.7	2.6	34.6	138.9	1.3	5.5	1.8	24.9	0.4
511	Publishing Industries	3.4	0.8	0.3	7.5	75.9	4.4	1.1	0.5	9.9	0.2
323	Printing and Related Support Activities	1.2	1.5	1.0	15.5	83.0	1.5	1.8	1.3	18.7	0.3
315	Apparel Mfg.	1.7	0.7	2.0	8.3	64.4	2.6	1.0	3.1	12.9	0.2
337	Furniture and Related Product Mfg.	1.6	0.7	0.9	4.4	42.4	3.8	1.8	2.1	10.3	0.1
321	Wood Product Mfg.	0.7	0.1	0.3	1.7	35.4	1.9	0.2	0.7	4.8	0.1
316	Leather and Allied Product Mfg.	1.7	0.4	1.0	6.7	40.2	4.2	1.0	2.4	16.6	0.1
313	Textile Mills	1.3	0.0	0.1	1.5	10.1	13.0	0.4	0.7	15.3	0.0
314	Textile Product Mills	1.0	0.2	0.2	2.6	18.3	5.4	1.0	1.0	14.2	0.1
114	Fishing, Hunting and Trapping	0.1	0.2	0.0	0.8	10.5	1.0	2.3	0.3	7.2	0.0
112	Animal Production	0.0	0.0	0.3	1.0	6.5	0.1	0.3	5.1	15.5	0.0
212	Mining (except Oil and Gas)	0.1	0.1	0.1	0.9	6.3	1.1	1.8	0.9	14.5	0.0
211	Oil & Gas Extraction	0.0	0.0	0.0	0.0	2.2	0.1	0.0	0.0	0.2	0.0
113	Forestry and Logging	0.0	0.2	0.0	0.2	0.6	0.5	27.0	1.3	37.8	0.0

Source: WISER, with final calculations by Beacon Economics.

4

International Trade in the Bay Area

Major Bay Area companies across a range of industries continue to benefit from global sales. The historical trend in which leading Bay Area companies have derived a progressively increasing share of total revenues from overseas sales, rather than domestic markets, stalled in 2008–2009, due to the fall-off in global economic activity. With a resumption of global trade and economic growth in 2010, however, the historical trend toward increasing globalization is likely to continue.

Data from the U.S. International Trade Administration shows that exports of manufactured goods support over 730,000 jobs in California (5.8 percent of private sector employment), including 40 percent of jobs in the computer and electronics sector, 25 percent in the electronic components sector, and 31 percent in the transportation equipment sector (22 percent of total employment). Close to 60,000 California companies currently export.

As a rule, exporting correlates closely with more competitive businesses and higher wage jobs. Recent research by the Brookings Institution (*Made in USA: An Analysis of U.S. Metropolitan Exports*) finds that workers in exporting industries in the 100 top U.S. metropolitan areas earn 1–2 percent higher wages for every $1 billion increase in exports by the industry in which they work. Higher wages in exporting industries are particularly associated with higher skill levels. These findings are broadly consistent with a range of earlier studies.

On the business side, a January 2010 study by the U.S. International Trade Administration finds that small- and medium-sized enterprises (SMEs) produce approximately 30 percent of U.S. merchandise exports. Another 2010 ITA study finds that: SME manufacturers that export have more than twice the total revenue of their non-exporting counterparts; between 2005 and 2009 these firms had revenue growth of 37 percent, compared to a revenue decline of 7 percent for non-exporting SMEs; and labor productivity (revenue per employee) was over 70 percent higher for manufacturing SME exporters than for non-exporters. Similarly, SME service exporters had nearly four times as much revenue per form as non-exporters; total revenue per form earned by these exporters grew faster between 2002 and 2007 than revenues for non-exporters; and labor productivity was more than twice as high.

Small- and medium-sized firms—most with fewer than 500 employees—generate over 40 percent of California's merchandise exports (the seventh highest percentage among U.S. states).

Bay Area Export Profile

Bay Area exports of goods totaled nearly $50 billion in 2008, accounting for over one-third of California's exports. The Bay Area ranks as the fourth largest exporting region in the U.S. For more detail on the five metro areas that make up the Bay Area, see Appendix III.

Exports of Goods from U.S. Metropolitan Areas
Top 3 Metro Areas and Bay Area Region by Export Value, 2008

Metro Area	Export Value 2008
New York–Northern New Jersey–Long Island, NY–NJ–PA	$95,244,348,924
Houston–Sugar Land–Baytown, TX	$80,015,139,201
Los Angeles–Long Beach–Santa Ana, CA	$59,985,553,260
Bay Area	**$49,324,069,879**
San Jose–Sunnyvale–Santa Clara, CA	$27,048,569,049
San Francisco–Oakland–Fremont, CA	$20,470,380,484
Santa Rosa–Petaluma, CA	$1,117,776,684
Vallejo–Fairfield, CA	$468,091,789
Napa, CA	$219,251,873

Source: Intl. Trade Administration, U.S. Department of Commerce, "Metro Exports." (Metro areas are those defined in December 2008 by the Bureau of the Census. These data are based on an Origin of Movement (OM) ZIP-code-based series and are therefore not comparable with data based on an OM state-based series.)

Bay Area Region Metro Exports Value, 2008
(Percent Share of California Exports)

Metro Area	% Share of Export Value
San Jose–Sunnyvale–Santa Clara, CA	17.8
San Francisco–Oakland–Fremont, CA	13.4
Santa Rosa–Petaluma, CA	0.7
Vallejo–Fairfield, CA	0.3
Napa, CA	0.1

Source: Intl. Trade Administration, U.S. Department of Commerce, "Metro Exports."

Nearly one in five manufacturers in the region exports directly, while many others sell components that are incorporated into exports. The region's merchandise exports are led by technology, including computers and electronic equipment, telecommunications equipment, environmental technology, medical technology and bio-pharmaceuticals.

Global demand for the Bay Area's technology products and services has been a driving factor behind the region's economic expansion for the last two decades and accounts for a large share of revenue for Bay Area technology companies. It should also be noted, however, that since 2001, California's once preeminent status as an exporter of technology products has slipped.

The state's $35.2 billion in technology goods exports in 2009 (primarily from the Bay Area) was 52 percent below its 2000 peak, and while California remains the nation's top tech goods exporter, according to TechAmerica Foundation it has lost significant ground to second-ranked Texas and third-ranked Florida.

Notwithstanding the prominence of technology in the region's export profile, the Bay Area sells a diverse range of products and services overseas, including apparel, consumer products, business and financial services, education services, engineering, urban planning and architectural design, processed food, and wine.

Global Sales by Bay Area Companies

In its last report on international trade (2008), the Economic Institute analyzed the share of revenues that leading Bay Area companies received from global sales compared to revenues from domestic sales. A number of the region's best-known companies were reviewed, from both technology and non-technology industries. The results showed a strong and growing orientation toward global markets, which in many cases outweighed domestic markets in importance. This pattern was not limited to information technology (hardware and software)—although it was most pronounced there—and also included biotechnology and other leading sectors such as medical devices and apparel.

For this report, the Economic Institute revisited those companies to see how the patterns identified in 2008 (and in previous reports in 2005 and 2003) had changed. A comparison found that of the 41 companies tracked, 23 saw both their international sales and their domestic sales fall, 4 saw their international sales fall while their domestic sales increased, 3 saw their domestic sales fall while their international sales increased, and 11 saw both international and domestic sales increase. These counts reflect the broad-based decline in both the global and domestic economies and the general stalling of economic activity in 2008–2009.

Of the companies tracked, 17 saw their *share* of revenues from domestic markets increase relative to international markets and 13 saw their share of revenues from international markets increase relative to domestic markets (11 saw the ratio of international to domestic sales remain the same). This represents a significant break with the historical trend (found in earlier Economic Institute studies) of business revenues shifting decisively from domestic to global sources. Again, this reflected economic dislocation across all markets.

2008 and 2009 Net Sales of Leading Bay Area Companies (Millions of Dollars)

Companies	Net Sales 2008		Net Sales 2009		Growth 2008–2009	
	U.S.	Intl.	U.S.	Intl.	U.S.	Intl.
Adobe Systems Incorporated	(Americas) $1,633	$1,957	(Americas) $1,383	$1,565	-15%	-20%
	45%	55%	47%	53%		-2
Advanced Micro Devices, Inc.	$737	$5,071	$704	$4,699	-4%	-7%
	13%	87%	13%	87%		0
Aglient Technologies	(Americas) $1,834	$3,940	(Americas) $1,495	$2,986	-18%	-24%
	32%	68%	33%	67%		-1
Apple Computer, Inc.	(Americas) $18,469	$14,010	(Americas) $19,870	$16,667	8%	19%
	57%	43%	54%	46%		3
Applied Materials, Inc.	$1,520	$6,609	$966	$4,048	-36%	-39%
	19%	81%	19%	81%		0
Ariba, Inc.	(Americas) $193	$135	(Americas) $208	$131	8%	-3%
	59%	41%	61%	39%		-2
Autodesk, Inc.	(Americas) $803	$1,368	(Americas) $782	$1,532	-3%	12%
	37%	63%	34%	66%		3
Cadence Design Systems, Inc.	$435	$604	$370	$483	-15%	-20%
	42%	58%	43%	57%		-1
Check Point Software Technologies, Inc.	$350	$459	$396	$528	13%	15%
	43%	57%	43%	57%		0
Chevron Texaco	$44,475	$97,188	$45,795	$100,827	3%	4%
	31%	69%	31%	69%		0.00
Cirrus Logic, Inc.	$68	$113	$53	$121	-22%	7%
	38%	62%	30%	70%		8
Cisco Systems, Inc.	(U.S. and Canada) $21,242	$18,298	(U.S. and Canada) $19,345	$16,772	-9%	-8%
	54%	46%	54%	46%		0
The Clorox Company	$4,239	$1,034	$4,422	$1,028	4%	-1%
	80%	20%	81%	19%		-1
Cypress Semiconductor Corporation	$225	$71	$207	$65	-8%	-8%
	76%	24%	76%	24%		0
eBay Inc.	$3,969	$4,571	$3,985	$4,742	0.40%	4%
	46%	54%	46%	54%		0

Companies	Net Sales 2008		Net Sales 2009		Growth 2008–2009	
	U.S.	Intl.	U.S.	Intl.	U.S.	Intl.
	(N. America)		(N. America)			
Electronic Arts	$1,942	$1,723	2,412	$1,800	24%	4%
	53%	47%	57%	43%		-4
Fair, Isaac & Company, Inc.	$498	$246	$430	$199	-14%	-19%
	67%	33%	68%	32%		-1
Gap Inc.	$3,840	$2,118	$3,508	$2,093	-9%	-1%
	64%	36%	63%	37%		1
Gilead Sciences, Inc.	$2.86	$2.48	$3.60	$3.41	26%	38%
	54%	46%	51%	49%		3
Google, Inc.	$10,635	$11,160	$11,193	$12,454	5%	12%
	49%	51%	47%	53%		2
Hewlett-Packard Company and Subsidiaries	$36,932	$81,432	$41,314	$73,238	12%	-10%
	31%	69%	36%	64%		-5
Intel Corporation	$5,462	$32,124	$5,280	$29,847	-3%	-7%
	15%	85%	15%	85%		0
JDS Uniphase Corporation	$803	$727	$592	$703	-26%	-3%
	52%	48%	46%	54%		6
KLA-Tencor Corporation	$519	$2,002	$372	$1,148	-28%	-43%
	21%	79%	24%	76%		-3
Levi-Strauss 7 Co. and Subsidiaries	$2,198	$2,202	$2,107	$1,999	-4%	-9%
	50%	50%	51%	49%		-1
LSI Logic Corporation	$737	$1,940	$519	$1,700	-30%	-12%
	28%	72%	23%	77%		5
National Semiconductor	$385	$1,500	$341	$1,119	-11%	-25%
	20%	80%	23%	77%		-3
Network Appliance, Inc.	$1,749	$1,554	$1,753	$1,652	0.23%	6%
	53%	47%	51%	49%		2
	(N. America)		(N. America)			
Novellus Systems, Inc.	$312	$699	$189	$450	-39%	-36%
	31%	69%	30%	70%		1
Oracle Corporation and PeopleSoft Inc.	$9,650	$12,780	$10,190	$13,062	6%	2%
	43%	57%	44%	56%		-1
Plantronics, Inc.	$521	$335	$490	$309	-6%	-8%
	61%	39%	61%	39%		0
	(Americas)		(Americas)			
Quantum Corporation	$645	$321	$533	$276	-17%	-14%
	67%	33%	66%	34%		1
Safeway	$37,661	$6,443	$34,980	$5,870	-7%	-9%
	85%	15%	86%	14%		-1

Companies	Net Sales 2008		Net Sales 2009		Growth 2008–2009	
	U.S.	Intl.	U.S.	Intl.	U.S.	Intl.
Seagate Technology LLC	$3,880	$8,828	$2,695	$7,110	-31%	-19%
	31%	69%	27%	73%		4
	(N. America)		(N. America)			
Sybase Inc.	$567	$564	$604	$566	7%	0.35%
	50%	50%	52%	48%		-2
	(N. America)		(N. America)			
3Com Corporation	$202	$1,092	$192	$1,124	-5%	3%
	16%	84%	15%	85%		1
Trimble Navigation Limited	$647	$683	$561	$565	-13%	-17%
	49%	51%	50%	50%		-1
URS Corporation	$9,178	$927	$8,451	$811	-8%	-13%
	91%	9%	91%	9%		0
Varian Medical Systems, Inc.	$964	$1,106	$1,068	$1,146	11%	4%
	47%	53%	48%	52%		-1
VeriSign Inc.	$563	$402	$593	$437	5%	9%
	58%	42%	58%	42%		0
Yahoo! Inc	$5,182	$2,026	$4,714	$1,746	-9%	-14%
	72%	28%	73%	27%		-1

Source: corporate annual reports.

Although large Bay Area companies that operate globally account for the lion's share of regional exports, overseas markets are important to many small- and medium-sized Bay Area businesses. Ninety-eight percent of exporters in the San Francisco Metropolitan Statistical Area (which encompasses San Francisco, Marin, and San Mateo counties), are small- and medium-sized companies. The comparable figure is 93 percent for the San Jose MSA (Santa Clara County), 98 percent for the Oakland MSA (Alameda and Contra Costa counties), 100 percent for the Santa Rosa MSA (Sonoma County), and 98 percent for the Vallejo-Napa-Fairfield MSA (Solano and Napa counties).

Sector Outlook

While the Bay Area is a highly diversified exporter of goods and services, three sectors that distinguish the region's export profile are information technology, education, and food and wine.

Semiconductors and Information Technology

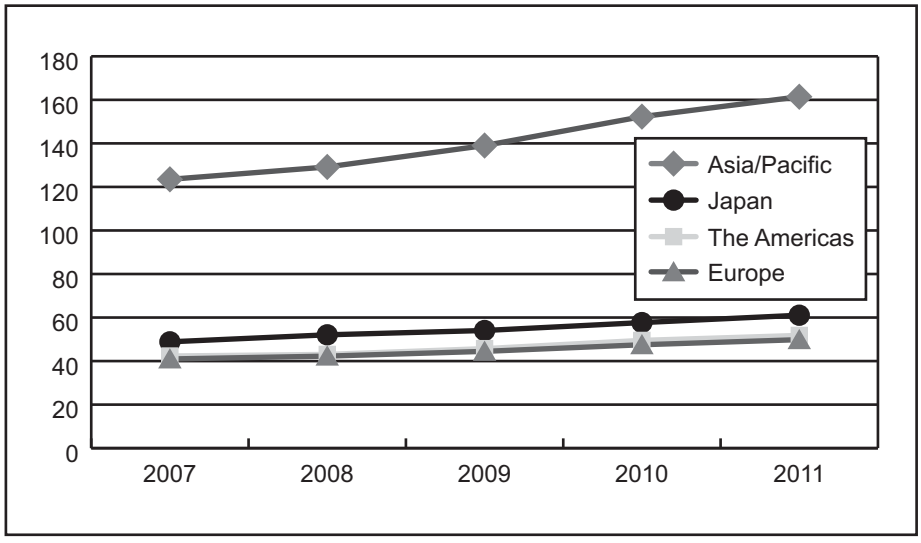
Because most IT (Information Technology) products incorporate semiconductors, semiconductor sales can be taken as a bellwether for information technology markets generally.

The global semiconductor market is expected to grow 30.6 percent in 2010, to $300.3 billion from a low of $229.9 billion in 2009. Only two segments escaped the worst of the 2009 market plunge. The wireless technology market fared relatively well, declining only 8 percent from 2008. The data processing segment also held up, declining just under 10 percent. The automotive electronics sector, however, shrank dramatically, down 26 percent from 2008.

The Semiconductor Industry Association (SIA) estimates 2009 sales by U.S. firms at $115 billion (approximately half of the world market), with 81 percent of those sales occurring abroad. Global semiconductor revenue in 2010 will likely exceed 2007's high of $274 billion, driven principally by renewed demand for consumer electronic products (especially in digital media processing, PCs, and wireless technology) and an ongoing recovery in the automobile market.

The Asia-Pacific region continues to be the primary regional driver of expansion for the industry. Shipments of semiconductors to the region fell by only 7 percent in 2009 (compared with Europe, where shipments dropped more than 20 percent). Semiconductors are the second largest U.S. export to China, which continues to propel growth in Asian markets, based largely on growth in the computer and telecommunications sectors. If recent trends hold, the Asia-Pacific market for semiconductors will continue to expand faster than other regional markets.

Semiconductor Sales Regional Market Forecast
(Shipments in Millions of Dollars)



Source: Semiconductor Industry Association, "Semiconductor Forecast," Nov. 2009.

Education

Education occupies a distinct place in the Bay Area's trade profile. (Education provided to foreigners is considered a service export.) With one of the nation's largest concentrations of institutions of higher learning, the region has a strong base with which to attract students from around the world. Overall, California hosted 93,124 foreign students in the 2008–2009 academic year out of a total of 671,616 in the U.S.

As home to six of the top ten California institutions with the largest foreign student populations, including UC Berkeley, UC Davis, and Stanford, the Bay Area hosts 4 percent of foreign students studying in the U.S. Foreign students contribute to the economy through expenditures on tuition and living expenses—$2.75 billion to the California economy as a whole in 2009—according to the Department of Commerce.

The leading countries of origin for foreign students studying in California are: South Korea (14.5 percent), China (12.7 percent), India (12.3 percent), Japan (8.9 percent), and Taiwan (6.8 percent), with the leading fields being business and management, engineering, fine and applied arts, math, and computer science.

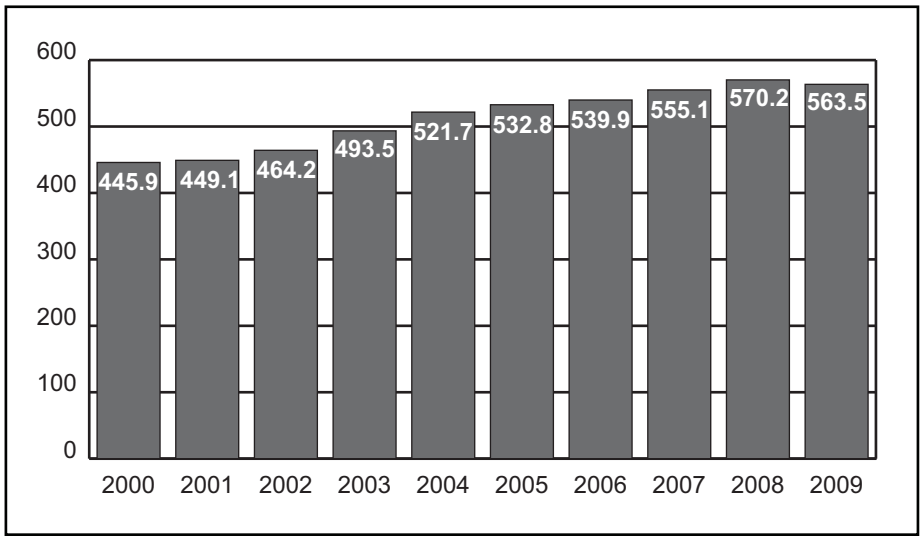
Food and Wine

California is the top producer and exporter of agricultural products in the nation. While California's agricultural products can be found in markets around the world, they are heavily concentrated in three markets—Canada, the European Union, and Japan—that absorb nearly half of the state's exports. China (including Hong Kong) and Mexico round out the top five markets.

California's agricultural exports are as diverse as their destinations. The state's top export commodities are almonds, dairy products, grapes, lettuce, and nursery products. A large proportion of the state's agricultural products are shipped through the Port of Oakland, linking the Bay Area to the Central Valley and the state's agricultural sector. In addition to agricultural commodities transiting the port, processed foods and beverages are also significant regional exports.

Wine is perhaps the most distinctive agricultural export from the region. California is the fourth largest wine producer in the world after France, Italy, and Spain. Wine is now the number one finished agricultural product in the state, and California wine—primarily from the Bay Area—accounts for over 90 percent of total U.S. wine production.

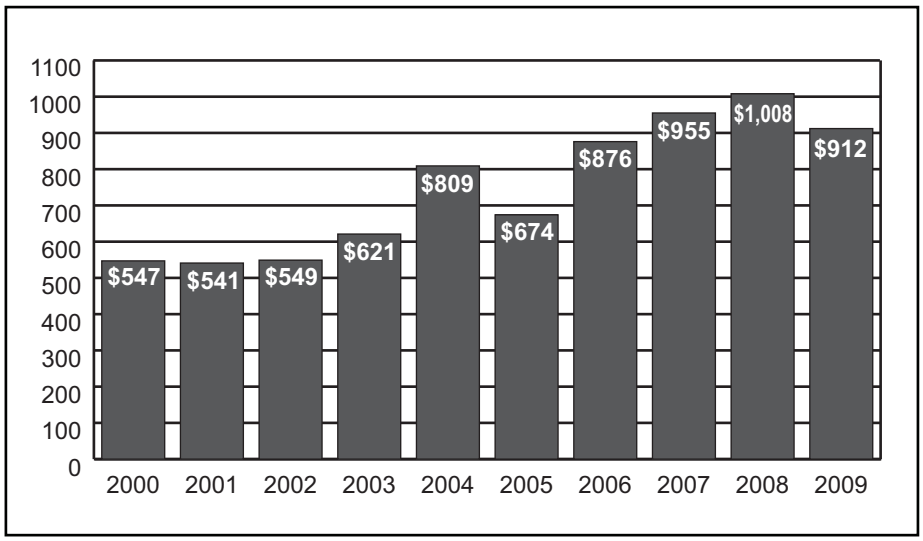
California Winery Shipments to U.S. and World Markets, 2000–2009
(Millions of Gallons)



Source: Gomberg-Fredrikson & Associates and Wine Institute.
(Includes table, champagne/sparkling, dessert, vermouth, other special natural, sale and others. Excludes foreign bulk shipped by California wineries.)

Reflecting the impact of the global recession, wine exports fell 9.5 percent in value to an estimated $911.8 million in 2009. Volume shipments dropped 14.9 percent to 417.9 million liters. The European Union is the leading market for U.S. wine, accounting for 42 percent of U.S. wine exports and revenues of $380 million in 2009. Sales to the region slid 21 percent in 2009 compared to 2008. Other leading markets (2009) include Canada ($242 million), Japan ($79 million), Hong Kong ($47 million) and China ($36 million).

U.S. Wine Exports, 2000–2009
(Millions of Dollars)



Source: Wine Institute.

U.S. Wine Export Markets, Value and Volume
Year to Date, January–December, 2009 and 2008

	Value (Thousands of Dollars)		Variance '09 v '08	Volume (Thousands of Liters)		Variance '09 v '08
Partner Country Ranked by 2009 Value	**2009**	**2008**	**Percent**	**2009**	**2008**	**Percent**
European Union Total	$380,225	$485,404	-21.7%	224,270	285,093	-21.3%
Canada	$241,571	$260,243	-7.2%	82,860	92,953	-10.9%
Japan	$78,525	$61,165	+28.4%	28,119	25,799	+9.0%
Hong Kong	$46,926	$25,579	+83.5%	15,547	10,095	+54.0%
China	$35,619	$21,709	+64.1%	11,634	10,203	+14.0%
Switzerland	$18,402	$18,253	+0.8%	8,665	7,111	+21.9%
Mexico	$11,919	$23,085	-48.4%	6,221	12,123	-48.7%
South Korea	$9,750	$12,816	-23.9%	4,674	4,915	-4.9%
Singapore	$8,334	$11,041	-24.5%	2,639	3,952	-33.2%
Russia	$7,448	$7,205	+3.4%	1,683	1,899	-11.4%
Other Countries	$73,100	$81,077	-9.8%	31,560	36,713	-14.0%
World Total	**$911,819**	**$1,007,577**	**-9.5%**	**417,872**	**490,856**	**-14.9%**

Source: Wine Institute using data from the U.S. Dept of Commerce, STAT-USA,
© California Wine Export Program.
(Preliminary numbers. History revised. Statistics may not convert exactly due to rounding.
All totals include re-exported wines.)

5

Trade Gateways

Bay Area ports and airports are among the largest in the nation and serve as major gateways for trade. Trade volumes through the region's ports and airports fell during the recession but are recovering. The Port of Oakland is investing in infrastructure upgrades that will enable it to better compete with other West Coast ports. All California ports are challenged, however, by the trend of Asian shippers to use all-water routes to Midwest and East Coast markets instead of intermodal shipment through California.

San Francisco Customs District Export and Import Volumes (Billions of Dollars)

	2005	2006	2007	2008	2009
Exports	36.6	41.4	43.3	43.7	37.0
Imports	62.4	69.7	68.9	71.6	49.7

Source: WISER, with final calculations by Beacon Economics.
(Customs District data tracks goods transiting regional trade gateways, including imports destined for other regions and exports originating outside the region.)

California is home to four of the top fifteen foreign trade gateways in the U.S., measured by value of shipments, making it a vital point of connection with the international economy and with the Asia-Pacific region in particular. Imports account for over 70 percent of shipping through California gateways. Although ports handle the largest share of foreign trade by volume (particularly agriculture), California's two largest airports (Los Angeles and San Francisco) play a more important role in moving high-value exports.

With the decline in global trade in 2009, trade passing through California's gateways also fell. This also exacerbated a trend in recent years in which California ports and airports have been losing market share. A major factor behind this loss is the growing trend of shippers to choose all-sea routes directly from Asia to Gulf and East Coast ports, avoiding congested California ports and trans-shipment across the United States. From September 2008 to September 2009, the market share of West Coast ports fell from 50.3 percent to 50.1 percent, and although East Coast ports also lost ground (from 42.7 percent in 2008 to 41.9 percent in 2009), Gulf ports saw their market share increase from 6 percent to 8.1 percent.

Airports

Beyond facilitating the international flow of goods and people, the Bay Area's airports also play a major role in supporting service exports such as business consulting, education and tourism. The San Francisco (SFO), Oakland (OAK) and San Jose (SJC) international airports together handle almost 55 million passengers annually. In 2009, SFO served 68 percent of the region's air passengers. While all three airports play critical roles in the region's transportation networks, SFO is the Bay Area's primary portal for global traffic, with nonstop links to more than 30 international cities on 30 international carriers.

California airports handle trade with a significantly higher value per kilogram than other U.S. airports. San Francisco International Airport, in particular, has a value to weight ratio more than twice that of most airports in the country. Goods shipped through SFO are dominated by high technology products such as computers, semiconductors, electronic equipment, medical equipment and telecommunications equipment. Because of its geographic location, SFO connects naturally to Asian markets. The primary origin and destination countries on nonstop international flight segments to and from SFO are Japan, South Korea and Taiwan.

SFO ranks as the fourth largest airport in the nation by cargo value, with 41 percent of the Bay Area's total air cargo market and 94 percent of its international air cargo market. OAK handles 52 percent of the region's total air cargo, with domestic cargo accounting for the lion's share (OAK is the regional base for FedEx and UPS), while SJC does not currently handle significant cargo volumes. Though much smaller than SFO's, OAK's export profile is similar, with the largest category being technology exports led by computer and office equipment, measuring and control devices, and medical supplies.

Tracking the global recession, international cargo activity (in metric tons) at SFO fell 15% from 2008 to 2009, from 253,308,000 to 215,020,000. However, international volume at regional airports (principally SFO) is forecast to increase sharply in coming years. Total cargo volume—tied closely to economic growth—is expected to increase 92 percent by 2035. SFO's market share should rise to 51 percent while OAK's should fall to 43 percent, due to strong growth in international traffic. Increases in international travel should cause passenger traffic at SFO to grow 67 percent to 101.3 million in 2035.

Ports

Marine ports are major gateways for the surface shipping of commodities and manufactured goods. Ports contribute to the local, regional and national economies by providing employment, tax revenues, and revenues to private businesses involved in shipping and receiving activities. According to the California Marine and Intermodal Transportation System Advisory Council, more than 40 percent of all U.S. containerized shipping and almost 30 percent of the nation's exports flow through California's major ports (Los Angeles, Long Beach and Oakland), reflecting strong trade with Asia.

In 2009, the Port of Oakland processed two million shipping containers (a decline of 8.2 percent from 2008). Oakland ranks as the fifth largest container facility in the United States, making San Francisco Bay among the three primary West Coast gateways for U.S. containerized cargo, together with Los Angeles/Long Beach in Southern California and Puget Sound in the Pacific Northwest.

The Bay Area has five significant ports: Benicia, Oakland, Redwood City, Richmond and San Francisco. These facilities handle a diverse range of products. Redwood City focuses primarily on construction materials, while Richmond and Benicia handle petroleum products, sugar and automobiles. The Port of Oakland dominates containerized cargo, handling 99 percent of containers passing through Northern California. Because of its close proximity to the Central Valley and Northern California wine country, Oakland is an important gateway for agricultural exports from the state.

Maritime trade can be measured by weight (revenue tonnage) or containers (twenty-foot equivalent units, or TEUs). This can reflect different kinds of cargoes: dry bulk (loaded or unloaded via conveyor belts), liquid bulk (shipped in tanks, such as petroleum or vegetable oil), neo-bulk (such as automobiles, scrap and steel, or newsprint), break bulk (handled in packaged units), and general cargo (shipped in containers). In 2009, as the global recession hit its trough, total cargo (metric tons) handled by the Bay Area's five ports fell 10 percent. This broke a longstanding trend of trade growth; since 1994 maritime cargo through the region has seen net growth of 20 percent.

By whatever measure, Oakland dominates Bay Area shipping and, like other ports, its business was seriously impacted by the recession. Revenue tonnage—merchandise weight in metric tons—fell 1.9 percent, and container volume fell 1.3 percent. This was a better performance than in 2008 (when revenue tonnage and container volume fell 3.5 percent and 2.8 percent, respectively), but substantially worse than in 2007 (when both numbers were positive at 3 percent and 3.3 percent).

While container traffic (both exports and imports) fell sharply in 2008 and 2009, Oakland was buffered from the worst of the downturn by the fact that it has historically relied less on imports and more on exports than other California ports, and exports fell less than imports. With the global economy recovering, container volumes have staged a recovery from their low in early 2010, rising steadily through mid-year. TEUs volume is projected by the Bay Area Seaport Plan to grow nearly 15 percent by the end of 2010, compared to the same period in 2009.

About 81 percent of the Port of Oakland's trade is with Asia; 3 percent with Europe; 2 percent with Australia, New Zealand and island economies in the South Pacific; and 14 percent is domestic.

Revenue Tonnage, Northern California Ports, 2009

	Total Revenue Tonnage				Containers		
	Total	**% of Coast**	**% Chg from 2008**		**Total (TEUs)**	**% of Coast**	**% Chg from 2008**
San Francisco	617,749	0.2%	-23.8%		30	<0.1%	400.0%
Redwood City	292,751	0.1%	-68.9%		–	–	–
Oakland	27,871,519	9.4%	-1.9%		1,612,297	12.3%	-1.3%
Richmond	628,828	0.2%	-49.6%		–	–	–
Crockett	732,675	0.2%	-3.6%		–	–	–
Benicia	1,005,799	0.3%	-57.2%		–	–	–
Port Chicago	54,606	<0.1%	85.2%		3,069	<0.1%	80.0%
Pittsburg	149,154	0.1%	-34.3%		–	–	–
Stockton	971,805	0.3%	-23.9%		–	–	-100.0%
West Sacramento	436,056	0.1%	-21.0%		–	–	-100.0%
Eureka	10,086	<0.1%	-93.9%		1	<0.1%	100.0%
Area Total	**32,771,028**	**11.1%**	**-10.9%**		**1,615,397**	**12.3%**	**-1.2%**
	General Cargo				**Automobiles and Trucks**		
	Total	**% of Coast**	**% Chg from 2008**		**Total**	**% of Coast**	**% Chg from 2008**
San Francisco	10,597	0.2%	-87.4%		–	–	–
Redwood City	–	–	–		–	–	–
Oakland	10,819	0.2%	-61.2%		451,651	3.1%	-26.4%
Richmond	–	–	-100.0%		307,645	2.1%	-66.1%
Crockett	–	–	–		–	–	–
Benicia	2,897	0.1%	65.8%		904,413	6.3%	-59.9%
Port Chicago	2,433	0.1%	383.7%		–	–	–
Pittsburg	–	–	–		–	–	–
Stockton	267,057	5.6%	-34.8%		–	–	–
West Sacramento	299,751	6.3%	0.2%		–	–	–
Eureka	5,146	0.1%	-96.4%		–		–
Area Total	**598,700**	**12.5%**	**-38.1%**		**1,663,709**	**11.5%**	**-55.9%**
	Bulk Cargo				**Lumber and Logs**		
	Total	**% of Coast**	**%Chg from 2008**		**Total**	**% of Coast**	**% Chg from 2008**
San Francisco	606,642	1.1%	-16.6%		–	–	–
Redwood City	292,751	0.6%	-68.9%		–	–	–
Oakland	–	–	–		–	–	–
Richmond	321,183	0.6%	-5.6%		–	–	–
Crockett	732,675	1.4%	-3.6%		–	–	–
Benicia	98,489	0.2%	6.1%		–	–	–
Port Chicago	–	–	–		–	–	–
Pittsburg	149,154	0.3%	-34.3%		–	–	–
Stockton	704,748	1.3%	-18.4%		–	–	-100.0%
West Sacramento	136,305	0.3%	-45.6%		–	–	–
Eureka	–	–	–		4,923	0.5%	-77.7%
Area Total	**3,041,947**	**5.8%**	**-27.7%**		**4,923**	**0.5%**	**-80.1%**

Source: Pacific Maritime Association, "2009 Annual Report."

In 2009, the Port of Oakland completed a decade-long, $432 million project to deepen its shipping channel to -50 feet, a critical initiative intended to prepare the Port for the next generation of container ships. The U.S. Customs and Border Protection Agency predicts that the volume of imported cargo flowing through the nation's ports will triple by 2020, with much of the increased volume coming from new, larger container vessels. The Port expects the project to yield $1.9 billion in additional annual business revenue and $62 million in increased annual local taxes. The nearly 13 million cubic yards of sediment removed from the channel have been used to restore wetlands and upland habitat in Middle Harbor Shoreline Park and other marsh areas in Marin and Sonoma counties.

Anticipating further growth, the Port has opened two new terminals featuring state-of-the-art cranes capable of handling over 30 containers per hour, and is planning to develop 168 acres of the decommissioned Oakland Army Base into facilities for the Port's maritime operations, including a new rail terminal, roads, warehouses, and other goods movement support space. In 2009, the Port also announced an agreement with Ports America to upgrade and develop five container berths through a fifty-year concession and lease agreement. The plan includes investment of $150 million to upgrade over 160 acres of terminal space.

The Port has also negotiated a strategic alliance with China Merchants, a major investor in Chinese ports, which is expected to help drive cargo volumes between Oakland and China and enable investment in the Port's facilities and infrastructure.

Based on activity at the Port of Oakland, adjacent areas of the Central Valley (Stockton, Tracy, Lathrop) are developing as commercial warehousing and distribution centers, bringing much-needed jobs to the region.

In recent years, congested conditions at Southern California ports have created an opportunity for Oakland—which still has unused capacity—to capture additional traffic, including visits by ships making Oakland their first port of call (most ships arriving in California currently make Los Angeles/Long Beach their first port of call and continue afterward to Oakland). The Port of Oakland has recently gained market share from other West Coast ports, increasing from 8 percent in 2007 to 9.7 percent in 2008 and 11.95 percent in 2009.

California's three major ports serve national as well as state and regional markets, carrying approximately 47 percent of imports into the United States. The ports of Los Angeles and Long Beach alone account for 35 percent of the total. Volume has been particularly driven by trade with China, which grew at an average annual rate of 15 percent from 1995 to 2008. Seaborne imports from Asia are shipped primarily through California ports to the Midwest and the East Coast; California ports are also the primary departure point for exports to Asia. Oakland competes for this business with the ports of Los Angeles and Long Beach and, to a lesser degree, with the ports of Seattle and Vancouver and newly developed ports in British Columbia and Mexico.

The growth of all-water service from Asia to Gulf and East Coast ports since 2002, and particularly since 2006, is directly challenging the West Coast's market share. This is reflected

in a decline of inter-modal cargo moving through California ports. Also fueling this shift is the development of new terminal capacity at Gulf and East Coast Ports, and a trend by major importers to develop distribution centers there. The Georgia Ports Authority has recently attracted new distribution centers totaling nearly 20 million square feet, and similar developments are underway in Virginia, Houston and New York. The planned expansion of the Panama Canal in 2014 will further increase competitive pressure on California's ports, as a growing number of vessels may choose to bypass the West Coast in favor of direct shipments through Panama.

California ports as a group face new state air quality regulations that will significantly increase operating costs and thereby affect their competitiveness. The table below summarizes the most recent port-related environmental regulations.

California Air Resources Board Port-Related Regulations

ARB Regulation	Effective Date	California Business Cost
Cargo Handling Equipment	2007	$71 million
Commercial Harbor Craft	2009	$140 million
Oceangoing Vessel Cold-Ironing	2009	$1.8 billion
Oceangoing Vessel Fuel Use	2009	$1.5 billion
Port Drayage Trucks	2010	$1.5 billion
Total	**-**	**$5.011 billion**

Source: California Air Resources Board.

Other Goods Movement Infrastructure

International trade is the fastest-growing component of regional goods movement, and containerized cargo is the fastest-growing segment of marine commerce, with volume expected to triple by 2030. This places a growing burden on regional transportation infrastructure.

The infrastructure that moves freight is important not only to international trade but also to regional mobility, as trucks account for a growing volume of traffic on Bay Area roads and bridges. Trucks carry the largest share of regional freight by both volume and value—about 80 percent. According to the Metropolitan Transportation Commission, 46 percent of freight movement in the Bay Area stays within the region.

Congestion is a concern for both ports and airports, impacting traffic and the reliability of trip times for shippers. This is the case not just on port and airport property, but also on Bay Area roadways. In future years, the number of vehicle miles traveled by trucks within the region is projected to rise dramatically.

The Port of Oakland has played a key role in developing a shared Northern California vision for improving goods movement infrastructure. Supported by local and regional transportation planning agencies, the vision recognizes two primary infrastructure elements essential to the

region's goods movement capacity. The Central Corridor extends from the Port of Oakland, along Interstate 80 and transcontinental rail tracks, and over Donner Pass in the Sierra Nevada Mountains. While truck traffic along this corridor is important, it is transcontinental railroad traffic that largely defines it. The Altamont Corridor extends from the Port of Oakland, over the Altamont Pass, and into the San Joaquin Valley. This corridor, serving relatively shorter trips supporting inland distribution centers and agricultural exports from the Central Valley, is dominated by truck traffic. In both the Central and Altamont Corridors, infrastructure capacity affects throughput and reliability, impacting the Port's ability to compete.

Recent improvements have expanded the cargo-bearing capacity of the Central Corridor. In 2009, after a year-long renovation project, the Donner Pass rail tunnel opened to double-stack and tri-level traffic. The overland route over Donner Pass had previously been unable to accommodate double-stack intermodal containers and tri-level auto rail cars due to height restrictions. The renovation project enlarged fifteen tunnels between Truckee and Rocklin and upgraded thirty miles of track. Customers will benefit from improved transit times and the ability to run longer trains: the improvements to the Donner route will enable the operation of 9,000 foot trains, a 58 percent increase over the current 5,700 foot maximum.

The Metropolitan Transportation Commission has outlined an investment strategy aimed at maintaining the Bay Area's highway infrastructure under increased truck volume. The strategy's main features are summarized below.

Metropolitan Transportation Commission
Strategic Investment Strategy

Highway Corridor Efforts
I-880 Corridor: bottleneck capacity improvements, design deficiency improvements
I-580: operational analysis, strategic investments through local initiatives
I-80: corridor study
Freeway Performance Initiative: Identify and prioritize a list of strategies and projects that will improve system performance through system management and by closing key gaps in freeway infrastructure to address bottlenecks effectively

Inter-Regional Gateway Strategy
I-580: construct truck climbing lanes
I-80/I-680/SR-12: interchange improvements and truck scale relocation

Source: Metropolitan Transportation Commission.

Northern California Green Trade Corridor

On October 26, 2010, federal, state and local officials broke ground at the Port of Stockton on California's new Green Trade Corridor, a project designed to help produce a more green and efficient U.S. transportation system. A $30 million federal Transportation Investment Generating Economic Recovery (TIGER) grant will help develop a waterborne shipping route between Oakland, Stockton and West Sacramento, creating a new transportation alternative to conventional freight and cargo movement in Northern California. Under the Green Trade Corridor plan, barges will move cargo along the inland waterway system from Stockton and West Sacramento to Oakland, for ultimate shipment to Asia. Currently, these trade cargoes move inland almost exclusively by truck or rail.

Funding under the grant will support: construction of a cargo staging area at the Port of Stockton and purchase of a barge and two new cranes; construction of a distribution center and purchase of a crane in West Sacramento, where agricultural and other products will transition to larger containers for water shipment; and installation of electrical supply at ship berths in Oakland, which will allow operators to shut down an ocean-going vessel's diesel engines while in port. In addition to improved logistics, dockside electricity and lower truck volumes are expected to benefit the region through lower air emissions.

Proposition 1B

In 2006, California voters approved Proposition 1B, a $19.9 billion transportation infrastructure bond. Proposition 1B includes a $2 billion Trade Corridors Improvement Fund (TCIF) to be allocated to various goods movement infrastructure projects. In 2008, Caltrans added additional funds from the State Highway Account to the TCIF program. This brought the total funding available to $3 billion. The table below outlines by geographic location the funding ranges adopted by the California Transportation Commission in 2007.

California Trade Corridors Regional Funding Ranges (Millions of Dollars)

Region	Low	High
Los Angeles/Inland Empire	$1,500	$1,700
Bay Area/Central Valley	$640	$840
San Diego	$250	$400
Other Corridors	$60	$80
Administrative Fees (Dept. of Finance)	$40	$40
Total	**$2,490**	**$3,060**

Source: Metropolitan Transportation Commission, "Goods Movement Initiatives 2009 Update," 2009.

Regional agencies in the Bay Area and Northern California have developed a list of fifteen specific projects to be addressed by TCIF funds. The projects below were chosen based on the degree to which each would enhance mobility in the region's two primary corridors (Central and Altamont).

Northern California Primary Trade Corridors TCIF Projects (Thousands of Dollars)

Project Name	County	TCIF Request	TCIF Programmed
Central Corridor			
Track & tunnel improvements, Donner Summit*	Placer	$43,000	$43,000
Sacramento intermodal track relocation	Sacramento	$20,000	$20,000
I-80 eastbound Cordelia truck scales relocation	Solano	$49,800	$49,800
Altamont Corridor			
I-880 reconstruction	Alameda	$73,000	$73,000
I-580 eastbound truck climbing lane	Alameda	$64,300	$64,300
Tehachapi trade corridor rail improvements	Kern	$54,000	$54,000
Shafter intermodal rail facility	Kern	$15,000	$15,000
SR-4 West-Crosstown freeway extension	San Joaquin	$96,800	$96,800
San Joaquin Valley short haul rail project	Stanislaus	$26,000	$22,500
ACE right of way purchase for short haul rail	San Joaquin	$75,000	$0
* Project withdrawn from the TCIF program by Caltrans and Union Pacific			

Source: Metropolitan Transportation Commission,
"Goods Movement Initiatives 2009 Update," 2009.

Strategic Growth Plan

The state's Strategic Growth Plan (2007) calls for $107 billion in new transportation infrastructure investment by 2017. Anticipated funding includes $47 billion from existing transportation funding sources such as the gas tax, sales tax on gasoline, and federal funds. A total of $40.1 billion in new funding is projected to come from other sources and from leveraging existing funds to attract increased federal, private, and local funding. The remaining $19.9 billion will come from general obligation bonds. The table below summarizes the distribution of funds specified in the Strategic Growth Plan.

Strategic Growth Plan Investment in Highway Safety, Traffic Reduction, Air Quality, and Port Security (Billions of Dollars)

Category of Investment	Total Bonds
Corridor mobility improvement account	$4.5
State Route 99 corridor	$1.0
Trade corridors/ports infrastructure, security, and air quality	$3.1
School bus retrofit for air quality	$0.2
State transportation improvement program (STIP) augmentation	$2.0
Public transportation modernization, improvement, and service enhancement	$4.0
Transit system safety, security, and disaster response account	$1.0
State-local partnership program account	$1.0
Local bridge seismic retrofit	$0.125
Highway-railroad crossing safety account	$0.25
State highway operation and protection program (SHOPP)	$0.75
Local street and roads, congestion relief, and traffic safety account of 2006	$2.0
Total	**$19.9**

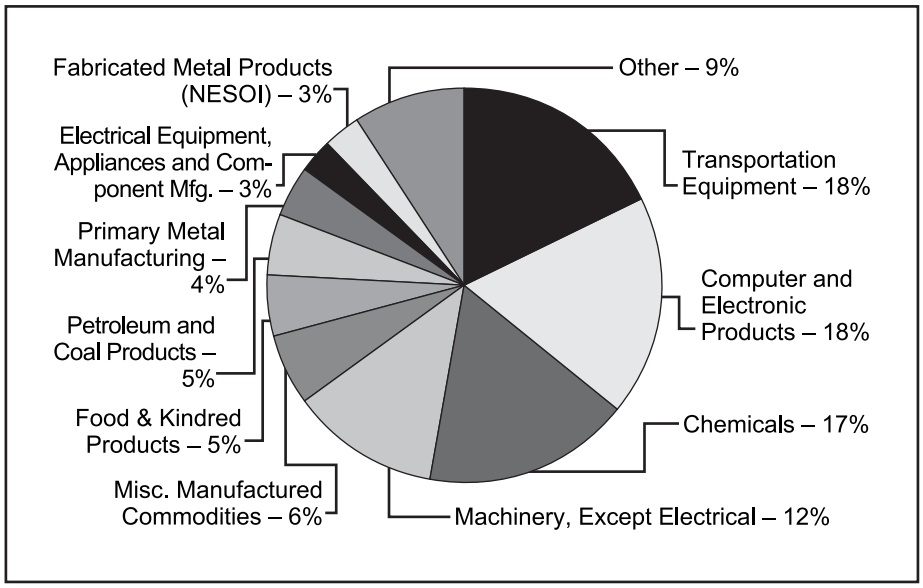
Source: California Department of Transportation

Appendices

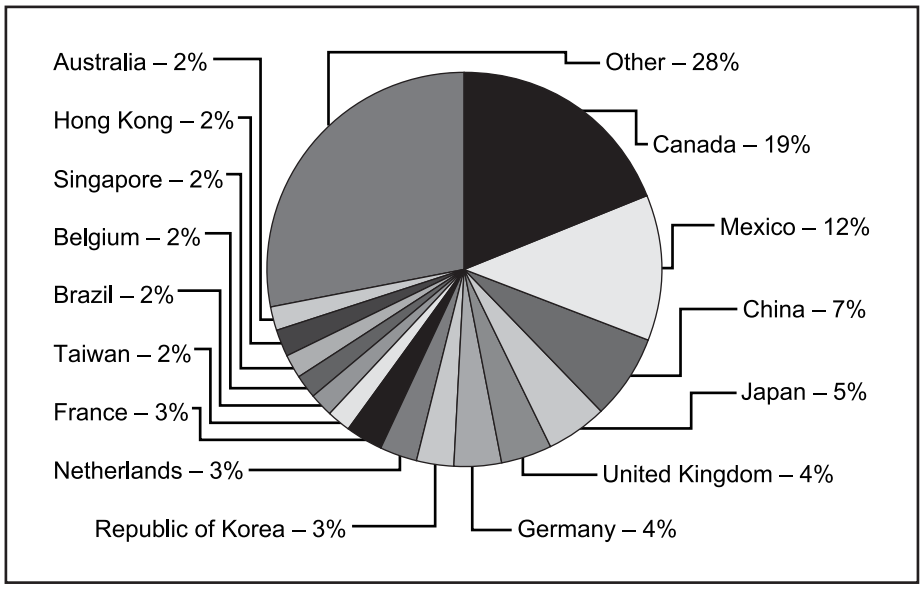
Appendix I

U.S. Trade Patterns

U.S. Top Manufactured Exports by Dollar Value, 2009



U.S. Top Export Markets by Dollar Value, 2009



Source: WISER, with final calculations by Beacon Economics.

U.S. International Trade in Goods and Services, Balance of Payments Basis (Millions of Dollars)

	Exports			Imports			Trade Balance		
Year	Total	Goods	Services	Total	Goods	Services	Total	Goods	Services
2000	-378,780	-446,233	67,453	1,070,597	784,181	286,416	1,449,377	1,230,413	218,964
2001	-364,393	-421,980	57,586	1,004,896	730,277	274,618	1,369,289	1,152,357	217,032
2002	-420,524	-475,345	54,821	977,470	696,268	281,202	1,397,994	1,171,613	226,381
2003	-494,183	-541,544	47,361	1,019,897	728,258	291,639	1,514,080	1,269,802	244,278
2004	-609,345	-665,631	56,286	1,158,576	819,870	338,707	1,767,921	1,485,501	282,420
2005	-714,176	-783,801	69,625	1,281,186	909,016	372,171	1,995,362	1,692,817	302,546
2006	-759,240	-839,456	80,216	1,452,783	1,035,868	416,916	2,212,023	1,875,324	336,700
2007	-702,099	-823,192	121,093	1,648,665	1,160,366	488,299	2,350,763	1,983,558	367,206
2008	-698,802	-834,652	135,850	1,839,012	1,304,896	534,116	2,537,814	2,139,548	398,266
2009	-374,908	-506,944	132,036	1,570,797	1,068,499	502,298	1,945,705	1,575,443	370,262

Source: U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis.
(Details may not equal totals due to seasonal adjustments and rounding.)

U.S. Manufactured Exports, 2009 (Millions of Dollars)

Product description	Dollar Value
Total for All Industries	916,726.12
Transportation Equipment	165,310.04
Computer and Electronic Products	160,635.57
Chemicals	152,009.82
Machinery (except Electrical)	113,333.61
Miscellaneous Manufactured Commodities	52,782.80
Food and Kindred Products	44,675.27
Petroleum and Coal Products	41,651.92
Primary Metal Manufacturing	40,672.77
Electrical Equipment, Appliances, and Component Manufacturing	31,427.53

Source: WISER, with final calculations by Beacon Economics.

Appendix II

California Trade Patterns

U.S. Exports to All Countries, By State, 2007–2009
In Rank Order by 2009 Value (Millions of Dollars)

	Export Value 2007	Export Value 2008	Export Value 2009	Percent Share of Total U.S. Exports 2009	Percent Change 2008–2009
All States	**1,237,658**	**1,292,911**	**1,058,409**	**100%**	**-18.1%**
Texas	168,229	192,222	162,995	15.4%	-15.2%
California	**134,319**	**144,806**	**120,080**	**11.4%**	**-17.1%**
New York	71,116	81,386	58,743	5.6%	-27.8%
Washington	52,089	54,498	51,851	4.9%	-4.9%
Illinois	48,896	53,677	41,626	3.9%	-22.5%
Florida	44,858	54,238	46,888	4.4%	-13.6%
Michigan	44,555	45,136	32,655	3.1%	-27.7%
Ohio	42,562	45,628	34,104	3.2%	-25.3%

Source: U.S. Census Bureau, Exports and Imports,
"State by Top 25 Commodities and Countries: 2006-2009," July 2010.

California Goods Exports by Region and Top Countries, 2009

Region	2009 Level ($ Millions)	2009 Share (Percent)	2008–2009 Growth (Percent)	1999–2009 Average Annual Growth Rate (Percent)
Asia (All Asia excluding Turkey)	52,087	43.35%	-15.15%	2.2%
NAFTA partners	31,765	26.44%	-17.11%	2.0%
Europe (All Europe including Turkey)	25,234	21.00%	-21.78%	0.7%
Latin America and Caribbean	5,833	4.86%	-23.39%	5.7%
Africa	1,087	0.90%	-17.47%	6.6%
Top 15 Export Destinations				
Mexico	17,485	14.55%	-17.03%	2.1%
Canada	14,280	11.89%	-14.59%	2.6%
Japan	10,905	9.08%	-20.00%	1.4%
China	9,743	8.11%	-16.51%	-1.7%
Korea, Republic of	5,945	4.95%	-11.28%	15.1%
Hong Kong	5,804	4.83%	-23.26%	1.1%
Germany	4,442	3.70%	2.03%	4.8%
Taiwan	4,121	3.43%	-22.86%	0.3%
United Kingdom	3,916	3.26%	-19.97%	-2.7%
Netherlands	3,567	2.97%	-29.28%	-2.6%
Australia	3.445	2.87%	-17.96%	-1.1%
Singapore	3,238	2.70%	8.47%	4.7%
France	2,317	1.93%	-20.72%	-3.5%
India	2,182	1.82%	-14.21%	0.3%
Brazil	2,051	1.71%	-6.31%	18.0%
All countries	120,142	100.00%	-11.66%	5.2%

Source: WISER, with final calculations by Beacon Economics.
(Sum of individual country figures may not equal region totals because of rounding.)

Share of Exports for Top 10 Goods Exporting Sectors, 2009

Sector	California (Percent)	Rest of U.S. (Percent)
Computer and Electronic Products	29.3%	15.2%
Transportation Equipment	10.7%	15.6%
Machinery (except Electrical)	8.9%	10.7%
Chemicals	8.5%	14.4%
Miscellaneous Manufactured Commodities	7.6%	5.0%
Agricultural Products	6.5%	4.8%
Food and Kindred Products	5.4%	4.2%
Waste and Scrap	3.3%	2.1%
Electrical Equipment, Appliances, and Component Manufacturing	2.8%	3.0%
Fabricated Metal Products (NESOI)	2.6%	2.9%
Total	**85.6%**	**77.9%**

Source: WISER, with final calculations by Beacon Economics.

California Goods Export Destinations by Share, 2009

	Export Share (Percent)		Rank	
Country	California	Rest of U.S.	California	Rest of U.S.
Mexico	14.55%	12.20%	1	2
Canada	11.89%	19.37%	2	1
Japan	9.08%	4.84%	3	4
China	8.11%	6.58%	4	3
Korea, Republic of	4.95%	2.71%	5	8
Hong Kong	4.83%	2.00%	6	13
Germany	3.70%	4.10%	7	6
Taiwan	3.43%	1.74%	8	15
United Kingdom	3.26%	4.33%	9	5
Netherlands	2.97%	3.06%	10	7
Australia	2.87%	1.85%	11	14
Singapore	2.70%	2.11%	12	11
France	1.93%	2.51%	13	9
India	1.82%	1.56%	14	17
Brazil	1.71%	2.48%	15	10

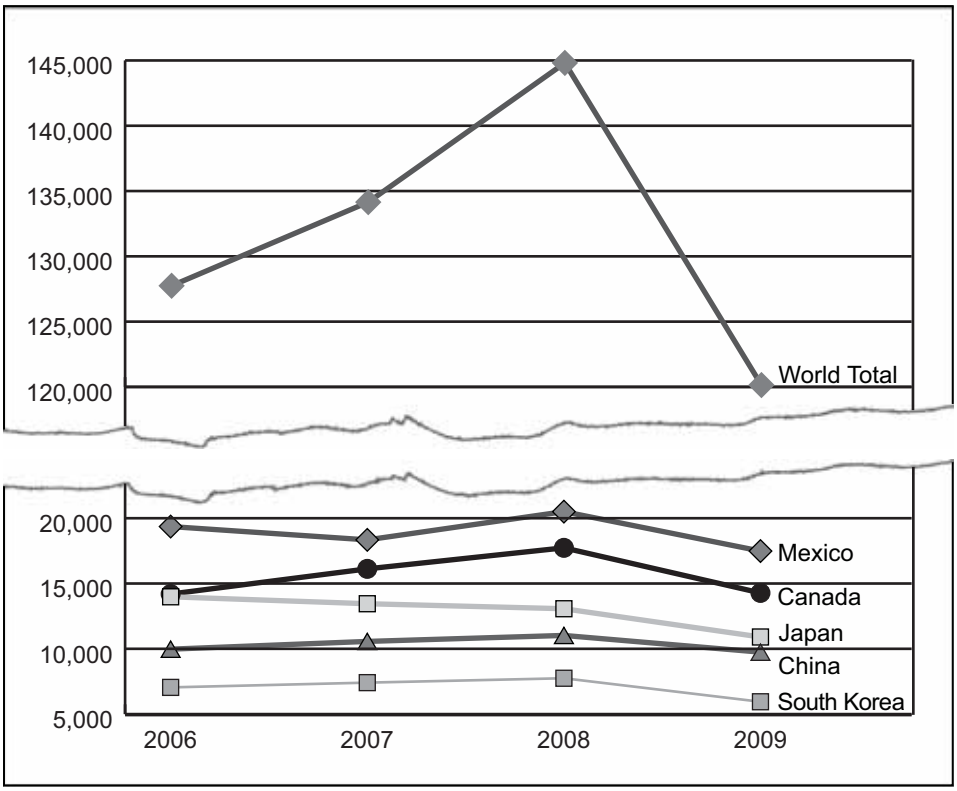
Source: WISER, with final calculations by Beacon Economics.

Exports to California's Top 5 Export Markets, 2007–2009

Top Five Sectors	2007	2008	2009	2008–2009 Percent Change
	($ Billions)			
Mexico				
Computer and Electronic Products	4.4	4.5	4.5	0.95%
Machinery, Except Electrical	1.8	2.1	2.0	-5.71%
Transportation Equipment	2.1	2.2	1.6	-30.25%
Chemicals	1.0	1.2	1.1	-7.67%
Plastics and Rubber Products	1.0	1.0	1.0	-2.13%
Total Top Five	**10.4**	**11.0**	**10.1**	**-7.87%**
Total All Sectors	**18.3**	**20.5**	**17.5**	**-14.59%**
Canada				
Computer and Electronic Products	4.56	4.72	3.70	-21.62%
Agricultural Products	1.77	1.95	1.96	0.25%
Transportation Equipment	2.40	2.52	1.53	-39.35%
Miscellaneous Manufactured Commodities	1.17	1.07	0.96	-9.96%
Food and Kindred Products	0.78	0.91	0.85	-6.01%
Total Top Five	**10.69**	**11.17**	**9.01**	**-19.41%**
Total All Sectors	**16.27**	**17.85**	**14.28**	**-20.0%**
Japan				
Computer and Electronic Products	3.55	3.23	2.63	-18.41%
Transportation Equipment	1.82	1.97	1.49	-24.41%
Food and Kindred Products	1.11	1.14	1.37	19.68%
Chemicals	0.92	1.04	1.01	-2.88%
Machinery (except Electrical)	1.91	1.33	0.79	-40.84%
Total Top Five	**9.31**	**8.71**	**7.29**	**-16.35%**
Total All Sectors	**13.46**	**13.06**	**10.91**	**-16.51%**
China				
Computer and Electronic Products	3.74	3.35	2.95	-12.11%
Waste and Scrap	1.91	2.21	2.12	-4.31%
Machinery (except Electrical)	1.31	1.22	0.93	-23.96%
Transportation Equipment	0.89	1.02	0.84	-17.38%
Chemicals	0.68	0.85	0.76	-10.6%
Total Top Five	**8.52**	**8.65**	**7.59**	**-12.25%**
Total All Sectors	**10.57**	**10.98**	**9.74**	**-11.28%**
Republic of Korea				
Computer and Electronic Products	2.26	1.80	1.50	-17.11%
Machinery (except Electrical)	1.40	1.23	0.95	-23.38%
Waste and Scrap	0.66	1.10	0.66	-39.32%
Transportation Equipment	0.62	0.73	0.47	-35.06%
Food and Kindred Products	0.43	0.58	0.40	-30.7%
Total Top Five	**5.36**	**5.44**	**3.98**	**-26.85%**
Total All Sectors	**7.41**	**7.75**	**5.94**	**-23.26%**

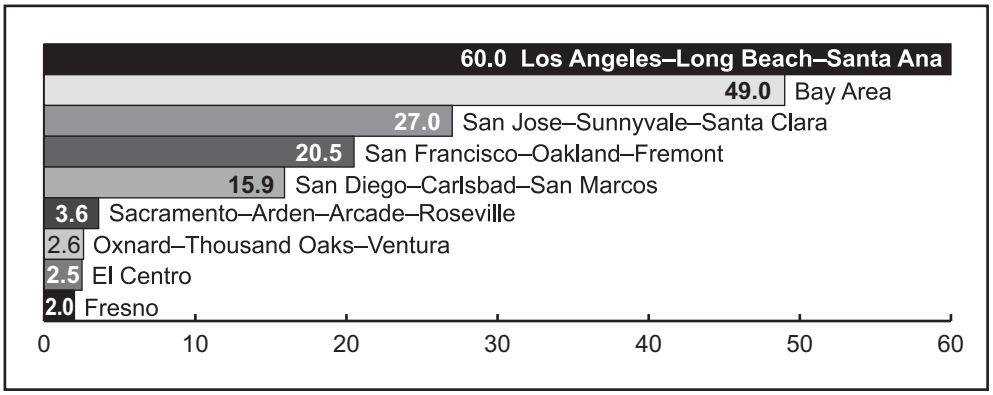
Source: WISER, with final calculations by Beacon Economics.
(Totals may vary due to rounding.)

California Export Trends, 2006–2009
World Total and Top Trading Partners
(Millions of Dollars)



Source: U.S. Department of Commerce, California State Report, 2010.

Exports from California Metropolitan Areas, 2008
(Billions of Dollars)

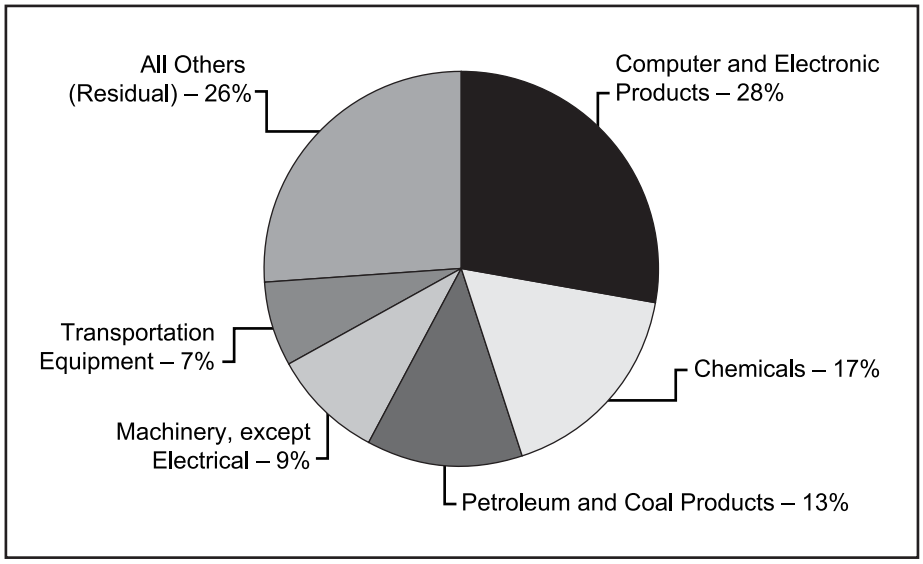


Source: International Trade Administration and Bureau of the Census, "Foreign Trade Division: Metropolitan Export Series."

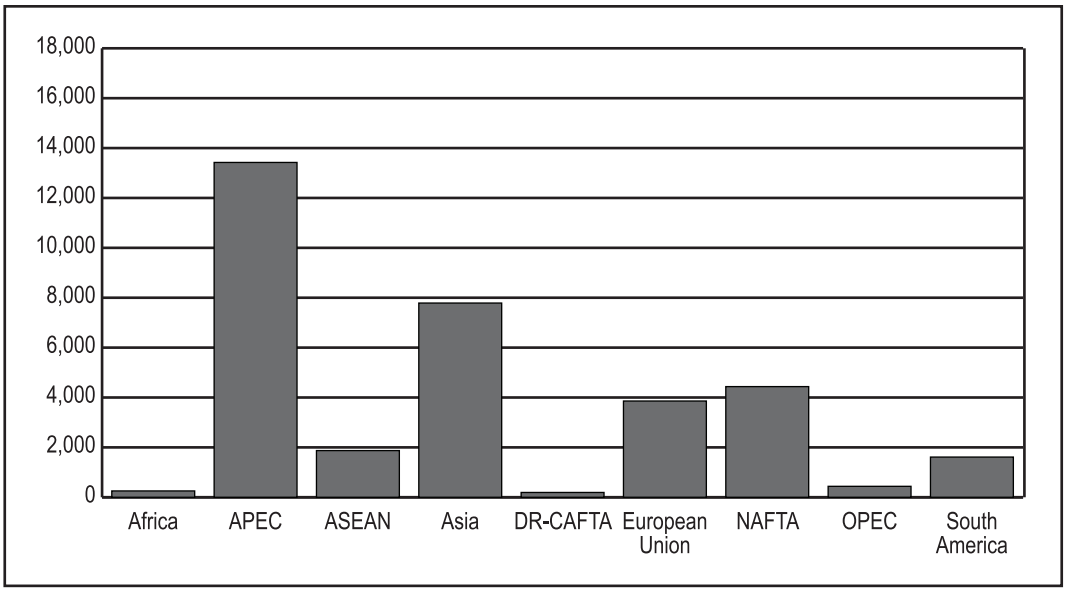
Appendix III

Bay Area Trade Patterns

San Francisco-Oakland-Fremont, CA Metro Area Exports
Top 5 Global NAICS Categories by Export Value, 2008

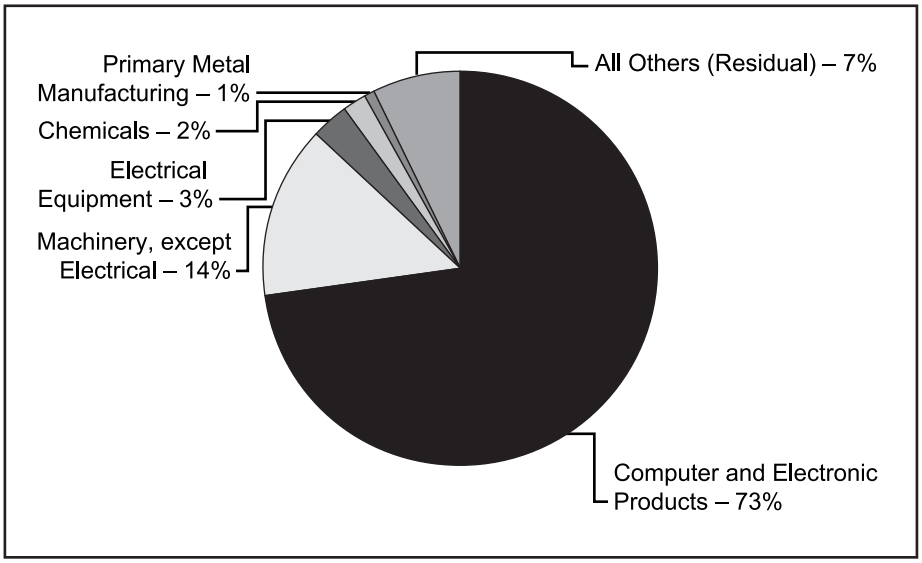


San Francisco-Oakland-Fremont, CA Metro Area Exports
Destination by Export Value, 2008
(Millions of Dollars)

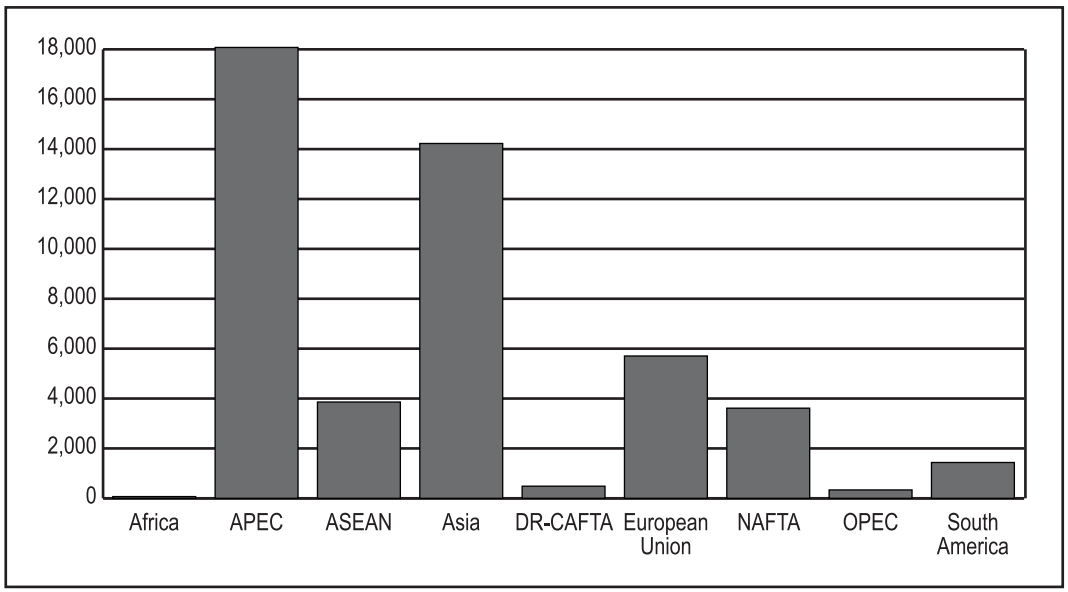


Source: Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce.

San Jose-Sunnyvale-Santa Clara, CA Metro Area Exports
Top 5 Global NAICS Categories by Export Value, 2008

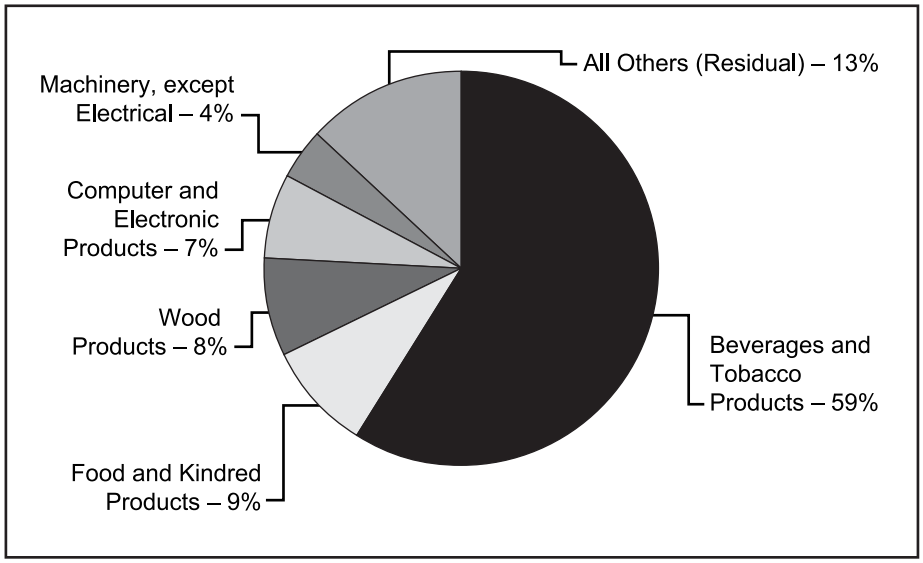


San Jose-Sunnyvale-Santa Clara, CA Metro Area Exports
Destination by Export Value, 2008
(Millions of Dollars)

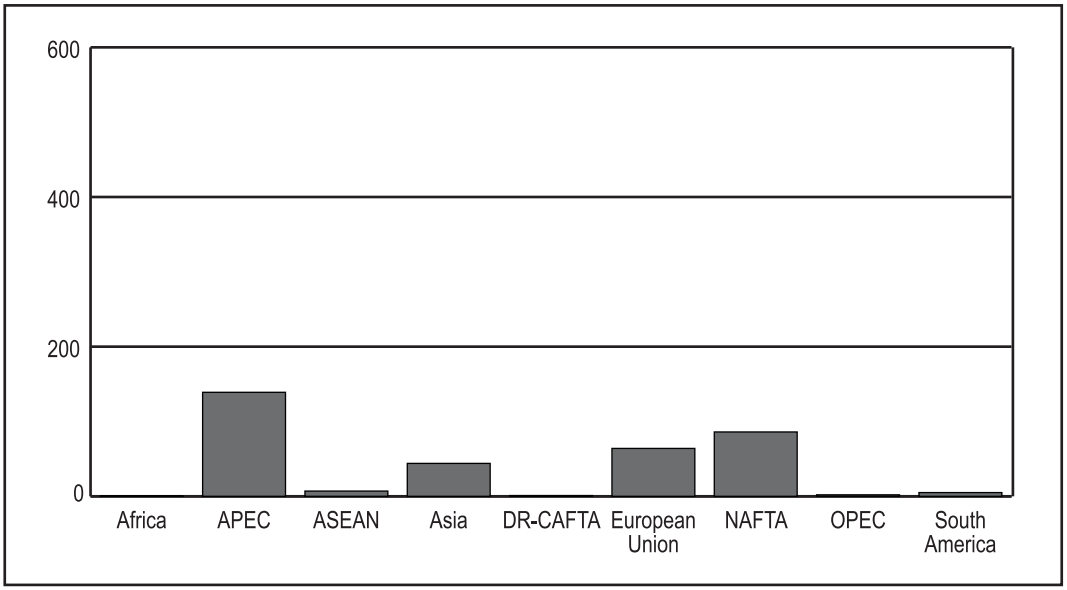


Source: Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce.

Napa, CA Metro Area Exports
Top 5 Global NAICS Categories by Export Value, 2008

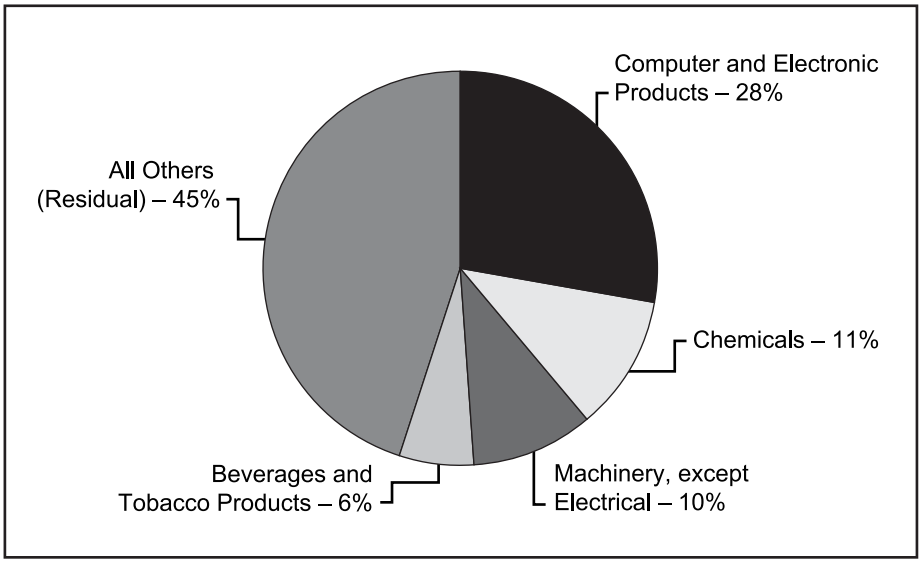


Napa, CA Metro Area Exports
Destination by Export Value, 2008
(Millions of Dollars)

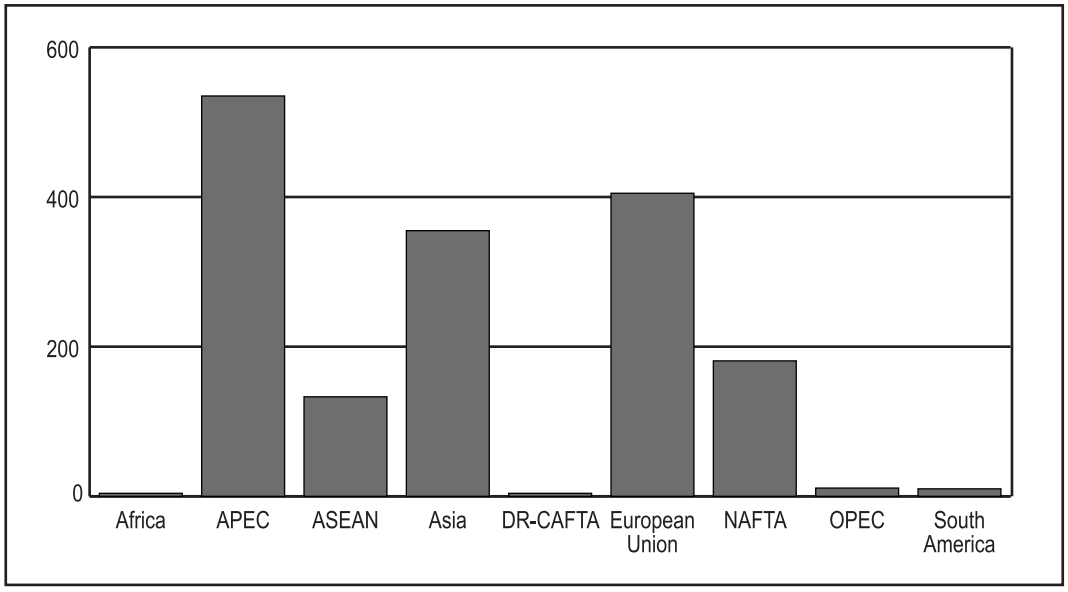


Source: Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce.

Santa Rosa-Petaluma, CA Metro Area Exports
Top 4 Global NAICS Categories by Export Value, 2008

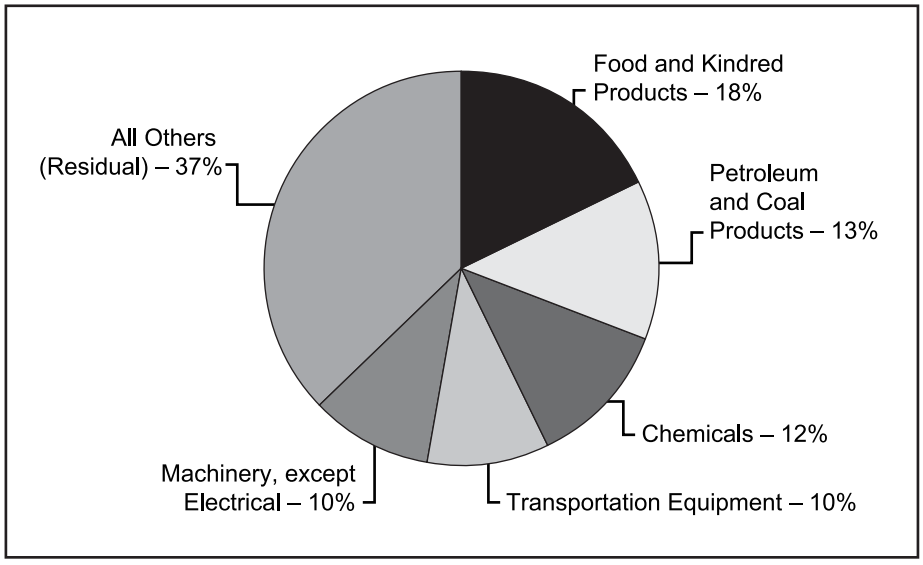


Santa Rosa-Petaluma, CA Metro Area Exports
Destination by Export Value, 2008
(Millions of Dollars)

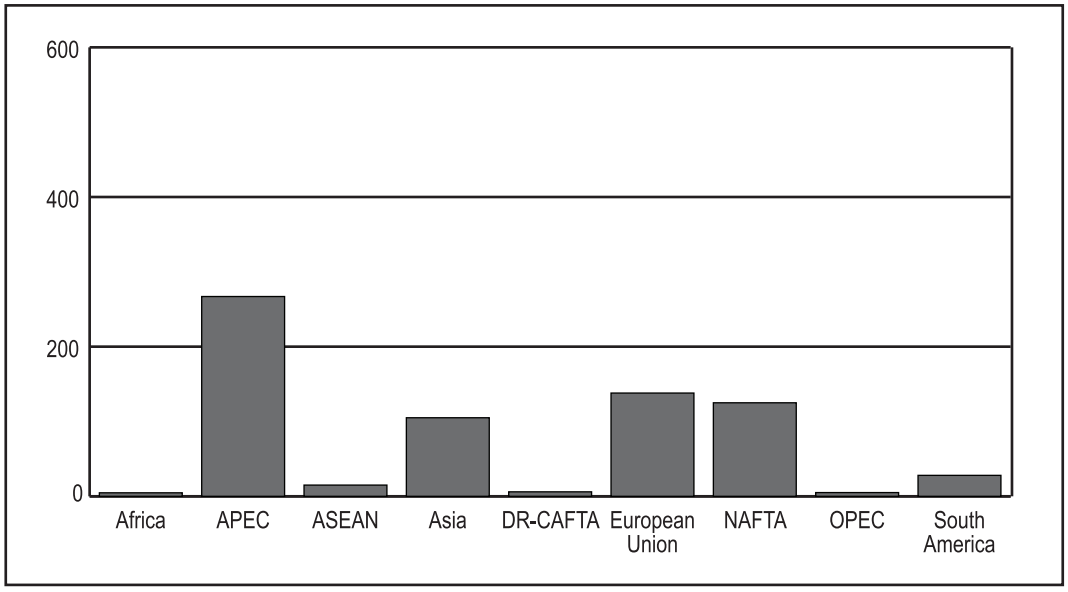


Source: Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce.

Vallejo-Fairfield, CA Metro Area Exports
Top 5 Global NAICS Categories by Export Value, 2008



Vallejo-Fairfield, CA Metro Area Exports
Destination by Export Value, 2006
(Millions of Dollars)



Source: Office of Trade and Industry Information, International Trade Administration, U.S. Department of Commerce.

Resources

Federal Trade Services – Bay Area

The United States Commercial Service provides market intelligence, trade counseling, business matchmaking and trade advocacy to Northern California companies through six regional offices:

Monterey (www.buyusa.gov/monterey)

Oakland (www.buyusa.gov/oakland)

Sacramento (www.buyusa.gov/sacramento)

San Francisco (www.buyusa.gov/sanfrancisco)

San Jose (www.buyusa.gov/siliconvalley)

San Rafael (www.buyusa.gov/northbay)

Market research, trade leads and information on trade events and programs can be accessed at www.export.gov.

State of California Trade Services

The California Centers for International Trade Development (CITDs), based at community colleges, provide educational, counseling and other trade services to small- and medium-sized businesses. Bay Area CITDs can be accessed at:

San Bruno (www.bayarea.citd.org)

Campbell (www.siliconvalley.citd.org)

Market research and other trade information can be accessed through the statewide CITD web portal www.citd.org/trade/info.

Other Trade Services

The Monterey Bay International Trade Association (www.mbita.org) provides non-profit international trade services to businesses in the Monterey Bay area and supports the website TradePort (www.tradeport.org), which provides trade tutorials, market research and access to California-based services.

China Trade and Investment Services

The Bay Area Council's Shanghai office works to expand Bay Area investment, trade and other ties with Shanghai and China's Yangtze River Delta region (www.bayareracouncil.org).

ChinaSF, with a presence in San Francisco, Shanghai and Beijing, works to attract Chinese investment to San Francisco (www.sfced.org/international/chinasf).

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The Bay Area Council Economic Institute is a public-private partnership of business, labor, government and higher education that works to support the economic vitality and competitiveness of California and the Bay Area. Its work builds on the twenty-year record of fact-based economic analysis and policy leadership of the Bay Area Economic Forum, which merged with the Bay Area Council in January 2008. The Association of Bay Area Governments is a founder and key institutional partner. The Economic Institute also supports and manages the Bay Area Science and Innovation Consortium (BASIC), a partnership of Northern California's leading scientific research institutions and laboratories. Through its economic and policy research and partnerships, the Economic Institute addresses major issues impacting the competitiveness, economic development and quality of life of the region and the state, including infrastructure, globalization, science and technology, and governance. Its Board of Trustees, which oversees the development of its products and initiatives, is composed of leaders representing business, labor, government, higher education, science and technology, and philanthropy.

The Bay Area Council is a business-sponsored, public-policy advocacy organization for the nine-county Bay Area. The Council proactively advocates for a strong economy, a vital business environment, and a better quality of life for everyone who lives here. Founded in 1945, as a way for the region's business community and like-minded individuals to concentrate and coordinate their efforts, the Bay Area Council is widely respected by elected officials, policy makers and other civic leaders as the regional voice of business in the Bay Area. Today, more than 275 of the largest employers in the region support the Bay Area Council and offer their CEO or top executive as a member.

The Association of Bay Area Governments (ABAG) is the official comprehensive planning agency for the San Francisco Bay Area region. ABAG's mission is to strengthen cooperation and coordination among local governments. ABAG addresses social, environmental, and economic issues that transcend local borders, such as land use, growth management, housing, and economic competitiveness. All nine counties and 101 cities within the Bay Area are voluntary members of ABAG, representing nearly all of the region's population.

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