2011

Manufacturing: Still a Force in Southern California

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LOS ANGELES COUNTY ECONOMIC DEVELOPMENT CORPORATION

KYSER CENTER FOR ECONOMIC RESEARCH

The LAEDC, the region's premier business leadership organization, is a private, non-profit 501(c)3 organization established in 1981.

As Southern California's premier business leadership organization, the mission of the LAEDC is to attract, retain, and grow businesses and jobs for the regions of Los Angeles County.

Since 1996, the LAEDC has helped retain or attract more than 161,900 jobs, providing $8.0 billion in direct economic impact from salaries and more than $130 million in tax revenue benefit to local governments and education in Los Angeles County.

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Through our public information and for-fee research, the LAEDC provides critical economic analysis to business decision makers, education, media, and government. We publish a wide variety of industry focused and regional analysis. Our Economic Forecast report, produced by the **Kyser Center for Economic Research**, has been ranked #1 by the Wall Street Journal.

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The LAEDC operates several subsidiary enterprises, including the World Trade Center Association Los Angeles-Long Beach (WTCA LA-LB), which facilitates trade expansion and foreign investment. In addition, the LAEDC's Center for Economic Development partners with the Southern California Leadership Council to help enable public sector officials, policy makers, and other civic leaders to address and solve public policy issues critical to the region's economic vitality and quality of life.

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The World Trade Center Association Los Angeles-Long Beach works to support the development of international trade and business opportunities for Southern California companies as the leading international trade association, trade service organization and trade resource in Los Angeles County. It also promotes the Los Angeles region as a destination for foreign investment. The WTCA LA-LB is a subsidiary of the Los Angeles County Economic Development Corporation. For more information, please visit *www.wtca-lalb.org*

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Manufacturing Myths and Facts

Myth #1:

U.S. Manufacturing is Disappearing

The Facts:

- The U.S. is the world's largest manufacturing economy, producing 21% of global manufactured products
- In 2009, U.S. manufacturing generated $1.6 trillion worth of output, which represented 11% of total U.S. GDP
- Productivity in the manufacturing sector is among the highest in the economy
- Manufacturing jobs often pay premium wages and benefits
- Higher paying jobs have increased as a percentage of total manufacturing employment

Myth #2:

All Manufacturing is Moving to Low-cost Countries

The Facts:

- 75% of all U.S foreign direct investment in manufacturing is in high-wage countries
- U.S. manufacturing is also an attractive investment for foreign investors – in 2009, manufacturing received 34% of total foreign direct investment dollars
- Industrial restructuring has intensified, making U.S. manufacturing more competitive than ever – the U.S. share of global manufacturing value-added has remained at 20% or above over the past two decades

***389,300** manufacturing workers were employed in **Los Angeles County** in 2009. The value of manufacturing shipments in the county in 2007 was **$153 billion** – Los Angeles County is still ranked as the **#1 manufacturing center** in the country.*

I. INTRODUCTION

It has been nearly four years since the LAEDC issued a report on manufacturing in the Southern California region, and the intervening years have not been especially kind.

In addition to the usual domestic and international competitive forces, manufacturers in the region were buffeted by the deep economic recession of 2007-2009, suffering massive declines in sales, profits and employment. Going forward, new environmental regulations threaten to create even more problems. Import competition is an ever-present threat to the health of many industrial firms, and it seems that more and more jobs are being outsourced to other countries. On the other hand, new technologies are often adopted first in manufacturing. It should come as no surprise that productivity rises more rapidly in the nation's manufacturing plants than almost anywhere else in the economy. U.S. exports of manufactured goods have taken a growing share of economic activity with advanced technology products in the vanguard. Moreover, manufacturing is a "high-multiplier" activity, supporting local area businesses and jobs in supplier industries like energy, freight transportation, and business and professional services.

In this report, we review how the manufacturing sector has fared, describing long-term industry trends as well as recent developments. Then we narrow the focus to manufacturing in Southern California. Manufacturers in Southern California have managed to hold on during trying times, but it certainly has not been easy. Southern California is a national powerhouse when it comes to manufacturing. Consider the figures in Table 1 for 2009, close to the bottom of the recession. Were it a state, the six-county region—with 764,700 employees—would rank just behind #2 Texas (and #1 California, of course), accounting for 6.5% of total U.S. industrial employment.

The five-county Los Angeles metropolitan area accounted for most of these workers (669,300, to be precise), making it bigger than the traditionally industrial states of Ohio, Illinois and Pennsylvania.

The rest of California—designated "NorCal" in Table 1—also ranked high among U.S. manufacturing states. With 511,200 workers, the rest of the state fills the slot between #5 Pennsylvania and #6 New York.

Finally, note that manufacturers in Los Angeles County alone had 389,300 employees on payroll in 2009, placing it just behind #10 ranked Wisconsin and ahead of #11 Georgia. Los Angeles manufacturing accounted for 3.3% of the U.S. total and 30.5% of California that year. Los Angeles manufacturing has definitely NOT "gone away!!"

Table 1: Manufacturing Employment - Top 10 States
(Average annual employment, thousands)

Rank	State/Area	2006	2009	% of U.S.	#Change	%Change
	Total U.S.	14,108.8	11,808.9	---	-2,299.9	-16.3%
1	California	1,495.0	1,275.9	10.8%	-219.1	-14.7%
2	Texas	926.6	837.1	7.1%	-89.5	-9.7%
	SoCal (LA5 + San Diego)	904.0	764.7	6.5%	-139.3	-15.4%
	LA 5-County Area	800.1	669.3	5.7%	-130.8	-16.3%
3	Ohio	795.6	629.5	5.3%	-166.1	-20.9%
4	Illinois	682.7	577.5	4.9%	-105.2	-15.4%
5	Pennsylvania	672.4	575.3	4.9%	-97.0	-14.4%
	NorCal (Rest of California)	591.1	511.2	4.3%	-79.9	-13.5%
6	New York	564.6	474.9	4.0%	-89.7	-15.9%
7	Michigan	649.2	464.7	3.9%	-184.5	-28.4%
8	North Carolina	553.5	448.1	3.8%	-105.3	-19.0%
9	Indiana	565.0	441.4	3.7%	-123.7	-21.9%
10	Wisconsin	505.6	434.7	3.7%	-70.9	-14.0%
	Los Angeles County	463.1	389.3	3.3%	-73.8	-15.9%

Source: Bureau of Labor Statistics, QCEW Data

II. MANUFACTURING AND THE RECESSION

The recession officially began in December 2007 and ended in June 2009. During this period, the value of U.S. manufacturers' shipments declined by -15.8%, and the industrial production index for manufacturing dropped by -17.0%. U.S. manufacturing employment decreased by -15.9% between the fourth quarter of 2007 and the fourth quarter of 2009 (the cycle trough in the case of jobs).

During the recession, production and shipments declined so much that nearly one in six manufacturing workers across the U.S. lost their job, a severe impact indeed! The Southern California experience was almost as dismal. The value of California manufacturers' shipments fell by -14.3% and the industrial manufacturing production index declined by -13.7%[1] between 2007 and 2009. During the recession, manufacturing employment in California contracted by -15.5% -- a loss of nearly -64,000 jobs (or nearly one in seven manufacturing jobs).

Table 2 lists the top ten regional centers of manufacturing employment in 2009. Los Angeles County (the area covered by the Los Angeles Metropolitan Division) ranked #1, ahead of its traditional rival Chicago. Houston and Detroit have traded places since 2006, reflecting Detroit's misfortunes (primarily automotive) and Houston's relatively decent performance (more about Houston below). San Jose MSA and Orange County also made the top ten list, with 156,200 workers and 154,600 workers respectively. Not included in Table 2, San Diego County had 95,400 workers in manufacturing during 2009, good for a #14 rank, while the Riverside-San Bernardino area placed #15 with 87,300 manufacturing employees in 2009.

[1] IHS Global Insight

Why Houston?

Why has the manufacturing sector in Houston outperformed the nation's traditional manufacturing regions? Houston's manufacturing sector is heavily dependent on the energy industry, which comprises about half the regional economy. A large percentage of Houston's manufacturing firms are involved in petroleum refining, the manufacture of petrochemicals and oil field service equipment. The prerecession run-up in energy prices was a primary driver of peak manufacturing employment in 2008 (see Table 3). In 2009, Houston's manufacturing industry was hit hard by the decline in energy prices and employment fell by -6.7% over the year. Still, as the economic recovery gathers momentum, Houston's manufacturing sector is better positioned for a comeback than other regions. Energy prices are climbing again, and in the fourth quarter of 2010, rotary rig counts (a measure of oil and gas drilling activity) were up by over 50% compared with the same period in the prior year.

As a result of the region's concentration in the energy sector, manufacturing jobs in the Houston area also pay high wages. The average annual wage for all manufacturing industries was $70,638 in 2009. For comparison, in Los Angeles County, the average annual manufacturing wage was $55,765 (though the annual wage in Los Angeles' petroleum refining sector was over $100,000 in 2009 – see Appendix Table 28).

Other factors also help explain Houston's rise. Houston (Harris County) is one of America's fastest growing regions – its population surged by almost 20% between 2000 and 2009. Individuals and firms are attracted to the region by lower tax rates (Texas has no personal income tax) and more affordable housing. Despite its focus on energy, the Houston economy is very diverse. The healthcare industry and international trade also are important economic drivers, and both held up fairly well during the recession.

Table 2: Employment Change in Top 10 Centers of Manufacturing

(Average annual employment, thousands)

Rank	State/Area	2006	2009	#Change	%Change
1	Los Angeles MD	463.1	389.3	-73.8	-15.9%
2	Chicago MD	388.6	324.9	-63.7	-16.4%
3	Houston MSA	223.6	224.7	1.1	0.5%
4	Detroit MSA	267.8	183.0	-84.8	-31.7%
5	Minneapolis MSA	204.2	177.3	-26.9	-13.2%
6	Dallas MD	202.7	173.5	-29.2	-14.4%
7	Seattle MSA	178.9	171.2	-7.6	-4.3%
8	San Jose MSA	171.3	156.2	-15.2	-8.9%
9	New York MD	189.9	154.8	-35.1	-18.5%
10	Orange County MD	181.8	154.6	-27.2	-15.0%

Source: Bureau of Labor Statistics, QCEW Data

Table 3: Major Manufacturing Centers in the U.S.

(Average annual employment, thousands)

Rank	State/Area	2001	2002	2003	2004	2005	2006	2007	2008	2009	01/09 %Change
1	Los Angeles MD	577.7	534.4	497.0	481.5	467.3	463.1	446.2	433.2	389.3	-32.6%
2	Chicago MD	479.1	440.3	412.5	400.1	394.4	388.6	381.7	369.5	324.9	-32.2%
3	Houston MSA	234.1	222.0	209.8	207.9	213.3	223.6	232.9	240.8	224.7	-4.0%
4	Detroit MSA	360.4	331.2	309.3	294.5	283.8	267.8	256.2	233.6	183.0	-49.2%
5	Minneapolis MSA	225.9	211.6	204.8	202.6	204.8	204.2	201.4	197.2	177.3	-21.5%
6	Dallas MD	231.2	210.3	197.9	196.9	200.2	202.7	199.2	189.7	173.5	-25.0%
7	Seattle MSA	202.3	181.7	165.3	162.1	169.0	178.9	185.5	185.3	171.2	-15.4%
8	San Jose MSA	243.2	206.0	176.9	169.3	171.3	171.3	166.6	167.7	156.2	-35.8%
9	New York MD	250.9	228.0	211.8	206.8	198.4	189.9	182.8	174.7	154.8	-38.3%
10	Orange County MD	209.9	191.1	182.0	183.0	182.2	181.8	176.3	172.2	154.6	-26.4%
11	Atlanta MSA	191.4	177.8	177.9	177.6	177.3	178.3	174.7	166.9	145.7	-23.9%
12	Philadelphia MD	202.2	185.8	172.5	164.3	159.8	156.8	151.1	149.1	136.4	-32.5%

Source: Bureau of Labor Statistics, QCEW Data

Table 3 provides a longer-term perspective. Certainly, no area came through the years between 2001 and 2009 completely unscathed. Even Houston lost -4.0% of its manufacturing workforce. However, it is also clear that Detroit's troubles began long before the recent recession. Indeed, employment in the area's manufacturing industry shrank by -49.2% over the decade, the worst performance among the nation's largest manufacturing centers. Within these two extremes, employment losses between 2000 and 2009 ranged from *bad*—Seattle's employment decline of -15.4%--to *worse*—Orange's County's job loss of -26.4%--to *much worse*—New York's workforce shrinkage of -38.3%.

III. The Role of Productivity

We turn now to three long-term fundamental forces impacting the manufacturing industry in Southern California and elsewhere.

Productivity is higher in the manufacturing sector than in the rest of the economy. To take the broadest example, output per worker hour in U.S. manufacturing nearly doubled between 1988 and 2008 (actually rising by +96%), much faster than productivity in the nonfarm business sector, which increased by +53%. This pattern held true throughout the past two decades.

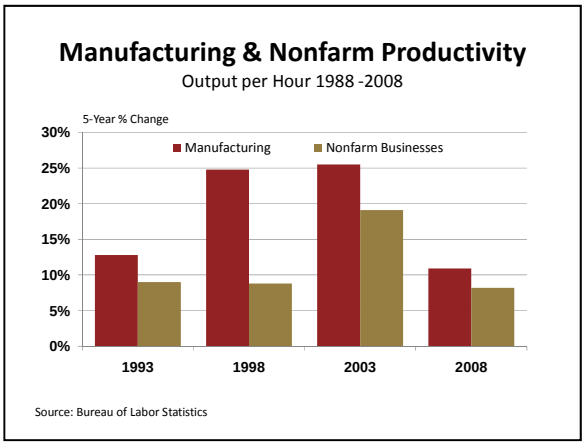

Chart 1

However, demand for industrial goods has not kept pace with the manufacturing sector's productive capability. As a consequence, U.S. manufacturing employment has been on a secular downtrend even as industrial production increased. Chart 2 clearly shows this dichotomy.

Between 1988 and 1998, U.S. manufacturing output soared by +47%, while manufacturing employment fell by -2%. This comparison was even more adverse during the next ten years. Between 1998 and 2008, manufacturing output grew by +17%, while employment dropped by -24%. Rising labor productivity accounted for the difference.

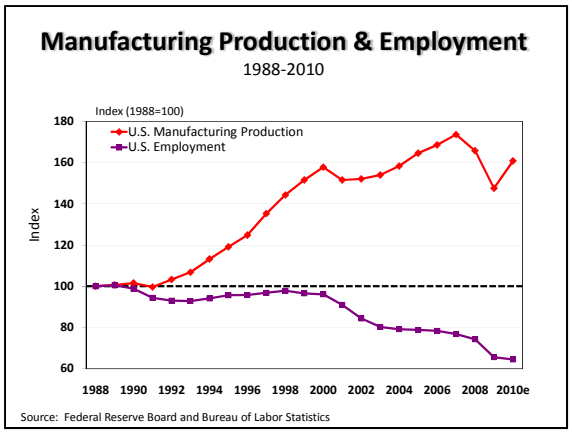

Chart 2

Much of the increase in manufacturing labor productivity was driven by foreign competition from countries with lower labor costs. [Until recently, service industries tended to face less cross-border competition, and so the push to increase labor productivity was less pronounced.] In order to compete with low-cost (i.e. low-wage) foreign producers, U.S. industrial firms simply must be more efficient; hence the relentless drive of U.S. manufacturers to reduce costs by producing more while using fewer workers.

Enabling this trend is technological innovation. The majority of U.S. research and development activities are manufacturing related. As technological innovation has advanced, the ratio of manufacturing capital to labor has increased. In 1988, capital expenditures (or capex) were 32% of total production worker wages paid that year. By 2008, the capex to payrolls ratio had risen to 48% (although it fell back to 44% in 2009).

In addition to technological change, productivity gains have been achieved by investment in human capital. Manufacturing in the United States has become quite sophisticated in many industries. While still providing opportunities for less well educated workers through on-the-job training, an

increasing number of manufacturing occupations require advanced training or a college degree.

The recession accelerated this trend – firms now expect employees to perform multiple tasks proficiently. There is also a greater emphasis on cross-training and moving product through the pipeline faster. Many of the job losses over the past decade stemmed as much from the absence of new hiring as from layoffs.

The way in which industries are organized also plays a role in rising productivity. For example, competing firms often cluster in a particular geographical area, attracting suppliers and other supporting firms. This fosters the interchange of efficiency-enhancing ideas between manufacturing firms and their suppliers, and even between competitors as employees move from one company to another.

Lastly, an efficient transportation system enhances productivity by moving goods quickly from supplier to producer to the marketplace.

In the face of growing foreign competition, U.S. manufacturers learned to be unrelenting in their drive to increase efficiency and productivity. The result was an ongoing shift from labor intensive industries such as Apparel to more capital intensive industries like Pharmaceuticals and Satellites. This has allowed U.S. manufacturers to remain competitive on the world stage in spite of high labor costs.

However, history teaches that even these advantages may be temporary. Eventually, our foreign competitors will learn the same lessons.

IV. The Role of Globalization

What is Globalization? Definitions vary. For this report, globalization refers to the expansion of economic activity beyond national borders. As one example, an American manufacturing firm wanting to sell its products in other nations might produce them inside the U.S. and export them, or it could invest in a facility in another country to manufacture its products and service its customers there. Another example: a California high tech manufacturer could import foreign-made components for its products, which might then be sold at home or abroad. In both cases, the firms expect to profit from these transactions.

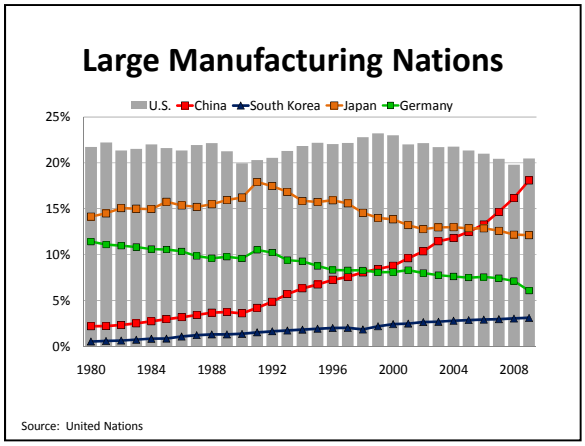

Chart 3

In spite of all that has been written about the decline of manufacturing in the United States and the angst generated by the outsourcing of jobs to low-wage countries overseas, the United States' share of total global manufacturing output has held relatively steady over the past 30 years. In 1980, U.S. manufacturing output comprised 21.7% of total manufacturing output worldwide. By 2009, the share was 20.5%. At first glance, this appears to be quite remarkable – how has the nation's share of global output remained stable when so many jobs have been lost to foreign competitors? The answer lies in the nation's move to high value products like computers and pharmaceuticals, and away from lower value items like toys and basic apparel.

Still, even though U.S. manufacturers are the most productive in the world, the United States is not gaining market share. The big story here is the expansion of Chinese manufacturing. China's share of global manufacturing output has risen on

a steep trajectory – increasing from 2.2% in 1980 to 18.1% in 2009. Since the United States' share has remained basically unchanged, what nations have lost share to China? The largest is Japan, which saw its worldwide share decline from a high of 17.9% in 1991 to 12.1% in 2009. Next was Europe's manufacturing powerhouse, Germany. In 1980, Germany's share of global manufacturing output was 11.4%, but by 2009 its share fell to 6.1%.

Globalization has a long history, indeed as long as foreign trade itself. However, the phenomenon has grown rapidly in recent decades, reflecting the ever declining costs of international transportation and communications. Taking the U.S. experience, the share of goods and services exports plus imports in Gross Domestic Product (GDP) has increased from 9% in 1968 to 15% in 1988 to 28% in 2008.

The international percentages are even higher for manufacturing. In 2008, imported manufactured goods took nearly 30% of the U.S. market, while exports amounted to 23% of domestic factory shipments. Combined, international transactions accounted for more than 50% of manufacturing activity that year.

Which Sectors are Involved? The degree of globalization varies widely by manufacturing sector. To gauge some of these differences, we constructed three indexes for each major sector. These were based on (a) the import share of the U.S. market for each sector, (b) the export share of U.S. factory shipments, and (c) the globalization share, which is the average of the export and import shares. In all cases, the average for all manufacturing provided the benchmark index value of 100.0.

In Appendix Table 19, the sectors are ordered by degree of globalization. The range between the most and the least globalized sectors is huge: from 325.5 in the case of Leather & Allied Products at the top to a mere 27.0 for Printing & Related Support Activities.

Among the most globalized sectors, the indexes for Apparel and Computers & Electronic Products both exceed 200 in value. Miscellaneous and Machinery Manufacturing complete the top five most globalized industries. Electrical Equipment, Appliances & Components and Transportation Equipment also are heavily involved in international trade, with index values of 147.2 and 128.1 respectively.

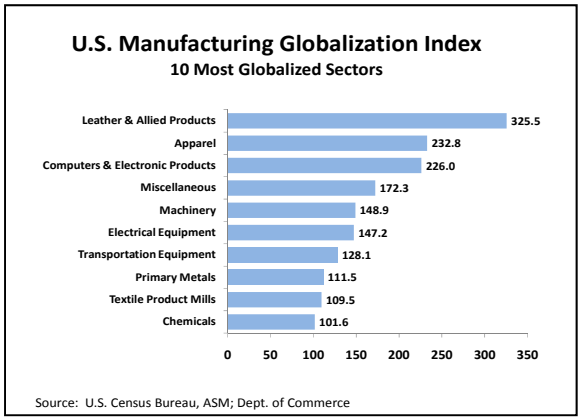

Chart 4

At the other end of the spectrum, the Food and Beverage & Tobacco manufacturing sectors have very little direct international trade exposure, with index values of just 26.5 and 30.8 respectively. Wood Products and Nonmetallic Mineral Products (stone, clay & glass) are almost as uninvolved, with index values of 41.2 and 46.0. In addition, Petroleum & Coal Products Refiners, manufacturers of Fabricated Metal Products, Paper, Plastic & Rubber Products, and Furniture all operate in sectors with relatively low exposure to direct international trade.

Four manufacturing sectors are in the middle range, with globalization index values close to 100. These are Chemicals, Primary Metals, Textile Product Mills, and Textile Mills.

How Does California Manufacturing Rank in Globalization? Table 4 lists all the state's industrial sectors, ordering them by total dollar shipments/revenues in 2009. Each sector's globalization index is also presented.

California manufacturers operate in many different sectors with varying exposure to globalization. The largest manufacturing sector (by dollar value of shipments) in California is Computer & Electronic Products, and this sector also ranks high on the U.S. globalization index (226.0). Only Apparel (232.8) and Leather & Allied Products (325.5) rank higher, both of which have a comparatively small presence in California. On the other hand, the next two highest ranking sectors in terms of shipment value, Petroleum & Coal Products (#2) and Food (#3), are far less exposed to international trade with index values of 46.1 and 26.5 respectively.

Rounding out the top five largest manufacturing industries in California, are Pharmaceuticals & Medicine and Aerospace. With $30.8 billion in shipments in 2009, the Pharmaceuticals sector was very active on the global stage with an index value of 126.9. Aerospace was indexed at 147.4 with shipments valued at $28.4 billion in 2009.

The smallest manufacturing industries in California are, with the exception of Leather & Allied Products, little exposed to international trade. Wood Products ($3.9 billion in shipments) and Textile Mills ($1.2 billion in shipments) both have a globalization index value below 100. With index values just over 100, are Textile Product Mills and Primary Metals.

Chart 5

Table 4: California Manufacturing & Globalization, 2009

NAICS	Industry	California Shipments ($Billions)	U.S. Globalization Index
334	Computer & Electronic Products	70.1	226.0
324	Petroleum & Coal Products	65.9	46.1
311	Food	63.5	26.5
3254	Pharmaceuticals & Medicine	30.8	126.9
3364	Aerospace	28.4	147.4
332	Fabricated Metal Products	25.0	50.0
339	Miscellaneous	23.5	172.3
312	Beverage & Tobacco Products	20.9	30.8
336X	Other Transportation Manufacturing	17.2	115.6
333	Machinery	16.3	148.9
325X	Other Chemical Products	12.7	88.1
326	Plastic & Rubber Products	12.7	57.9
322	Paper	9.1	48.5
335	Electrical Equipment, Appliance & Components	8.0	147.2
327	Nonmetallic Mineral Products	7.8	46.0
323	Printing & Related Support Activities	7.1	27.0
315	Apparel	6.1	232.8
337	Furniture & Related Products	5.6	69.8
331	Primary Metals	5.3	111.5
321	Wood Products	3.9	41.2
314	Textile Product Mills	1.6	109.5
313	Textile Mills	1.2	94.9
316	Leather & Allied Products	0.5	325.5

Source: U.S. Census Bureau, Annual Survey of Manufacturers;
Department of Commerce (USA Trade on Line)

V. AMERICA'S AGING WORKFORCE

Discussions about the risk factors faced by U.S. manufacturers in the global marketplace generally center on corporate income tax rates, high health care costs, regulatory compliance costs, and energy and trade policies. Less well recognized are demographic risk factors. The effect of millions of retiring baby boomers on entitlement programs, such as Social Security, has been studied in detail. But, these retiring boomers also represent a repository of skills and knowledge developed since the 1960s when the U.S. manufacturing industry was unrivaled anywhere in the world. When they retire, who will replace them?

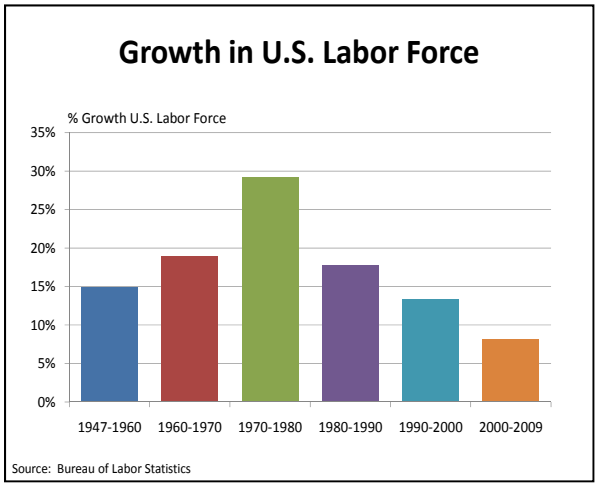

Chart 6

The baby boomer generation was born between 1946 and 1964 and numbers approximately 76 million people. These individuals will reach retirement age (62-65) between 2008 and 2029. Currently, boomers make up about one-third of the U.S. workforce; 27% of them have four or more years of college, making this the most educated generation in U.S. history.

As the baby boom generation matured (and produced fewer children themselves), there has been a coincident slowdown in the growth of the U.S. labor force. From 1947 to 1960, the U.S. workforce grew by +14.9%; between 1960 and 1970 the U.S. labor force expanded by +18.9%; and between 1970 and 1980 by +29.2% as boomers themselves entered the labor force.

In the decades that followed, however, the pace of growth slowed. From 1980 to 1990, the workforce increased by +17.7%. During the next decade (1990-2000) the U.S. workforce grew by +13.3%, and during the period from 2000 to 2009, the pace of growth was only +8.1%. Between 2009 and 2010, the U.S. labor force declined by -0.2%, although much of that can be attributed to the lingering effects of the recession on the labor market.

Very few business organizations have implemented a plan to close the skills gap that will open up as a result of older workers leaving. In a survey of 696 organizations, 40% of the firms said the impending retirement of a large part of their workforce will have a negative impact on their organization within the next three years.[2] The survey also found that:

- 68% of the employers had not analyzed the demographics of their workforce.
- 77% stated they had not analyzed projections about retirement rates of their employees.
- 56% had not assessed the skills their organizations need.

According to the National Association of Manufacturers, energy and health care are already suffering from a skills shortage. Technical

[2] Boston College Center on Aging and Work (October 2009)

and scientific fields are also starting to experience a talent crunch.

As the labor force shrinks, the implications for U.S. manufacturing competitiveness are far ranging. A lack of skilled workers will decrease potential for innovation, impair operational efficiency and lead to higher health care costs.

Some forward-looking manufacturers have recognized the risk and developed ways for older workers to pass their knowledge and skills on to younger workers. Northrop Grumman, for example, has an apprentice school providing fully paid four- and five-year programs to teach students interested in developing manufacturing skills. Northrop currently employs 2,500 graduates of its apprenticeship program in positions ranging from nuclear pipe welders to senior executives.

More needs to be done. Many manufacturing jobs now require postsecondary education, skills certification and credentials. Even during the recession, nearly one-third of the companies in a Deloitte Development LLP [3] survey reported a moderate to serious shortage of skilled workers.

Is there any hope? The AARP reports that 79% of baby boomers do not plan to stop working at 65 for reasons personal (they want to stay engaged in their fields) and financial (have not saved enough). New technologies may also reduce the number of workers needed, while at the same time allowing output to grow.

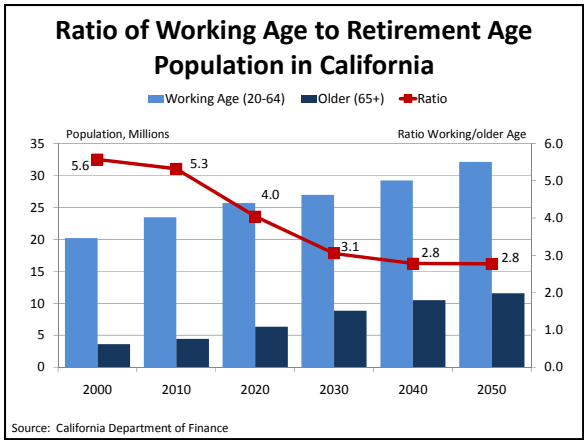

Chart 7

During 2000 in California, there were 5.6 workers aged 20-64 for every retired person in the state. According to the California Department of Finance, that ratio will fall to just 3.1 between 2011 and 2029 when the baby boom generation retires. Since birth rates among boomers themselves were low, the ratio will continue to fall through 2050 to 2.8 workers for every retiree in the state.

[3] People & Profitability: A Time for Change (2009); Deloitte Development LLC, et al

VI. Manufacturing in Southern California

Value of Manufacturing Shipments

Business people are always telling us, "Yes, the employment numbers are interesting, but how much is manufacturing in Southern California worth?" While alarming to contemplate, employment is not the only way to measure the health and vitality of the manufacturing sector. Another is to examine the dollar value of its shipments. Are we producing and shipping more or less product? We can only answer this question every five years. Fortunately, this is one of those years.

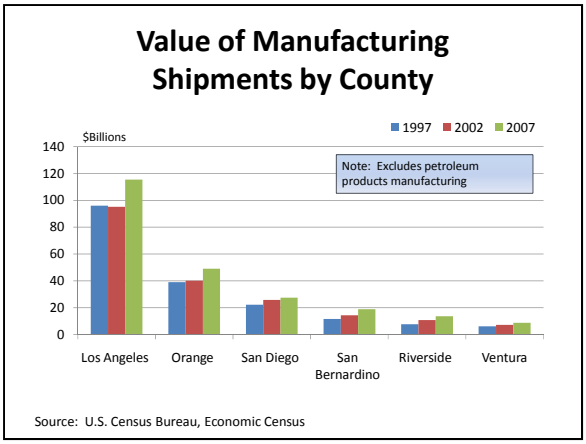

Chart 8

According to the U.S. Census Bureau's 2007 Economic Census, the total value of manufacturers' shipments in the six Southern California counties was approximately $271.3 billion that year. This figure was up by +32% from $206.2 billion in 2002 and by +40% from $193.6 billion in 1997.

The details vary by county and, as a review of Appendix Tables 21 – 26 will show, the data is incomplete. If one or two firms dominate an industry within a county, the Census Bureau suppresses the data to preserve confidentiality. Still, what we do know tells an interesting story.

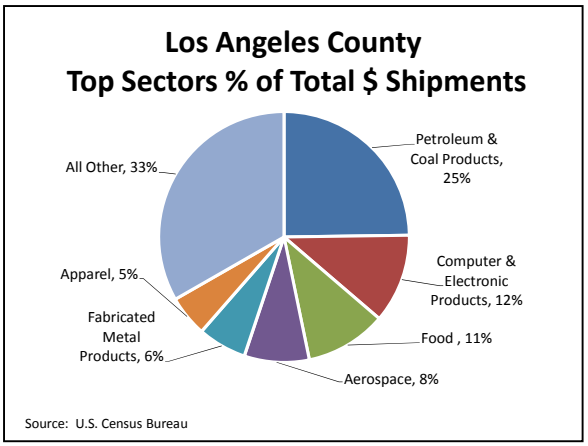

Chart 9

In Los Angeles County, the total value of manufacturing shipments shot up by +43.7% (to $153.3 billion) from 1997 to 2007 though the gains varied by sector. The value of Pharmaceutical & Medicine shipments jumped by +92.2%, while Apparel declined by -5.9%. The top five industries in Los Angeles County were: Petroleum Refining ($37.9 billion), Computer & Electronic Products ($17.6 billion), Food ($16.0 billion), Aerospace ($12.9 billion) and Fabricated Metal Products ($9.7 billion).

The same growth pattern holds across Southern California. In Orange County, over the same ten year period, the total value of manufacturing shipments grew by +25.5% to $49.1 billion. The largest sectors were Computer & Electronic Products ($14.2 billion), Miscellaneous, which includes Medical Devices ($6.1 billion), Machinery ($3.3 billion) and Food ($2.8 billion).

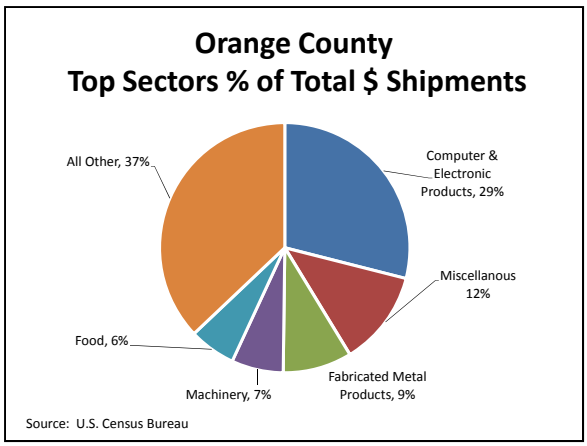

Chart 10

Riverside County saw an increase of +76.1% (to $13.6 billion) in the value of its manufacturing shipments between 1997 and 2007. The largest industries in the county in 2007 were Fabricated Metal Products ($1.8 billion), Miscellaneous manufactured goods ($1.4 billion), Food ($1.3 billion), Plastic & Rubber Products ($1.2 billion) and Nonmetallic Mineral Products ($0.9 billion).

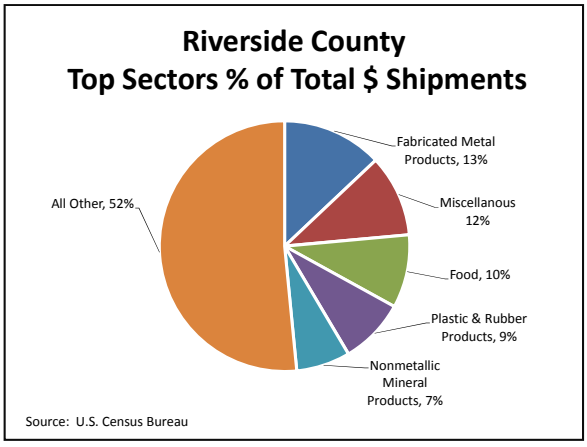

Chart 11

San Bernardino posted a +62.7% increase (to $18.9 billion) and had a profile similar to Riverside County. The Food manufacturing industry is San Bernardino County's largest, with shipments valued at $2.7 billion in 2007. Close behind was Fabricated Metal Products at $2.5 billion, followed by Nonmetallic Mineral Products with $1.9 billion. Rounding out the top five were Plastic & Rubber Products ($1.8 billion) and Furniture & Related Products ($1.2 billion).

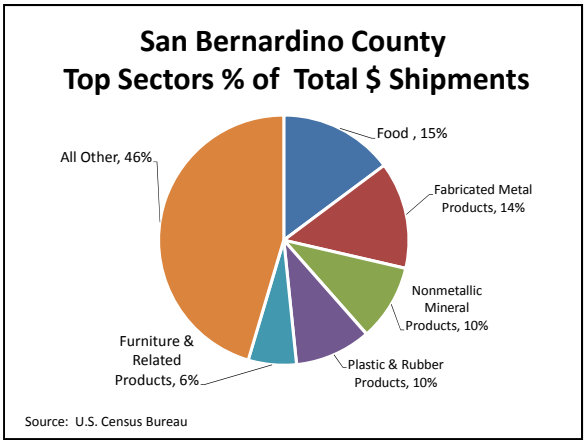

Chart 12

The total value of manufactured product shipments in San Diego County was $27.5 billion – an increase of +23.9% since 1997. Computer & Electronic Products topped the list with shipments valued at $6.0 billion in 2007. Miscellaneous (medical devices) followed with $4.0 billion. Next was Aerospace ($2.7 billion), Machinery ($2.5 billion) and Fabricated Metal Products ($1.6 billion).

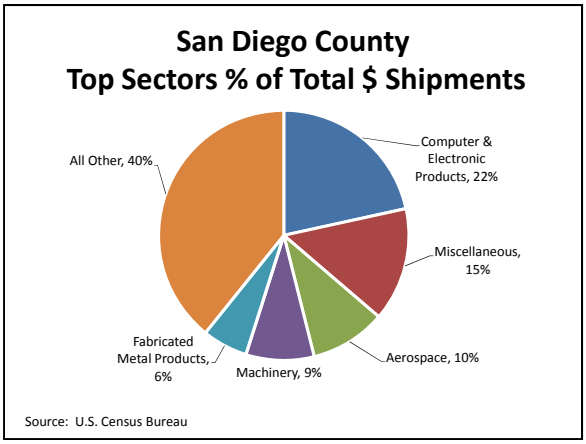

Chart 13

In Ventura, the value of manufacturing shipments was $8.8 billion in 2007, up by +42.3% compared with 1997. The largest sectors for which we have information[4] are Computer & Electronic Products

[4] Pharmaceuticals are a significant part of the Ventura County manufacturing sector. However, pharmaceuticals are dominated by Amgen Inc. Thus, information regarding the value of shipments is not disclosed by the U.S. Census.

($2.0 billion), Machinery ($1.8 billion), Fabricated Metal Products ($0.6 billion), Food ($0.4 billion) and Plastic & Rubber Products ($0.4 billion).

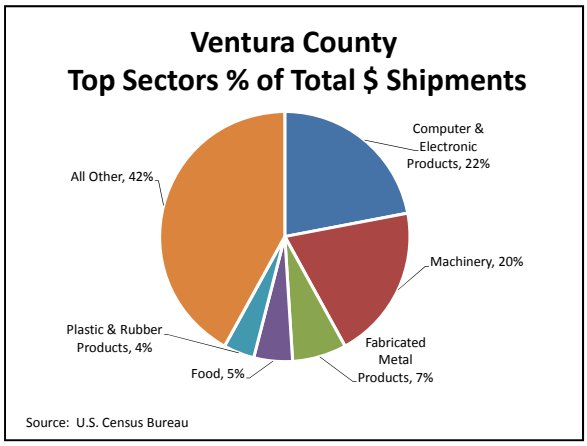

Chart 14

EMPLOYMENT AND WAGES

California experienced a deeper decline in manufacturing jobs than the U.S. as a whole between 1988 and 1998, as the number of manufacturing employees declined by -11%, compared with just -2% for the nation. However, as shown in Chart 15 below, the state's decline was similar to the nation between 1998 and 2008 (-24.5% for California vs. -24.0% for the U.S.). Over the twenty-year period, the state's share of total U.S. manufacturing employment fell by one percentage point, from 11.6% in 1988 to 10.6% in 2008.

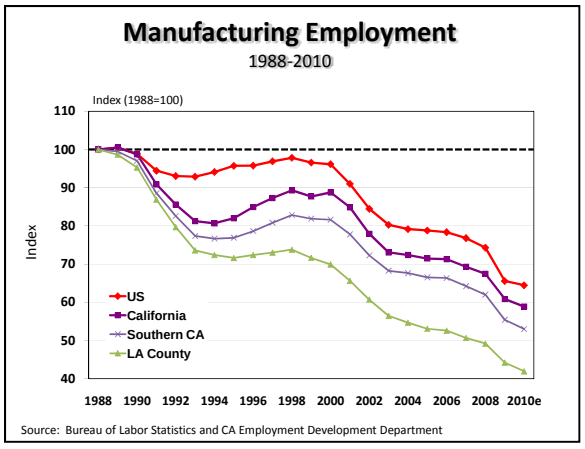

Chart 15

Problems in Southern California manufacturing between 1988 and 1993 accounted for much of the state's relative decline. In particular, Los Angeles County's share of total U.S. manufacturing employment declined from 4.9% in 1988 to 3.9% in 1993. The county's share continued to drift downward over the next fifteen years, falling to 3.2% in 2008. However, manufacturing employment in the rest of Southern California (which includes Orange, Riverside, San Bernardino, San Diego and Ventura counties) fell less rapidly after 2003, causing the *region's* share to stabilize in the 6.3% to 6.5% range.

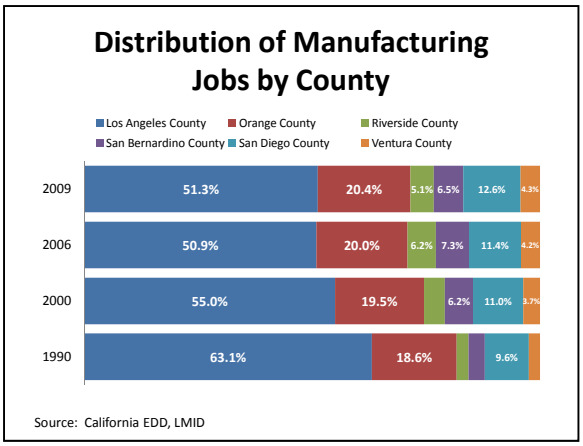

Chart 16

Los Angeles County's share of manufacturing employment also fell relative to the rest of Southern California. In 1990, Los Angeles County employed 63.1% of all manufacturing workers in the six-county region. By 2006, the County's share had fallen to 50.9%, though by 2009 it had edged back up to 51.3%. While Los Angeles County lost employment share, Orange County gained share – rising from 18.6% in 1990 to 20.4% in 2009. Likewise, San Diego County rose from 9.6% to 12.6% during the same time period and Ventura County went from 2.5% in 1990 to 4.3% in 2009.

Results in the Inland Empire were mixed. Riverside County had 2.6% of Southern California's manufacturing employees in 1990 – by 2006 the share had more than doubled, rising to

6.2%. San Bernardino County followed a similar trajectory. In 1990, the county's share was 3.6% and by 2006 it was 7.2%. In 2009, however, both counties lost employment share with Riverside County slipping back to 5.1% and San Bernardino falling to 6.5%. As the regional epicenter of the housing boom and collapse, both counties' manufacturing industries were more adversely affected than other areas less dependent on manufacturing related to construction and housing.

The counties in Southern California also differ in the types of goods manufactured. Los Angeles County is the most evenly split. Of total manufacturing employment, 56% are workers producing durable goods (computers, transportation equipment, metal products) and 44% produce nondurable goods (apparel, food). The least diverse county is San Diego. Heavily reliant on computers, communications equipment, aerospace hardware and transportation equipment, durable goods accounted for 77% of San Diego's manufacturing employment in 2009. The remaining 23% of workers were involved in producing nondurable goods like food and pharmaceuticals. Orange and Ventura Counties and the Inland Empire fall in between these two extremes, and followed a similar pattern. Common across all six counties, the majority of the manufacturing taking place in the region is durable goods.

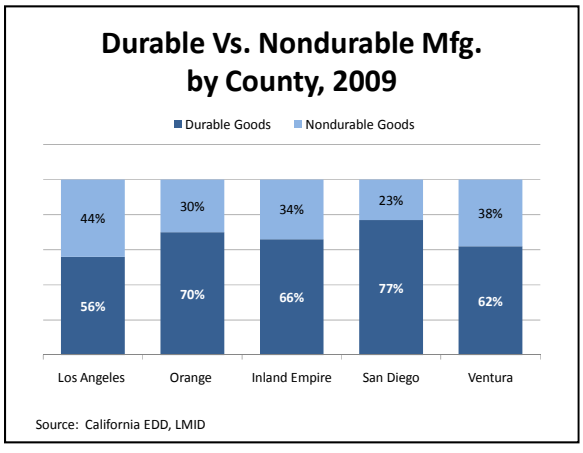

Chart 17

There are much larger differences between the counties in average wages paid to manufacturing workers. Los Angeles ranks in the middle, in terms of annual wages with an average of $55,764 in 2009. At the low end of the spectrum was San Bernardino County ($42,864) and Riverside County ($46,709). Higher wages were paid in Orange County ($61,362) and San Diego County ($67,535), with Ventura County topping the list at $79,361.

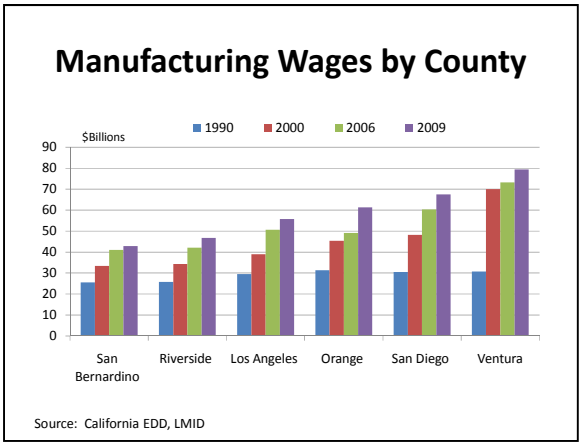

Chart 18

It is also interesting to note the growth in wages across the region from 1990 to 2009. The average annual manufacturing wage grew by +68% in San Bernardino County (the slowest growth rate) but soared by +158% in Ventura County over the same period. In Los Angeles County the average annual wage increased by +89%. These high rates of wage growth partly reflect the premium placed on the highly skilled workers required by many of today's manufacturing processes.

As a result of differing rates of growth, the gap in average wage from one county to another has increased dramatically. In 1990 there was a difference in annual wage of $5,800 between the highest wage county and the lowest wage county in Southern California. In 2000, that began to change and by 2009, average annual salaries diverged by over $35,000

A possible explanation for this income gap may be attributed to the mix of industries in each county.

For instance, San Diego has a preponderance of firms involved in advanced technology manufacturing, which requires educated workers and thus pays higher wages. On the other hand, the Inland Empire is more heavily concentrated in industries tied to the housing market and consumer goods (fabricated metal products and RVs), which tend to pay lower wages.

Comparative differences aside, no region in Southern California was spared the ravages of the recession, and manufacturing throughout the Southland was one of the most adversely affected industries. In the sections that follow, we will examine each county in detail and then take a look at what lies ahead.

MANUFACTURING IN LOS ANGELES COUNTY

Los Angeles County had an average of 389,300 manufacturing employees in 2009, a drop of over -73,800 jobs from 2006. As seen in Chart 19, manufacturing employment in Los Angeles County has consistently declined over the past two decades.

The largest manufacturing sector in Los Angeles County in 2009 was Computer and Electronic Products with 51,323 jobs, down by -28% over the past decade. The Apparel sector had the second highest number of employees, with 48,107 jobs, followed by Transportation Equipment, Fabricated Metal Products and Food. The sectors suffering the largest employment declines over the past decade were Computers & Peripherals (-65.6%), Furniture (-58.2%) and Textile Product Mills (-54.0%).

The abrupt halt in residential construction that followed the collapse of the housing bubble and the onset of the recession decimated demand for

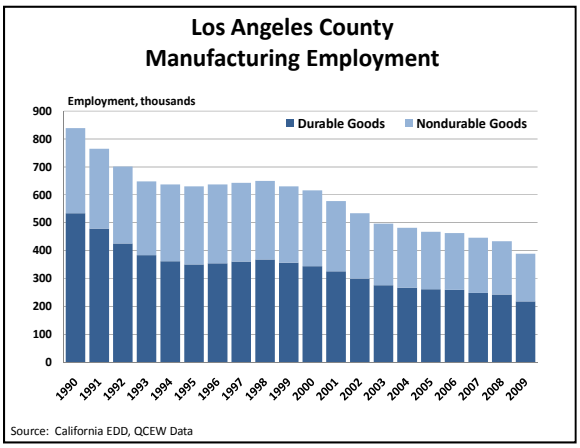

Chart 19

housing related products ranging from doors, windows and nails to carpets and furniture. Unfortunately, it was not just construction related industries that were impacted. As the recession wore on, many other sectors experienced employment declines.

Between 2006 and 2009, the steepest drops in Los Angeles manufacturing employment were in Furniture & Related products (-40.9%), Nonmetallic Mineral Products (-29.5%), Textile Product Mills (-25.8%), Paper (-23.2%) and Primary Metals (-21.8%).

Interestingly, over the last decade, as manufacturing employment declined, manufacturing wages were on the rise. The average annual wage in 2009 for all manufacturing sectors in the county was $55,764, an increase of +43.1% compared with 2000. The highest paying industries were Petroleum & Coal Products ($101,483), Computer & Electronic Products ($90,577), Transportation Equipment ($82,887), Machinery ($57,354) and Beverages & Tobacco Products ($57,157).

Table 5: Largest Manufacturing Sectors in Los Angeles County, 2009

(Average annual employment, thousands)

Rank	Industry Sector	2000	2006	2009	00/06 %Change	06/09 %Change
1	Computer & Electronic Parts	71,000	60,073	51,323	-15.4%	-14.6%
2	Apparel	92,697	59,477	48,107	-35.8%	-19.1%
3	Transportation Equipment	72,092	52,838	47,649	-26.7%	-9.8%
4	Fabricated Metal Products	61,868	49,000	42,797	-20.8%	-12.7%
5	Food	45,653	42,182	40,360	-7.6%	-4.3%
	Other	272,191	199,536	159,066	-26.7%	-20.3%
	Total of Manufacturing Industries	615,501	463,106	389,302	-24.8%	-15.9%

Source: California EDD, QCEW Data

Table 6: Manufacturing Wages in Los Angeles County, 2009

(Ranked by average annual wage)

Rank	Industry Sector	Employment	No. of Establishments	Annual Payroll ($mil)	Ave. Annual Wage ($)	00/09 %Change
1	Petroleum & Coal Products	4,383	68	444.8	101,483	22.2%
2	Computer & Electronic Products	51,323	693	4,648.7	90,577	43.9%
3	Transportation Equipment	47,649	591	3,949.5	82,887	51.2%
4	Machinery	16,154	757	926.5	57,354	32.9%
5	Beverage & Tobacco Products	5,079	75	290.3	57,157	16.2%
	Other	264,714	11,817	11,449.4	43,252	37.7%
	Total of Manufacturing Industries	389,302	14,001	21,709.2	55,764	43.1%

Source: California EDD, QCEW Data

MANUFACTURING IN ORANGE COUNTY

Many people do not associate Orange County with manufacturing, but the Orange County economy is built on more than tourism and upscale shopping centers. The county has a strong manufacturing sector that includes sophisticated technology companies (medical devices and computer chips), aerospace firms and medical device manufacturers. These are industries that rely on a highly skilled workforce, something Orange County is able to provide in abundance. Of all businesses in Orange County, 22.3% are engaged in manufacturing. [The next largest sectors are services (15.8%) and retail (12.1%)].

Due to its relatively high-cost position, Orange County cannot support low-wage low-skill manufacturers. During the recession, many manufacturing firms closed down or moved their low value-added operations outside the county while keeping high value-added activities like research and development, design and engineering in Orange County.

Although manufacturing employment is cyclical, the long-term trend is one of decline in the number of manufacturing jobs within the County. Orange County employs more workers in the durable goods sector, producing products like computers, machinery and transportation equipment. However, there are a significant number of people employed in the apparel (primarily surf and skate oriented), and food manufacturing industries.

In 2009, Orange County had 154,574 workers employed in its manufacturing industries. In 2006, prior to the recession, there were 181,795 manufacturing jobs in the county. Thus, the county saw a -15.0% decline in manufacturing jobs over the course of the recession. However, recent manufacturing job losses, while compounded by the recession, are a continuation of a longer-term

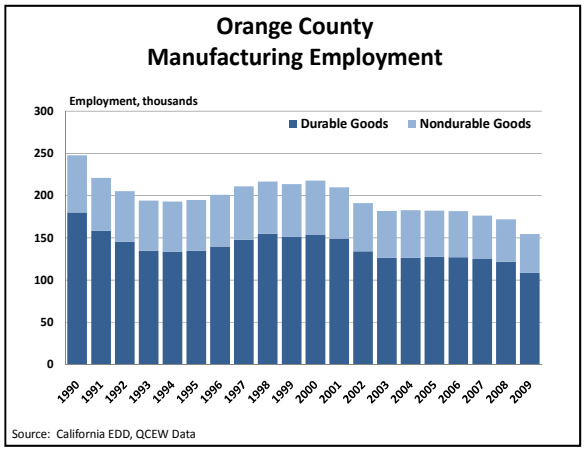

Chart 20

trend. Since 2000, the county has lost -63,357 manufacturing jobs, a decline of -29.1%.

The Computer & Electronic Products industry has long been the biggest manufacturing sector in the county in terms of employment with 33,722 jobs in 2009. It also suffered the steepest decline in jobs over the last three years (-19.6%). Fabricated Metal Products is the second largest manufacturing sector by number of jobs with 21,648 workers in 2009, followed by "Miscellaneous."

The Miscellaneous sector includes medical devices, jewelry and toys (among other things) and was the only category to add workers during the past decade (although the number is quite small). Miscellaneous manufacturing added +247 jobs (an increase of +1.5%) between 2006-2009 and +952 jobs (+5.9%) since 2000. Almost all of that growth occurred in the Medical Equipment & Supplies sector, which saw employment expand from 1,109 workers in 2000 to 12,794 in 2009. Rounding out the top five sectors in 2009 were Transportation Equipment, which includes Aerospace Products & Parts, (13,879 jobs) and Machinery (+9,467 jobs).

Long seen as the one of the best routes to the middle class for less educated workers, manufacturing jobs have traditionally paid relatively high wages in Orange County. With its concentration of highly skilled workers, average annual salaries in manufacturing industries are quite high in the county compared with the rest of Southern California. While the industry has seen a decline in employment over the last several years, average annual wages have grown substantially.

Overall, wages across all manufacturing sectors in Orange County have risen by +35.3% over the decade. The highest average wages were paid in the Petroleum and Coal Products sector ($145,650). Unfortunately, Petroleum and Coal Products employ only a small number of workers and is a minor player in the county's economy. The next highest incomes are found in the county's largest manufacturing sector – Computer & Electronic Products – with an average annual salary of $83,001. Following are Transportation Equipment ($75,091), Machinery ($69,485) and Chemicals, which include Pharmaceuticals ($64,073).

Table 7: Largest Manufacturing Sectors in Orange County, 2009

(Average annual employment, thousands)

Rank	Industry Sector	2000	2006	2009	00/06 %Change	06/09 %Change
1	Computer & Electronic Products	50,999	41,928	33,722	-17.8%	-19.6%
2	Fabricated Metal Products	25,143	23,509	21,648	-6.5%	-7.9%
3	Miscellaneous (medical, jewlry, toys, etc.)	16,240	16,945	17,192	4.3%	1.5%
4	Transportation Equipment	20,928	16,107	13,879	-23.0%	-13.8%
5	Machinery	13,661	11,202	9,467	-18.0%	-15.5%
	Other	90,960	72,104	58,666	-20.7%	-18.6%
	Total of Manufacturing Industries	217,931	181,795	154,574	-16.6%	-15.0%

Source: California EDD, QCEW Data

Table 8: Manufacturing Wages in Orange County, 2009

(Ranked by average annual wage)

Rank	Industry Sector	Employment	No. of Establishments	Annual Payroll ($mil)	Ave. Annual Wage ($)	00/09 %Change
1	Petroleum & Coal Products	461	17	67.1	145,650	115.3%
2	Computer & Electronic Products	33,722	611	2,799.0	83,001	26.8%
3	Transportation Equipment	13,879	259	1,042.2	75,091	54.3%
4	Machinery	9,467	407	657.8	69,485	49.6%
5	Chemicals	8,690	230	556.8	64,073	33.0%
	Other	88,355	3,649	4,362.7	49,377	35.2%
	Total of Manufacturing Industries	154,574	5,173	9,485.6	61,366	35.3%

Source: California EDD, QCEW Data

MANUFACTURING IN THE RIVERSIDE -BERNARDINO AREA

The Inland Empire (comprised of Riverside and San Bernardino Counties) had an average of 91,968 manufacturing employees in 2009, down by over -30,000 jobs from 2006, which was a peak year for manufacturing in the Inland Empire. Beginning in 2007 with the loss of -4,800 jobs, another -11,800 jobs were eliminated in 2008 and in 2009, an additional -13,703 jobs disappeared from the region's manufacturing sector. The 2009 total brought the employment figure back down to the 1996 level.

The housing market crash and subsequent decline in the Southern California construction industry dealt a heavy blow to Inland Empire manufacturers. As residential and commercial development ground to a standstill, all of the related manufacturing sectors saw a fall-off in new orders as demand for wood, cement, metal products and furniture evaporated. The largest declines from 2006 to 2009 occurred in Wood Products, Nonmetallic Mineral Products, Furniture & Related Products and Plastics & Rubber Products.

Transportation Equipment manufacturing (especially motor homes, trailers and campers) experienced the most significant drop in employment – over -7,700 jobs were lost over the three-year period. The next largest drop came in Wood Products (including manufactured/mobile homes), which lost -4,829 jobs. Nonmetallic Mineral Products (including glass, cement and concrete) suffered the third highest decline in employment, falling by -3,923 jobs. The fourth largest contraction came in Furniture & Related Products, down by -3,219 jobs. Finally, Plastics & Rubber Products (including floor coverings, bathroom & toilet accessories and mattresses) suffered the fifth worst decline in employment, shedding -2,787 jobs.

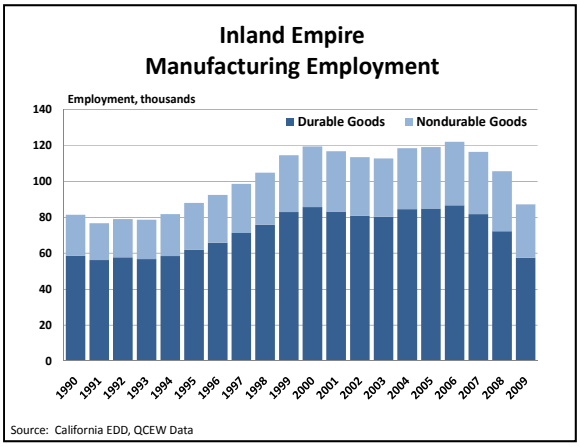

Chart 21

The highest wages within Inland Empire manufacturing industries were paid by firms in Petroleum & Coal Products, Chemicals, Computer & Electronic Products, Paper and Primary Metals. The Petroleum & Coal Products sector had the highest average annual wage in 2009, at $60,491 followed by Chemicals and Computer & Electronic Products, both over $55,000. Since 2000, the Petroleum & Coal Products sector has seen the largest increase in annual wages from just under $42,000 to more than $60,000 in 2009. Chemicals and Computer & Electronic Products wages also experienced substantial growth over the past decade.

Table 9: Largest Manufacturing Sectors in the Inland Empire, 2009

(Average annual employment, thousands)

Rank	Industry Sector	2000	2006	2009	00/06 %Change	06/09 %Change
1	Fabricated Metal Products	16,746	16,638	11,449	-0.6%	-31.2%
2	Miscellaneous Manufacturing	8,145	9,607	8,601	17.9%	-10.5%
3	Plastics & Rubber Products	12,834	11,307	8,520	-11.9%	-24.6%
4	Food Manufacturing	6,813	7,920	7,334	16.2%	-7.4%
5	Transportation Equipment	12,628	13,412	5,693	6.2%	-57.6%
	Other	63,154	63,713	45,951	0.9%	-27.9%
	Total of Manufacturing Industries	120,320	122,597	87,548	1.9%	-28.6%

Source: California EDD, QCEW Data

Table 10: Manufacturing Wages in the Inland Empire, 2009

(Ranked by average annual wage)

Rank	Industry Sector	Employment	No. of Establishments	Annual Payroll ($mil)	Ave. Annual Wage ($)	00/09 %Change
1	Petroleum & Coal Products	132	5	8.0	60,491	44.9%
2	Chemicals	5,046	141	293.8	58,222	36.5%
3	Computer and Electronic Parts	4,773	123	268.7	56,304	40.7%
4	Paper	1,890	57	98.9	52,313	24.8%
5	Primary Metals	3,877	87	199.7	51,501	13.7%
	Other	71,548	2,965	3,025.1	42,281	32.2%
	Total of Manufacturing Industries	87,266	3,378	3,894.2	44,624	32.0%

Source: California EDD, QCEW Data

MANUFACTURING IN SAN DIEGO COUNTY

While no one sector dominates San Diego's manufacturing landscape, the region is known for its technology base. Benefiting from an educated workforce (40% of San Diego's adult population has a bachelor's degree or higher), San Diego is a hub of research and innovation in biotechnology, communications and software development.

The largest manufacturing sectors are in durable goods: aerospace (defense), wireless communications systems, digital transmission and reception systems and medical devices. Less well known is the recent growth in food manufacturing and processing. Concentrated in South County, food manufacturing companies employ over 4,200 people.

In 2009, San Diego County employed a total of 95,391 workers in manufacturing jobs. This was down from 103,867 (-8.2%) in 2006 (prior to the recession). Over the past decade, nearly 28,000 manufacturing jobs have been lost, representing a decline of -22.5%. Still, a number of manufacturing sectors managed to grow and add employees during this period. The region's largest manufacturing sector by far is Computer & Electronic Products. Although employment contracted by -3.1% between 2006 and 2009, the industry employed 26,134 workers in 2009 producing computers, semiconductors and communications equipment.

The second largest manufacturing sector was Transportation Equipment (Aerospace Parts & Products and Shipbuilding). Boosted by federal defense spending, this sector added jobs over the same period, growing by +7.4% to 14,685 jobs in 2009. The next largest sectors were Miscellaneous (which includes Medical Devices) with 10,688 workers, Machinery with 7,630 workers and Chemicals with 6,730 workers. Most of the expansion in the Chemicals sector was the result of growth in the county's Pharmaceutical & Medicine manufacturing industry. Both Machinery and Chemicals added jobs between 2006 and 2009 with employment increasing by +2.7% and +3.4% respectively. In 2009, the top five manufacturing sectors comprised nearly 70% of San Diego County's manufacturing employment.

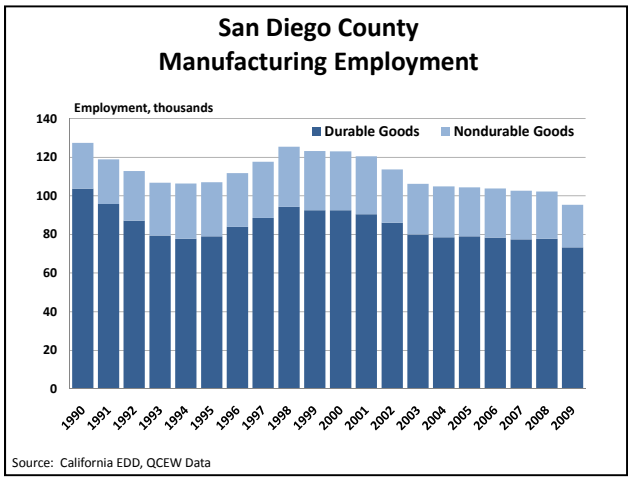

Chart 22

In spite of the decline in employment numbers, manufacturing remains an important component of the San Diego County economy because of the relatively high wages manufacturing workers earn. In 2009, the average annual wage across *all* industries in the County was $48,023. In contrast, the average annual wage paid within the manufacturing sector was $67,544. Additionally, manufacturing wages have demonstrated substantial growth over the last decade. Computer & Electronic Products paid the highest annual salaries ($93,534), followed by Petroleum & Coal Products, which employs very few people ($86,287). The Chemicals sector is close behind with an average annual wage of $83,349. Machinery ($69,316) and Transportation Equipment ($67,422) round out the top five.

Table 11: Largest Manufacturing Sectors in San Diego County, 2009

(Average annual employment, thousands)

Rank	Industry Sector	2000	2006	2009	00/06 %Change	06/09 %Change
1	Computer & Electronic Products	33,231	26,958	26,134	-18.9%	-3.1%
2	Transportation Equipment	13,668	13,674	14,685	0.0%	7.4%
3	Miscellaneous (medical, jewlry, toys, etc.)	12,813	11,019	10,688	-14.0%	-3.0%
4	Machinery	9,444	7,426	7,630	-21.4%	2.7%
5	Chemicals	6,021	6,508	6,730	8.1%	3.4%
	Other	47,853	38,282	29,524	-20.0%	-22.9%
	Total of Manufacturing Industries	123,030	103,867	95,391	-15.6%	-8.2%

Source: California EDD, QCEW Data

Table 12: Manufacturing Wages in San Diego County, 2009

(Ranked by average annual wage)

Rank	Industry Sector	Employment	No. of Establishments	Annual Payroll ($mil)	Ave. Annual Wage ($)	00/09 %Change
1	Computer & Electronic Products	26,134	382	2,444.4	93,534	29.5%
2	Petroleum & Coal Products	73	9	6.3	86,287	61.6%
3	Chemicals	6,730	153	560.9	83,349	42.7%
4	Machinery	7,630	184	528.9	69,316	36.8%
5	Transportation Equipment	14,685	177	990.4	67,442	40.5%
	Other	40,139	2,160	1,912.2	47,639	41.9%
	Total of Manufacturing Industries	95,391	3,065	6,443.1	67,544	40.3%

Source: California EDD, QCEW Data

MANUFACTURING IN VENTURA COUNTY

Ventura County had an average of 32,557 manufacturing employees in 2009, a drop of over -5,000 jobs (-14%) compared with 2006. As shown in Chart 23, manufacturing employment in Ventura County has declined significantly from its peak years. This is mainly due to problems at the county's largest employers and the deterioration of residential and commercial construction. While the 1990s were a period of expansion for Ventura County, growth during the past decade (2000-2009) was affected by greater cyclical variation. In 2008, manufacturing employment suffered a decline of -2,500 jobs, which was followed by the loss of another -3,000 jobs in 2009. In 2009, manufacturing employment stood at 32,600, roughly equivalent to where it was in 1995.

The largest manufacturing sector in Ventura County in 2009 was Chemicals with 7,853 jobs. The Chemicals sector includes Pharmaceuticals which declined by -1,500 jobs (or by -15%) over the past three years. The Computer and Electronic Products sector had the second highest number of employees with 7,694 jobs, followed by Fabricated Metal Products, Machinery and Transportation Equipment.

The 2008/2009 recession almost brought new home construction in Ventura County to a complete standstill. The abrupt collapse in new construction diminished demand for basic building materials and domestic goods across Southern California. The most significant contraction in Ventura County manufacturing employment took place in the Chemicals sector, which gave up -1,386 jobs over the past three years (primarily in toilet preparation and toilet cleaning compounds). The next largest decline came in the Fabricated Metal Products sector (especially in architectural metals, machine shops and screws, nuts & bolts), which lost nearly -800 jobs over the same time period.

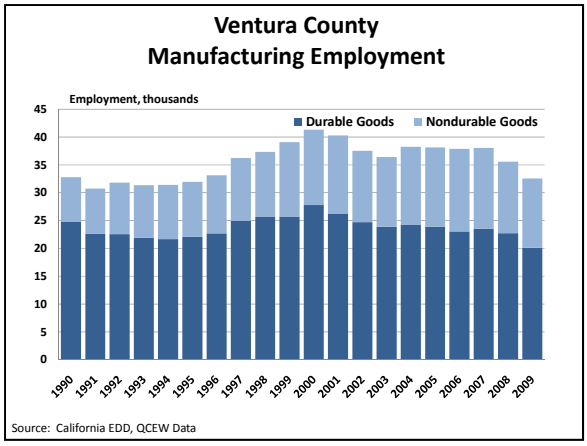

Chart 23

The Machinery sector (including metalworking) suffered the third highest drop, shedding -515 jobs from 2006 to 2009. Finally, Plastics & Rubber Products (including floor coverings) along with Electrical Equipment & Appliances (including residential lighting fixtures and motor manufacturing) also experienced drops in employment, losing over -900 jobs combined.

The highest manufacturing wages in Ventura County were paid in the Chemicals sector followed by Computers and Electronic Products, Transportation Equipment, Machinery and Electrical Equipment & Appliances. Since 2000, Computer & Electronic Products manufacturing saw the largest jump in annual wages from nearly $64,000 to almost $81,000 in 2009. Significant wage growth also occurred in Electrical Equipment & Appliances, which increased by +29.8% to $56,000 from 2000 to 2009. Transportation Equipment along with Machinery also experienced substantial growth in salaries over the decade.

Table 13: Largest Manufacturing Sectors in Ventura County, 2009

(Average annual employment, thousands)

Rank	Industry Sector	2000	2006	2009	00/06 %Change	06/09 %Change
1	Chemicals	7,333	9,239	7,853	26.0%	-15.0%
2	Computer and Electronic Products	12,015	7,956	7,694	-33.8%	-3.3%
3	Fabricated Metal Products	3,521	3,838	3,042	9.0%	-20.7%
4	Machinery	3,760	3,372	2,857	-10.3%	-15.3%
5	Transportation Equipment	2,614	1,983	1,760	-24.1%	-11.2%
	Other	12,095	11,522	9,351	-4.7%	-18.8%
	Total of Manufacturing Industries	41,338	37,910	32,557	-8.3%	-14.1%

Source: California EDD, QCEW Data

Table 14: Manufacturing Wages in Ventura County, 2009

(Ranked by average annual wage)

Rank	Industry Sector	Employment	No. of Establishments	Annual Payroll ($mil)	Ave. Annual Wage ($)	00/09 %Change
1	Chemicals	7,853	46	1,090.6	138,875	-16.1%
2	Computer & Electronic Parts	7,694	150	622.9	80,955	26.8%
3	Transportation Equipment	1,760	48	109.5	62,237	14.9%
4	Machinery	2,857	85	169.8	59,436	8.2%
5	Electrical Equipment and Appliances	1,083	29	61.2	56,544	29.8%
	Other	11,310	599	530.6	46,914	32.1%
	Total of Manufacturing Industries	32,557	957	2,584.6	79,372	13.5%

Source: California EDD, QCEW Data

INDUSTRIAL REAL ESTATE

Industrial land use is important because job producing land is necessary to accommodate population growth and promote economic expansion. Studies show that land used for manufacturing generates significant tax revenues for the state in the form of personal income taxes because manufacturing jobs tend to pay higher wages than service sector jobs. Additionally, manufacturing activities have a greater multiplier effect than retail and other service industries.[5]

COUNTY TRENDS

Industrial land availability in **Los Angeles County** has been constrained by pressure to convert industrial zoned areas to retail and housing: retail because cities have direct access to sales tax revenues generated by retail operations, and housing to shelter an expanding population.

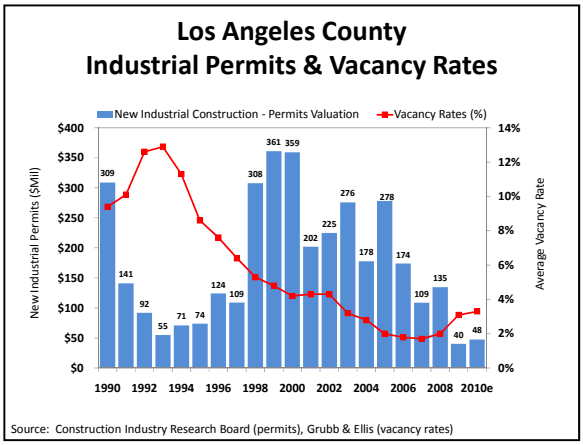

Chart 24

The shortage of modern manufacturing facilities in Los Angeles County has cost the region an opportunity to create high wage jobs. The vacancy rate for industrial space has declined steadily from a high of 13.1% in the early 1990s to less than 2.0% during much of 2000-2008.

Although the Los Angeles County industrial market held up relatively well during the downturn, it was by no means immune to the deteriorating job market and drop-off in demand. Vacancy rates began to climb in mid-2008. By the third quarter of 2010, the county's average vacancy rate stood at 3.3%. Nonetheless, Los Angeles County continues to have the tightest industrial real estate market in the country.

Permit values for new industrial construction plunged during the recession – from $134.6 million in 2008 to just $40.1 million in 2009. Through November 2010, industrial permit values showed moderate improvement, rising by +18.7% compared with the same period in 2009.

Los Angeles County greatly benefited from the 2010 bounce-back in international trade. Strong demand for U.S. goods overseas boosted local manufacturing firms. In the U.S. the need to restock warehouses and fill distribution pipelines also contributed to stabilizing demand for industrial space. Vacancy rates held steady most of the year. Asking rental rates also appear to be stabilizing (although at a 12-year low).

Trends in **Orange County** industrial real estate largely reflect what is happening in manufacturing employment. Industrial vacancy rates are still fairly low but have been rising. In 2009 the average industrial vacancy rate was 6.3%, up from 4.6% in 2008 and 3.8% in 2007. As of the third quarter of 2010, the vacancy rate stood at 6.9% after peaking at 7.0% in 1q10. Permit values for new industrial construction literally fell to the floor during the recession. The most recent peak was in 2006 when $89 million in new industrial construction was permitted. By 2009, no new industrial construction permits were issued.

[5] *Redeveloping Obsolete Industrial Land with Modern Manufacturing Facilities*, Gregory Freeman et al; Los Angeles Economic Development Corp. (March 2000); and *Industrial Development Policy initiative for the City of Los Angeles: Phase 1 Report: Key Industrial Land Use Findings and Issues*; Mayor's Office of Economic Development (2004)

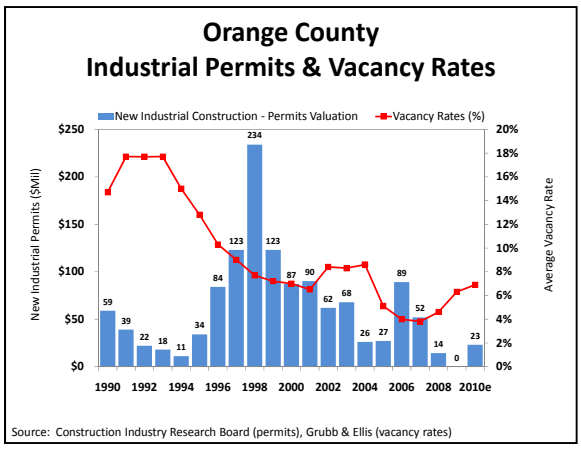

Chart 25

Manufacturers that want to move to Orange County or expand existing operations have hundreds of thousands of square feet of empty industrial space to choose from. Lease rates are at their lowest since 2000 and prices on buildings for sale are at their lowest since 2002. On the other hand, Orange County has limited space available for new industrial development (large tracts have been allocated to housing, retail and office space). This will eventually lead to lower vacancy rates and higher rents, further increasing cost pressures on the county's manufacturing firms.

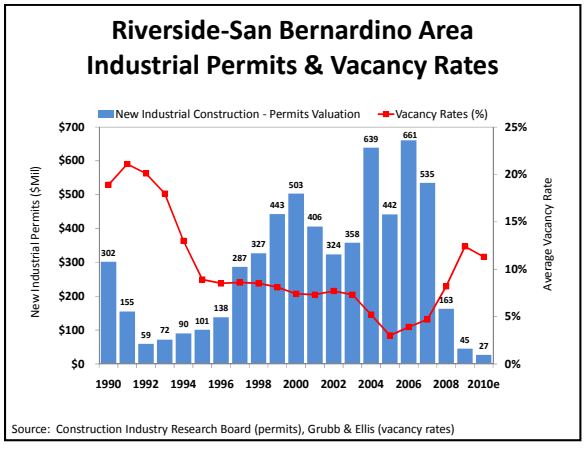

Chart 26

In the **Inland Empire** asking rental rates are stuck at record lows. However, the vacancy rate has declined from a high of 12.8% in the third quarter of 2009 to 10.8% in 3q10. Most the recent improvement in the Riverside-San Bernardino area is being driven by an increase in demand for warehouse space.

Permits for new industrial construction came to a virtual standstill in 2009. In 2007, $535 million worth of new industrial construction was permitted, but by 2009, the value plummeted to just $45 million. During the first 11 months of 2010, only $27 million in new industrial construction has been permitted.

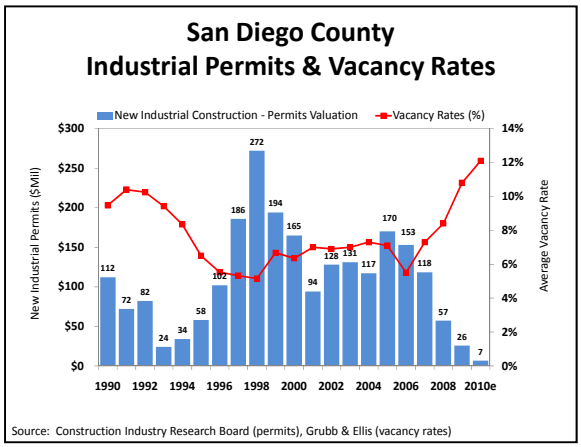

Chart 27

Industrial real estate in **San Diego County** has been showing tentative signs of improvement. The two largest users of industrial properties are manufacturing and wholesale firms, both of which were hit hard during the recession. The last two years of recession battered the industrial real estate market. In 2009, the average industrial vacancy rate was 10.7%, up from 8.4% in 2008 and 7.3% in 2007. By the first quarter of 2010, the vacancy rate had risen to 11.5%, spiked at 12.4% in the second quarter and then edged down to 12.2% in the third quarter. Asking rents and property values have fallen accordingly.

Permit values for new industrial construction crashed during the recession. The most recent peak was 2005 when $170.3 million in new industrial construction was permitted. In 2009, that number fell to only $25.7 million and during

the first 11 months of 2010, it fell even further – to just $6.5 million.

Recovery of the industrial real estate market will depend in large part on a pick-up in the pace of job creation and stronger domestic demand. As the economic recovery gains strength and manufacturing firms begin to hire again, they will need to invest in more plant and equipment. On the other hand, firms have become very good at making do with less as a result of the recession and have managed to reap large productivity gains with fewer workers and less space. Thus, improvement in the industrial real estate market will lag recovery in other sectors of the economy.

OUTLOOK FOR SOUTHERN CALIFORNIA MANUFACTURING

Employment: Manufacturing employment in Southern California has declined sharply over the past 20 years, just as it has elsewhere in the U.S. There was a brief resurgence in the mid to late 1990s, but after the 2000 recession, manufacturing employment in the region reverted to its former downward trajectory.

The latest recession was particularly unkind to manufacturing, especially its workers, though employment could rebound slightly in 2011. As the economy improves, manufacturing firms in the area will add workers to meet an increase in orders. However, this does not presage a new period of employment growth. Probably the best we can hope for is to see employment in the manufacturing sector remain flat overall with some industries adding workers while others continue to shed them.

Note that the official employment numbers may be somewhat under-reported. Temporary workers hired by manufacturing firms are employees of temp agencies and are classified as "employment services" workers. Additionally, a significant number of workers in Southern California are counted in the nonemployer statistics, meaning they are self-employed persons, engaged in manufacturing activities but have no employees. These single-person firms do not show up in the regular employment data – see Appendix Table 33 for the numbers of nonemployer firms and receipts by county and sector.

Los Angeles County, while retaining its position as the largest manufacturing center in the U.S., saw manufacturing employment fall by -10.2% in 2009. An additional decline of -4.9% is likely to have occurred in 2010. During the coming year, as the economy improves, manufacturing employment will stop shedding jobs and remain flat.

Orange County also suffered a decline of -10.2% during 2009, but fared a little better last year. The decline in 2010 should be in the neighborhood of -2.1% and in 2011, the county can expect a small uptick (+1.5%).

Manufacturing employment in the Riverside-San Bernardino area was devastated by the recession. At the height of the housing boom (2004-2006), the Inland Empire added manufacturing jobs as population growth surged and firms moved into the region in search of plentiful land and lower costs. At the onset of the recession, however, manufacturing employment was hit earlier and hit harder compared with the rest of Southern California. In 2009, manufacturing employment contracted by -17.4% and in 2010 by -3.8% (estimated). Jobs losses will continue in 2011, but slow to about -0.5%.

Looking at the northern and southern ends of Southern California, manufacturing employment

in Ventura County dropped by -8.6% in 2009 and by -3.3% in 2010 (estimated). Manufacturing employment growth in 2011 will be about +1.0%. San Diego came through the recession with the smallest decline in manufacturing employment (-6.7%), but experienced a decline of -4.5% in 2010. Manufacturing employment will be nearly flat in 2011 (+0.5%), but much will depend on the Department of Defense and if it cuts back on locally produced weapon systems programs.

Table 15: Manufacturing Employment Forecast

(Annual average employment, thousands)

	L.A County	Orange County	Riverside-San Bernardino	San Diego County	Ventura County	L.A County	Orange County	Riverside-San Bernardino	San Diego County	Ventura County
1990	839.0	247.8	81.9	127.5	32.9	---	---	---	---	---
1991	765.1	221.2	77.3	118.9	31.0	-8.8%	-10.8%	-5.6%	-6.7%	-5.9%
1992	701.4	205.5	79.7	112.8	31.9	-8.3%	-7.1%	3.0%	-5.1%	3.1%
1993	648.0	194.3	79.3	106.9	31.4	-7.6%	-5.5%	-0.4%	-5.3%	-1.5%
1994	637.2	193.0	82.3	106.4	31.5	-1.7%	-0.7%	3.8%	-0.5%	0.2%
1995	630.5	194.8	88.5	107.1	32.3	-1.1%	0.9%	7.5%	0.7%	2.6%
1996	637.4	201.1	93.2	111.8	33.5	1.1%	3.2%	5.3%	4.4%	3.6%
1997	642.9	210.9	99.4	117.7	36.3	0.9%	4.9%	6.6%	5.3%	8.3%
1998	649.6	216.8	105.7	125.5	37.3	1.0%	2.8%	6.3%	6.6%	2.9%
1999	630.6	213.7	115.4	123.2	39.1	-2.9%	-1.4%	9.2%	-1.8%	4.8%
2000	615.5	217.9	120.3	123.0	41.3	-2.4%	2.0%	4.3%	-0.1%	5.7%
2001	577.7	209.9	117.3	120.5	40.3	-6.1%	-3.7%	-2.5%	-2.1%	-2.5%
2002	534.4	191.1	113.9	113.7	37.6	-7.5%	-9.0%	-2.9%	-5.6%	-6.8%
2003	497.0	182.0	113.3	106.2	36.9	-7.0%	-4.8%	-0.5%	-6.6%	-1.8%
2004	481.5	183.0	118.9	104.9	38.4	-3.1%	0.6%	5.0%	-1.2%	3.9%
2005	467.3	182.2	119.7	104.4	38.2	-2.9%	-0.4%	0.7%	-0.5%	-0.4%
2006	463.1	181.8	122.6	103.9	37.9	-0.9%	-0.2%	2.4%	-0.5%	-0.7%
2007	446.2	176.3	116.9	102.6	38.1	-3.7%	-3.0%	-4.7%	-1.2%	0.6%
2008	433.2	172.2	106.0	102.3	35.7	-2.9%	-2.4%	-9.3%	-0.4%	-6.5%
2009	389.2	154.6	87.5	95.4	32.6	-10.2%	-10.2%	-17.4%	-6.7%	-8.6%
2010f	370.2	151.3	84.2	91.1	31.5	-4.9%	-2.1%	-3.8%	-4.5%	-3.3%
2011f	370.2	153.6	83.8	91.6	31.8	0.0%	1.5%	-0.5%	0.5%	1.0%

Source: California EDD, QCEW & CES Data; forecasts by LAEDC

VII. THE REALITY OF MANUFACTURING TODAY

It is clear that manufacturing is not for the faint of heart. It is extremely sensitive to the business cycle (witness the last three years) and it is highly competitive with domestic and foreign firms vying ferociously for market share. Future success depends on the relentless drive to boost productivity and lower costs. In spite of all the forces arrayed against U.S. manufacturing in recent years, the value of shipments data show Southern California companies are holding their own.

So how should we think about manufacturing in Southern California? Certainly, the manufacturing industry in Southern California is large and surprisingly diverse. Companies producing everything from salsa to satellites call Southern California home. In spite of the challenges the region's manufacturers are up against, the greater Los Angeles area has some significant strengths. Manufacturers in the region have ready access to global markets and suppliers through the Ports of Los Angeles and Long Beach, as well as Los Angeles and Ontario International Airports. A wide network of ground and air infrastructure means fast, efficient connections to the rest of the U.S. And, perhaps most importantly, Southern California possesses a large work force, many of whom are highly educated.

And yet, the challenges are considerable. The State of California has comparatively high utility costs, strict air quality standards and AB 32 (California Global Warming Solutions Act) is coming. California and Los Angeles both have a difficult regulatory climate, which increases the cost of doing business here. Additionally, if we want to attract manufacturing firms to the region, we need to have sufficient industrial land available and for neighbors bordering industrial zones to understand the importance of manufacturing to the local economy.

Lastly, we need to take steps to make sure the region has an appropriately educated workforce, especially as the baby-boomers retire. The large increases in the value of shipments in advanced technology sectors like Computers, Pharmaceuticals, Chemicals and Medical Devices relative to industries like Apparel, Furniture and Textiles, indicate where future growth in manufacturing employment is mostly like to occur. However, jobs in high tech industries require an educated and highly trained workforce. So, on the one hand, while manufacturing firms are not creating an abundance of new jobs, the ones that are opening up may not have a sufficient number of skilled workers to fill them.

When examined together, the stark contrast between the decline in manufacturing employment and the increase in the value of manufacturing shipments illustrates how rising productivity has reshaped the manufacturing sector in Southern California and across the nation. It also points to opportunity. Southern California is rich in creativity. More should be done to encourage young people to use their creative talents in the manufacturing sector. Southern California is also a leader in advanced technology manufacturing, but to hold on to that edge, we must have enough highly skilled workers to fill those jobs.

In the end, in spite of higher labor costs, Southern California manufacturing can remain competitive on the world stage by implementing a strategy that fully utilizes the creative talent of the region and by retaining an intense focus on quality. As well, more can be done at home to encourage industries that are less exposed to international trade (like food) through smart land use and development policies that recognize the importance of manufacturing and encourage its growth.

VIII. Statistical Appendix

Table 16: Metropolitan Manufacturing Employment by Sector, 2009

(Annual average employment, thousands)

	Industry Sector	Los Angeles County MD	Chicago MD	Houston MSA	Detroit MSA	Minneapolis-St. Paul MSA	Dallas MD	Seattle MSA	San Jose MSA	New York[1] MD	Orange County MD	Atlanta MSA	Philadelphia[2] MD
311	Food	40,360	44,207	9,099	ND	1,579	13,412	13,685	4,101	19,941	6,560	23,367	13,662
312	Beverage & Tobacco Products	5,079	2,618	2,840	2,386	1,545	1,673	ND	886	1,036	1,166	1,803	1,359
313	Textile Mills	7,660	557	177	ND	211	288	89	109	2,056	743	2,170	1,136
314	Textile Product Mills	4,601	2,570	ND	ND	665	1,627	1,357	159	2,261	1,846	4,101	1,010
315	Apparel	48,107	2,275	372	610	314	1,594	1,324	116	18,835	6,707	1,707	2,381
316	Leather & Allied Products	2,110	400	111	ND	ND	458	125	ND	609	184	103	ND
321	Wood Products	3,911	2,155	2,739	ND	4,523	2,710	3,939	663	1,576	904	4,398	1,160
322	Paper	7,614	16,051	1,349	ND	5,725	4,260	ND	ND	3,989	2,956	7,188	6,254
323	Printing & Related Support Activities	18,426	23,852	5,717	4,239	16,080	9,306	4,656	1,486	12,804	8,336	11,097	8,078
324	Petroleum & Coal Products	4,383	1,854	12,994	1,053	1,982	927	494	50	253	461	612	414
325	Chemicals	19,112	20,075	ND	5,506	7,598	8,356	2,521	ND	13,629	8,690	9,484	25,153
326	Plastic & Rubber Products	14,286	23,193	10,231	7,440	ND	7,972	4,047	ND	4,208	8,198	11,873	5,093
327	Nonmetallic Mineral Products	5,785	6,948	6,287	ND	2,844	8,074	4,866	ND	2,435	2,002	7,005	3,014
331	Primary Metals	7,475	8,321	3,396	ND	3,326	2,971	ND	ND	247	1,242	3,457	3,241
332	Fabricated Metal Products	42,797	53,181	ND	24,936	26,067	17,121	9,974	7,913	14,503	21,648	10,445	15,636
333	Machinery	16,154	32,483	41,014	24,335	18,013	9,667	5,951	8,157	7,000	9,467	7,177	8,100
334	Computer & Electronic Products	51,323	22,540	ND	6,870	36,270	41,549	14,121	106,834	17,329	33,722	9,469	9,878
335	Electrical Equip., Appliance & Components	9,544	17,437	6,853	ND	4,610	2,604	ND	ND	3,825	4,670	5,762	3,176
336	Transportation Equipment	47,649	11,897	8,397	75,397	2,563	13,192	85,300	ND	6,004	13,879	12,988	15,150
337	Furniture & Related Products	13,871	7,888	2,978	2,090	4,565	8,098	3,598	1,009	6,139	4,001	4,545	3,377
339	Miscellaneous (medical, jewelry, toys, etc.)	19,055	18,177	ND	5,665	18,168	7,642	6,947	4,700	15,105	17,192	6,938	6,933
	Other/Undisclosed	0	6,177	110,101	22,423	20,647	9,979	8,229	19,998	1,057	0	0	2,233
	Total of Manufacturing Industries	389,302	324,856	224,655	182,950	177,295	173,480	171,223	156,181	154,841	154,574	145,689	136,438

[1] New York MD includes: Bronx, Kings, Nassau, New York, Queens, Richmond and Suffolk Counties

[2] Philadelphia MD includes: Bucks, Chester, Delaware, Montgomery and Philadelphia Counties

Note: ND = Not disclosable -- data do not meet BLS or State Agency disclosure standards

Table 17: U.S. Manufacturing – Capital Expenditures as a Percentage of Sales by Sector, 2009

NAICS	Industry	Shipments ($Millions)	Total CapEx (New/used)	CapEx % of Shipments
331	Primary Metals	168,297.9	7,643.5	4.5%
327	Nonmetallic Mineral Products	90,395.9	3,813.5	4.2%
334	Computer & Electronic Products	327,991.4	12,767.4	3.9%
313	Textile Mills	26,461.3	965.6	3.6%
324	Petroleum & Coal Products	497,875.5	17,608.7	3.5%
325	Chemicals	628,945.8	21,121.9	3.4%
3254	Pharmaceuticals & medicine	191,409.9	4,928.2	2.6%
325X	Chemicals & related products	437,535.9	16,193.8	3.7%
326	Plastics & Rubber Products	171,185.5	5,339.7	3.1%
323	Printing & Related Support Activities	83,861.0	2,529.4	3.0%
322	Paper	161,816.4	4,401.1	2.7%
312	Beverage & Tobacco Products	119,882.1	3,237.6	2.7%
339	Miscellaneous	143,915.5	3,834.9	2.7%
332	Fabricated Metal Products	281,316.5	7,486.8	2.7%
333	Machinery	287,634.2	7,279.5	2.5%
321	Wood Products	65,440.1	1,605.4	2.5%
335	Electrical equipment, Appliance, & Components	106,650.7	2,518.6	2.4%
336	Transportation Equipment	545,018.4	12,667.1	2.3%
3361-3	Automotive	301,710.3	8,276.3	2.7%
3364	Aerospace	178.9	3,039.5	1.7%
316	Leather & Allied Product	4,188.3	97.3	2.3%
314	Textile Product Mills	21,260.9	476.2	2.2%
311	Food	628,566.1	13,631.8	2.2%
315	Apparel	14,665.7	221.0	1.5%
337	Furniture & Related Products	60,826.9	833.6	1.4%
	Total Manufacturing	5,000,758.1	149,851.3	3.0%

Source: U.S. Census Bureau, Annual Survey of Manufacturers

Table 18: California Manufacturing – Capital Expenditures as a Percentage of Sales by Sector, 2009

NAICS	Industry	Shipments ($Millions)	Total CapEx (New/used)	CapEx % of Shipments
323	Printing & Related Support Activities	7,124.2	438.1	6.1%
312	Beverage & Tobacco Products	20,892.9	1,193.1	5.7%
327	Nonmetallic Mineral Products	7,850.0	361.8	4.6%
333	Machinery	16,351.6	646.5	4.0%
324	Petroleum & Coal Products	65,901.9	2,506.7	3.8%
314	Textile Product mills	1,608.9	56.6	3.5%
334	Computer & Electronic Products	70,058.9	2,440.9	3.5%
311	Food	63,491.0	1,906.5	3.0%
326	Plastics & Rubber Products	12,654.4	373.3	3.0%
325	Chemicals	43,525.1	1,265.7	2.9%
3254	Pharmaceuticals & medicine	30,840.4	811.4	2.6%
325X	Chemicals & related products	12,684.8	454.3	3.6%
332	Fabricated Metal Product	25,002.5	713.8	2.9%
335	Electrical Equipment, Appliance, & Component	8,000.7	205.9	2.6%
322	Paper	9,103.0	222.0	2.4%
339	Miscellaneous	23,551.1	558.6	2.4%
336	Transportation Equipment	45,677.8	1,054.9	2.3%
3364	Aerospace	28,443.6	582.0	2.0%
336X	Other transportation equipment	17,234.2	473.0	2.7%
313	Textile Mills	1,222.3	28.0	2.3%
316	Leather & Allied Products	520.2	10.6	2.0%
331	Primary Metals	5,300.0	96.2	1.8%
321	Wood Products	3,913.8	66.2	1.7%
337	Furniture & Related Products	5,597.6	92.8	1.7%
315	Apparel	6,139.2	100.6	1.6%
	Total Manufacturing	443,487.0	14,338.6	3.2%

Source: U.S. Census Bureau, Annual Survey of Manufacturers

Table 19: U.S. Manufacturing – Globalization Index by Sector, 2009

NAICS	Industry	Shipments ($Millions)	Plus: Imports ($Millions)	Less: Exports ($Millions)	Equals: Apparent Supply ($Millions)	Import % App. Supply	Export % Shipments	Average	Import Index	Export Index	Globalization Index
316	Leather & Allied Products	4,188.3	25,548.0	2,699.0	27,037.3	94.5%	64.4%	79.5%	352.4	292.8	325.5
315	Apparel	14,665.7	66,818.3	4,020.0	77,464.0	86.3%	27.4%	56.8%	321.7	124.5	232.8
334	Computer & Electronic Products	327,991.4	265,556.7	160,627.8	432,920.3	61.3%	49.0%	55.2%	228.8	222.5	226.0
339	Miscellaneous	143,915.5	82,474.7	52,740.3	173,649.9	47.5%	36.6%	42.1%	177.1	166.5	172.3
333	Machinery	287,634.2	86,832.1	113,415.8	261,050.5	33.3%	39.4%	36.3%	124.1	179.2	148.9
335	Electrical Equipment, Appliance, & Components	106,650.7	55,518.6	31,386.2	130,783.1	42.5%	29.4%	35.9%	158.3	133.7	147.2
336	Transportation Equipment	545,018.4	180,255.7	165,375.1	559,899.0	32.2%	30.3%	31.3%	120.1	137.9	128.1
336x	All other transportations	366,094.1	149,198.5	80,897.6	434,395.1	34.3%	22.1%	28.2%	128.1	100.4	115.6
3364	Aerospace	178,924.2	31,057.2	84,477.6	125,503.9	24.7%	47.2%	36.0%	92.3	214.5	147.4
331	Primary Metals	168,297.9	55,411.5	40,656.3	183,053.1	30.3%	24.2%	27.2%	112.9	109.8	111.5
314	Textile Product Mills	21,260.9	13,226.6	2,556.7	31,930.8	41.4%	12.0%	26.7%	154.5	54.6	109.5
325	Chemicals	628,945.8	162,366.5	152,255.1	639,057.2	25.4%	24.2%	24.8%	94.8	110.0	101.6
3254	Pharmaceutical & medicine	191,409.9	82,624.0	48,492.4	225,541.6	36.6%	25.3%	31.0%	136.6	115.1	126.9
325X	All other Chemicals	437,535.9	79,742.5	103,762.7	413,515.6	19.3%	23.7%	21.5%	71.9	107.8	88.1
313	Textile Mills	26,461.3	5,283.5	6,685.5	25,059.2	21.1%	25.3%	23.2%	78.6	114.8	94.9
337	Furniture & Related Products	60,826.9	21,566.4	4,000.8	78,392.6	27.5%	6.6%	17.0%	102.6	29.9	69.8
326	Plastics & Rubber Products	171,185.5	27,749.3	21,633.0	177,301.8	15.7%	12.6%	14.1%	58.4	57.4	57.9
332	Fabricated Metal Products	281,316.5	39,779.6	30,205.8	290,890.4	13.7%	10.7%	12.2%	51.0	48.8	50.0
322	Paper	161,816.4	18,514.4	19,699.9	160,630.9	11.5%	12.2%	11.9%	43.0	55.3	48.5
324	Petroleum & Coal Products	497,875.5	75,138.5	41,595.1	531,418.9	14.1%	8.4%	11.2%	52.7	38.0	46.1
327	Nonmetallic Mineral Products	90,395.9	13,081.2	7,927.8	95,549.3	13.7%	8.8%	11.2%	51.1	39.8	46.0
321	Wood Products	65,440.1	9,746.4	4,193.1	70,993.4	13.7%	6.4%	10.1%	51.2	29.1	41.2
312	Beverage & Tobacco Products	119,882.1	14,453.7	4,660.6	129,675.1	11.1%	3.9%	7.5%	41.6	17.7	30.8
323	Printing & Related Support Activities	83,861.0	4,890.0	6,094.9	82,656.2	5.9%	7.3%	6.6%	22.1	33.0	27.0
311	Food	628,566.1	36,131.1	44,679.4	620,017.9	5.8%	7.1%	6.5%	21.7	32.3	26.5
	Total Manufacturing	5,610,160.3	1,602,965.1	1,234,738.4	5,978,387.0	26.8%	22.0%	24.4%	100.0	100.0	100.0

Source: U.S. Census Bureau, Annual Survey of Manufacturers; Department of Commerce (USA Trade on Line)

Table 20: Los Angeles County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
324	Petroleum & Coal Products	10.756	12.926	37.896	252.3%	193.2%
334	Computer & Electronic Products	11.585	11.385	17.582	51.8%	54.4%
311	Food	8.849	12.221	16.045	81.3%	31.3%
336	Transportation Equipment	17.829	13.670	15.586	-12.6%	14.0%
3361-63	Automotive	4.177	2.667	2.424	-42.0%	-9.1%
3364	Aerospace	13.261	10.756	12.906	-2.7%	20.0%
325	Chemicals	7.506	8.635	11.573	54.2%	34.0%
3254	Pharmaceuticals & medicine	2.327	2.633	4.472	92.2%	69.8%
325X	All other chemical manufacturing	5.179	6.002	7.100	37.1%	18.3%
332	Fabricated Metal Products	8.858	8.118	9.669	9.2%	19.1%
315	Apparel	8.575	7.796	8.067	-5.9%	3.5%
326	Plastic & Rubber Products	3.747	3.776	4.163	11.1%	10.3%
323	Printing & Related Support Activities	3.908	4.011	4.004	2.4%	-0.2%
333	Machinery	4.007	3.237	3.672	-8.4%	13.4%
339	Miscellaneous (medical, jewelry, toys, etc.)	3.375	3.606	3.635	7.7%	0.8%
337	Furniture & Related Products	2.802	3.278	3.373	20.4%	2.9%
335	Electrical Equip., Appliance & Components	2.531	2.069	3.090	22.1%	49.4%
322	Paper	2.603	.752	2.875	10.4%	282.5%
331	Primary Metals	2.488	2.271	2.799	12.5%	23.2%
327	Nonmetallic Mineral Products	1.461	1.564	2.009	37.5%	28.4%
314	Textile Product Mills	1.376	1.299	1.350	-1.8%	4.0%
313	Textile Mills	.944	1.174	1.058	12.1%	-9.8%
321	Wood Products	.541	.681	.824	52.1%	20.9%
312	Beverage & Tobacco Products	2.685	3.284	ND	---	---
316	Leather & Allied Products	.281	.298	ND	---	---
	Value of other and/or non-disclosed items	----	2.000	4.074	---	103.7%
31-33	Total Manufacturing	106.706	108.052	153.344	43.7%	41.9%
Note: Excluding Petroleum & Coal Products (#324):		95.950	95.127	115.447	20.3%	21.4%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 21: Orange County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
334	Computer & Electronic Products	12.331	13.804	14.188	15.1%	2.8%
339	Miscellaneous (medical, jewelry, toys, etc.)	2.646	3.891	6.066	129.3%	55.9%
332	Fabricated Metal Products	3.187	2.813	4.383	37.5%	55.8%
325	Chemicals	3.174	2.539	4.178	31.7%	64.6%
3254	Pharmaceuticals & medicine	2.346	1.448	2.368	1.0%	63.5%
325X	All other chemical manufacturing	.828	1.091	1.810	118.7%	66.0%
333	Machinery	2.321	2.166	3.313	42.7%	53.0%
311	Food	2.193	2.407	2.814	28.3%	16.9%
336	Transportation Equipment	2.980	1.729	2.457	-17.5%	42.1%
3361-63	Automotive	.597	.725	1.041	74.4%	43.5%
3364	Aerospace	2.018	.388	.897	-55.5%	131.3%
326	Plastic & Rubber Products	2.301	2.414	2.440	6.0%	1.1%
335	Electrical Equip., Appliance & Components	1.265	1.050	1.747	38.2%	66.5%
323	Printing & Related Support Activities	1.285	1.378	1.442	12.2%	4.6%
322	Paper	1.232	1.279	1.395	13.2%	9.1%
337	Furniture & Related Products	1.318	1.089	.999	-24.3%	-8.3%
327	Nonmetallic Mineral Products	.498	.573	.810	62.6%	41.2%
331	Primary Metals	.316	.240	.410	29.7%	70.6%
312	Beverage & Tobacco Products	.332	ND	ND	---	---
313	Textile Mills	.150	.248	ND	---	---
314	Textile Product Mills	.420	.533	ND	---	---
315	Apparel	.821	1.174	ND	---	---
316	Leather & Allied Products	ND	ND	ND	---	---
321	Wood Products	.212	.259	ND	---	---
324	Petroleum & Coal Products	---	---	---	---	---
	Value of other and/or non-disclosed items	.153	.495	2.490	1524.1%	402.9%
31-33	Total Manufacturing	39.134	40.081	49.132	25.5%	22.6%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 22: Riverside County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
332	Fabricated Metal Products	1.048	1.421	1.776	69.4%	25.0%
336	Transportation Equipment	1.010	1.346	1.535	52.0%	14.0%
3361-63	Automotive	.847	1.088	.293	-65.4%	-73.0%
3364	Aerospace	ND	ND	ND	---	---
339	Miscellaneous (medical, jewelry, toys, etc.)	1.062	2.147	1.447	36.3%	-32.6%
311	Food	.700	.863	1.295	85.0%	50.1%
326	Plastic & Rubber Products	.790	.994	1.162	47.1%	16.9%
327	Nonmetallic Mineral Products	.424	.537	.882	108.1%	64.3%
334	Computer & Electronic Products	.586	.469	.664	13.3%	41.7%
333	Machinery	.255	.448	.599	134.6%	33.8%
312	Beverage & Tobacco Products	ND	.184	.568	---	208.7%
337	Furniture & Related Products	.238	.432	.503	111.5%	16.6%
321	Wood Products	.227	.443	.472	107.7%	6.5%
335	Electrical Equip., Appliance & Components	---	.112	.305	---	171.4%
322	Paper	.135	.163	ND	---	---
323	Printing & Related Support Activities	.273	.409	ND	---	---
325	Chemicals	.371	.519	ND	---	---
3254	Pharmaceuticals & medicine	ND	ND	ND	---	---
331	Primary Metals	.174	.166	ND	---	---
313	Textile Mills	---	---	---	---	---
314	Textile Product Mills	---	---	---	---	---
315	Apparel	---	ND	---	---	---
316	Leather & Allied Products	---	---	---	---	---
324	Petroleum & Coal Products	---	---	---	---	---
	Value of other and/or non-disclosed items	.442	.190	2.415	446.4%	1173.6%
31-33	Total Manufacturing	7.736	10.842	13.624	76.1%	25.7%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 22: San Bernardino County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
311	Food	1.459	2.122	2.745	88.2%	29.3%
332	Fabricated Metal Products	1.633	1.834	2.544	55.8%	38.7%
327	Nonmetallic Mineral Products	.908	1.232	1.861	104.9%	51.1%
326	Plastic & Rubber Products	1.264	1.506	1.806	42.9%	20.0%
336	Transportation Equipment	.885	1.103	1.232	39.3%	11.7%
3361-63	Automotive	.389	.734	.482	24.1%	-34.3%
3364	Aerospace	ND	ND	ND	---	---
337	Furniture & Related Products	.647	.847	1.181	82.6%	39.4%
339	Miscellaneous (medical, jewelry, toys, etc.)	.354	.625	.791	123.1%	26.5%
333	Machinery	.594	.616	.709	19.3%	15.0%
334	Computer & Electronic Products	.298	.250	.571	91.2%	128.5%
335	Electrical Equip., Appliance & Components	.317	.384	.290	-8.5%	-24.4%
312	Beverage & Tobacco Products	---	---	ND	---	---
321	Wood Products	.450	.431	ND	---	---
322	Paper	.415	.649	ND	---	---
323	Printing & Related Support Activities	.250	.208	ND	---	---
325	Chemicals	.587	.755	ND	---	---
3254	Pharmaceuticals & medicine	---	---	---	---	---
331	Primary Metals	1.286	1.299	ND	---	---
313	Textile Mills	---	---	---	---	---
314	Textile Product Mills	---	---	---	---	---
315	Apparel	.024	---	---	---	---
316	Leather & Allied Products	---	---	---	---	---
324	Petroleum & Coal Products	---	---	---	---	---
	Value of other and/or non-disclosed items	.246	.438	5.178	2001.0%	1082.9%
31-33	Total Manufacturing	11.619	14.298	18.907	62.7%	32.2%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 24: San Diego County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
334	Computer & Electronic Products	8.731	8.488	6.013	-31.1%	-29.2%
336	Transportation Equipment	2.253	2.798	4.991	121.5%	78.4%
3361-63	Automotive	.698	.155	.626	-10.4%	303.3%
3364	Aerospace	1.252	1.591	2.680	114.0%	68.4%
339	Miscellaneous (medical, jewelry, toys, etc.)	2.736	3.633	3.982	45.5%	9.6%
333	Machinery	2.065	2.418	2.459	19.1%	1.7%
325	Chemicals	.978	1.690	1.763	80.3%	4.3%
3254	Pharmaceuticals & medicine	.578	1.117	1.312	126.9%	17.4%
325X	All other chemical manufacturing	.400	.573	.451	12.9%	-21.2%
332	Fabricated Metal Products	1.171	1.199	1.567	33.8%	30.7%
311	Food	.568	1.010	1.304	129.7%	29.1%
326	Plastic & Rubber Products	.633	.964	1.301	105.6%	34.9%
335	Electrical Equip., Appliance & Components	.717	.680	1.083	51.0%	59.3%
323	Printing & Related Support Activities	.585	.668	.697	19.1%	4.3%
327	Nonmetallic Mineral Products	.278	.463	.633	127.7%	36.6%
337	Furniture & Related Products	.313	.444	.423	35.2%	-4.6%
312	Beverage & Tobacco Products	.238	.381	.377	58.6%	-1.0%
315	Apparel	.426	.256	.264	-38.0%	3.2%
321	Wood Products	.064	.173	.169	166.9%	-2.3%
314	Textile Product Mills	.091	.071	.093	2.0%	30.0%
322	Paper	.120	.157	ND	---	---
316	Leather & Allied Products	.063	.143	---	---	---
313	Textile Mills	---	---	---	---	---
324	Petroleum & Coal Products	---	---	---	---	---
331	Primary Metals	---	---	---	---	---
	Value of other and/or non-disclosed items	.205	.162	.422	106.3%	160.2%
31-33	Total Manufacturing	22.234	25.798	27.541	23.9%	6.8%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 25: Ventura County Value of Manufacturing Shipments
($Billions)

NAICS Code	Description	1997	2002	2007	97/07 %Change	02/07 %Change
334	Computer & Electronic Products	2.314	2.477	1.957	-15.4%	-21.0%
333	Machinery	.723	.940	1.792	148.0%	90.6%
332	Fabricated Metal Products	.459	.333	.578	25.9%	73.3%
311	Food	.216	.350	.416	92.4%	18.8%
326	Plastic & Rubber Products	.282	.386	.371	31.4%	-3.8%
335	Electrical Equip., Appliance & Components	.226	.140	.329	45.9%	134.8%
327	Nonmetallic Mineral Products	.155	.200	.316	103.5%	58.5%
336	Transportation Equipment	.337	.510	.267	-20.9%	-47.7%
3361-63	Automotive	.094	.182	.142	51.5%	-21.7%
3364	Aerospace	.237	.314	---	---	---
339	Miscellaneous (medical, jewelry, toys, etc.)	.278	.332	.248	-10.9%	-25.5%
337	Furniture & Related Products	.049	.051	.237	386.5%	368.9%
331	Primary Metals	---	.075	.087	---	16.4%
322	Paper	.590	.793	ND	---	---
325	Chemicals	.247	.298	ND	---	---
3254	Pharmaceuticals & medicine	ND	ND	ND	---	---
323	Printing & Related Support Activities	.135	.144	ND	---	---
315	Apparel	.073	.054	ND	---	---
312	Beverage & Tobacco Products	---	---	---	---	---
313	Textile Mills	---	---	---	---	---
314	Textile Product Mills	---	---	---	---	---
316	Leather & Allied Products	---	---	---	---	---
321	Wood Products	---	---	---	---	---
324	Petroleum & Coal Products	---	---	---	---	---
	Value of other and/or non-disclosed items	.078	.057	2.171	2673.0%	3695.8%
31-33	Total Manufacturing	6.163	7.140	8.769	42.3%	22.8%

Source: U.S. Census Bureau, Economic Census

Note: ND = Data not disclosed by Census Bureau due to confidentiality protection

Table 26: Employment in the Largest Manufacturing Sectors in Los Angeles County

(Annual average employment, thousands)

Industry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	00/06 %Change	06/09 %Change	00/09 %Change
Computer & Electronic Products	71.0	69.6	64.6	60.0	59.6	60.5	60.1	56.0	54.1	51.3	-15.4%	-14.6%	-27.7%
Computer & Peripheral	4.9	5.0	3.6	2.0	2.3	2.0	1.8	1.9	1.8	1.7	-62.5%	-8.2%	-65.6%
Electronic Instruments	40.7	40.9	39.9	39.0	38.8	39.9	39.6	36.6	35.4	34.2	-2.5%	-13.8%	-16.0%
Apparel	92.7	80.1	72.4	67.8	64.8	60.2	59.5	56.5	55.0	48.1	-35.8%	-19.1%	-48.1%
Transportation Equipment	72.1	66.5	60.8	54.6	53.9	52.0	52.8	48.9	50.5	47.6	-26.7%	-9.8%	-33.9%
Aerospace Products & Parts	52.3	48.3	43.9	39.7	40.0	38.6	40.1	37.6	38.2	37.6	-23.3%	-6.4%	-28.2%
Fabricated Metal Products	61.9	59.0	53.5	49.7	48.2	48.2	49.0	48.6	48.9	42.8	-20.8%	-12.7%	-30.8%
Food	45.7	45.8	44.0	44.7	43.5	43.1	42.2	43.1	41.9	40.4	-7.6%	-4.3%	-11.6%
Chemical	25.9	25.1	24.4	22.7	22.5	22.1	22.2	21.0	21.1	19.1	-14.2%	-14.0%	-26.2%
Pharmaceutical & Medicine	6.8	6.9	7.0	6.3	5.5	5.3	5.6	5.9	6.3	6.4	-17.5%	13.8%	-6.1%
Miscellaneous	30.7	28.4	26.7	24.2	22.2	21.7	21.0	21.3	20.8	19.1	-31.5%	-9.4%	-37.9%
Printing & Related Support Activities	30.3	29.5	27.3	24.6	24.2	23.5	23.4	22.8	20.9	18.4	-22.6%	-21.4%	-39.1%
Machinery	29.9	26.7	24.0	22.6	21.3	19.6	19.2	18.8	18.5	16.2	-35.8%	-15.9%	-46.0%
Plastics & Rubber Products	24.9	23.8	21.7	20.6	19.3	18.3	18.0	17.2	16.2	14.3	-27.5%	-20.8%	-42.6%
Furniture & Related Products	33.2	31.1	29.1	26.7	26.6	25.4	23.5	21.2	18.0	13.9	-29.4%	-40.9%	-58.2%
Electrical Equipment & Appliance	14.0	13.9	12.9	11.9	10.8	10.2	10.9	11.3	11.1	9.5	-22.6%	-12.1%	-32.0%
Textile Mills	14.3	12.3	12.1	10.3	10.9	10.5	10.1	9.5	9.1	7.7	-29.0%	-24.5%	-46.4%
Paper	13.4	12.7	11.9	10.9	10.4	10.3	9.9	9.5	8.7	7.6	-26.2%	-23.2%	-43.3%
Primary Metal	13.0	12.5	11.3	10.2	9.8	9.8	9.6	9.2	9.0	7.5	-26.6%	-21.8%	-42.6%
Nonmetallic Mineral Product	12.2	11.9	10.5	9.9	9.5	8.7	8.2	7.8	6.8	5.8	-32.8%	-29.5%	-52.6%
Beverage & Tobacco products	4.3	4.7	4.6	4.5	4.0	4.0	5.4	5.6	5.3	5.1	25.7%	-6.4%	17.6%
Textiles Products Mills	10.0	9.2	8.9	8.1	7.1	6.7	6.2	6.1	5.8	4.6	-38.1%	-25.8%	-54.0%
All Other Manufacturing	16.0	14.8	13.5	13.0	13.0	12.5	11.8	11.5	11.5	10.4	-26.2%	-12.2%	-35.2%
Total Manufacturing Employment	615.5	577.7	534.4	497.0	481.5	467.3	463.1	446.2	433.2	389.3	-24.8%	-15.9%	-36.8%

Source: California EDD, QCEW Data

Table 27: Los Angeles County Manufacturing Base, 2009

(Annual average employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
334	Computer & Electronic Products	51,323	4,648.7	90,577	43.5	693
315	Apparel	48,107	1,552.8	32,278	15.5	2,641
336	Transportation Equipment	47,649	3,949.5	82,887	39.8	591
332	Fabricated Metal Products	42,797	2,067.0	48,297	23.2	2,084
311	Food	40,360	1,819.4	45,080	21.7	1,036
325	Chemicals	19,112	1,077.3	56,369	27.1	535
339	Miscellaneous (medical, jewelry, toys, etc.)	19,055	1,038.9	54,522	26.2	1,110
323	Printing & Related Support Activities	18,426	789.5	42,846	20.6	1,289
333	Machinery	16,154	926.6	57,358	27.6	757
326	Plastic & Rubber Products	14,286	581.0	40,670	19.6	424
337	Furniture & Related Products	13,871	484.0	34,891	16.8	808
335	Electrical Equip., Appliance & Components	9,544	507.8	53,203	25.6	297
313	Textile Mills	7,660	220.8	28,825	13.9	294
322	Paper	7,614	390.9	51,337	24.7	168
331	Primary Metals	7,475	330.0	44,141	21.2	250
327	Nonmetallic Mineral Products	5,785	236.2	40,836	19.6	292
312	Beverage & Tobacco Products	5,079	290.3	57,151	27.5	75
314	Textile Product Mills	4,601	152.7	33,191	16.0	264
324	Petroleum & Coal Products	4,383	444.8	101,491	48.8	68
321	Wood Products	3,911	132.5	33,878	16.3	232
316	Leather & Allied Products	2,110	68.7	32,567	15.7	93
	Total of Manufacturing Industries	389,302	21,709.2	55,765	26.8	14,001

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 28: Orange County Manufacturing Base, 2009

(Annual average employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
334	Computer & Electronic Products	33,722	2,799.0	83,001	39.9	611
332	Fabricated Metal Products	21,648	1,137.7	52,555	25.3	920
339	Miscellaneous (medical, jewelry, toys, etc.)	17,192	1,043.8	60,715	29.2	549
336	Transportation Equipment	13,879	1,042.2	75,091	36.1	259
333	Machinery	9,467	657.8	69,485	33.4	407
325	Chemicals	8,690	556.8	64,073	30.8	230
323	Printing & Related Support Activities	8,336	349.6	41,937	20.2	554
326	Plastic & Rubber Products	8,198	364.1	44,419	21.4	204
315	Apparel	6,707	250.6	37,366	18.0	277
311	Food	6,560	257.9	39,308	18.9	246
335	Electrical Equip., Appliance & Components	4,670	252.3	54,025	26.0	146
337	Furniture & Related Products	4,001	158.4	39,582	19.0	241
322	Paper	2,956	180.1	60,943	29.3	84
327	Nonmetallic Mineral Products	2,002	113.5	56,676	27.2	105
314	Textile Product Mills	1,846	66.4	35,963	17.3	105
331	Primary Metals	1,242	51.2	41,223	19.8	54
312	Beverage & Tobacco Products	1,166	70.3	60,301	29.0	20
321	Wood Products	904	35.9	39,676	19.1	92
313	Textile Mills	743	23.6	31,714	15.2	37
324	Petroleum & Coal Products	461	67.1	145,650	70.0	17
316	Leather & Allied Products	184	7.4	40,179	19.3	15
	Total of Manufacturing Industries	154,574	9,485.6	61,366	29.5	5,173

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 29: Riverside County Manufacturing Base, 2009

(Annual average employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
339	Miscellaneous (medical, jewelry, toys, etc.)	6,346	339.5	53,497	25.7	160
332	Fabricated Metal Products	4,702	224.2	47,682	22.9	282
334	Computer & Electronic Products	3,102	185.5	59,784	28.7	58
326	Plastic & Rubber Products	3,047	116.6	38,274	18.4	77
336	Transportation Equipment	2,573	98.2	38,181	18.4	101
325	Chemicals	2,503	165.1	65,945	31.7	58
333	Machinery	2,452	115.7	47,205	22.7	136
311	Food	2,266	93.6	41,306	19.9	87
327	Nonmetallic Mineral Products	2,035	84.4	41,464	19.9	76
321	Wood Products	2,034	78.2	38,429	18.5	60
337	Furniture & Related Products	1,537	54.1	35,222	16.9	109
312	Beverage & Tobacco Products	1,296	49.6	38,290	18.4	31
323	Printing & Related Support Activities	1,185	48.9	41,250	19.8	100
335	Electrical Equip., Appliance & Components	1,094	47.1	43,031	20.7	32
331	Primary Metals	937	41.1	43,902	21.1	27
322	Paper	694	32.5	46,762	22.5	18
314	Textile Product Mills	336	11.7	34,904	16.8	33
313	Textile Mills	159	5.5	34,474	16.6	5
324	Petroleum & Coal Products	132	8.0	60,491	29.1	5
315	Apparel	106	2.1	19,846	9.5	19
316	Leather & Allied Products	7	0.3	40,916	19.7	3
	Total of Manufacturing Industries	38,543	1,801.8	46,749	22.5	1,477

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 30: San Bernardino County Manufacturing Base, 2009

(Annual average employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
332	Fabricated Metal Products	6,747	290.2	43,007	20.7	367
326	Plastic & Rubber Products	5,473	224.6	41,041	19.7	127
311	Food	5,068	197.0	38,872	18.7	121
337	Furniture & Related Products	3,828	132.9	34,721	16.7	141
327	Nonmetallic Mineral Products	3,402	163.7	48,124	23.1	96
336	Transportation Equipment	3,120	139.8	44,819	21.5	125
333	Machinery	3,057	142.9	46,756	22.5	154
331	Primary Metals	2,940	158.5	53,923	25.9	60
325	Chemicals	2,543	128.7	50,620	24.3	83
339	Miscellaneous (medical, jewelry, toys, etc.)	2,255	99.1	43,964	21.1	145
321	Wood Products	1,891	60.7	32,121	15.4	85
335	Electrical Equip., Appliance & Components	1,818	69.2	38,046	18.3	51
334	Computer & Electronic Products	1,671	83.3	49,843	24.0	65
323	Printing & Related Support Activities	1,450	51.7	35,686	17.2	142
322	Paper	1,196	66.4	55,535	26.7	39
312	Beverage & Tobacco Products	892	45.8	51,356	24.7	13
314	Textile Product Mills	645	17.7	27,506	13.2	32
315	Apparel	447	10.4	23,207	11.2	44
313	Textile Mills	280	9.5	34,037	16.4	11
316	Leather & Allied Products	0	0.0	0	0.0	0
324	Petroleum & Coal Products	0	0.0	0	0.0	0
	Total of Manufacturing Industries	48,723	2,092.4	42,945	20.6	1,901

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 31: San Diego County Manufacturing Base, 2009

(Average annual employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
334	Computer & Electronic Products	26,134	2,444.4	93,534	45.0	382
336	Transportation Equipment	14,685	990.4	67,442	32.4	177
339	Miscellaneous (medical, jewelry, toys, etc.)	10,688	659.6	61,718	29.7	421
333	Machinery	7,630	528.9	69,316	33.3	184
325	Chemicals	6,730	560.9	83,349	40.1	153
332	Fabricated Metal Products	6,165	269.8	43,770	21.0	419
311	Food	4,257	138.6	32,566	15.7	172
323	Printing & Related Support Activities	3,745	152.0	40,589	19.5	322
326	Plastic & Rubber Products	2,795	137.6	49,224	23.7	100
335	Electrical Equip., Appliance & Components	2,432	127.5	52,427	25.2	90
337	Furniture & Related Products	2,146	98.6	45,969	22.1	216
327	Nonmetallic Mineral Products	1,844	88.0	47,709	22.9	94
312	Beverage & Tobacco Products	1,242	53.8	43,327	20.8	21
315	Apparel	1,210	38.4	31,737	15.3	85
331	Primary Metals	871	44.2	50,749	24.4	27
322	Paper	793	34.6	43,614	21.0	33
314	Textile Product Mills	736	26.9	36,509	17.6	73
321	Wood Products	717	26.6	37,078	17.8	60
313	Textile Mills	292	9.8	33,413	16.1	16
316	Leather & Allied Products	206	6.1	29,731	14.3	11
324	Petroleum & Coal Products	73	6.3	86,287	41.5	9
	Total of Manufacturing Industries	95,391	6,443.1	67,544	32.5	3,065

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 32: Ventura County Manufacturing Base, 2009

(Average annual employment, thousands)

	Industry Sector	No. of Employees	Annual Payroll ($Mil)	Average Annual Wage ($)	Average Hourly Wage* ($)	No. of Establishments
325	Chemicals	7,853	1,090.6	138,875	66.8	46
334	Computer & Electronic Products	7,694	622.9	80,955	38.9	150
332	Fabricated Metal Products	3,042	150.3	49,420	23.8	181
333	Machinery	2,857	169.8	59,436	28.6	85
336	Transportation Equipment	1,760	109.5	62,237	29.9	48
339	Miscellaneous (medical, jewelry, toys, etc.)	1,430	68.7	48,074	23.1	111
311	Food	1,326	67.9	51,177	24.6	52
327	Nonmetallic Mineral Products	1,140	52.4	45,987	22.1	31
335	Electrical Equip., Appliance & Components	1,083	61.2	56,544	27.2	29
322	Paper	1,082	59.0	54,557	26.2	15
323	Printing & Related Support Activities	923	38.5	41,759	20.1	74
326	Plastic & Rubber Products	656	27.4	41,726	20.1	27
331	Primary Metals	543	22.6	41,633	20.0	18
337	Furniture & Related Products	363	13.7	37,779	18.2	33
315	Apparel	341	10.8	31,761	15.3	13
312	Beverage & Tobacco Products	233	9.9	42,362	20.4	10
321	Wood Products	183	8.2	44,616	21.5	16
314	Textile Product Mills	48	1.1	22,679	10.9	18
313	Textile Mills	0	0.0	0	0.0	0
316	Leather & Allied Products	0	0.0	0	0.0	0
324	Petroleum & Coal Products	0	0.0	0	0.0	0
	Total of Manufacturing Industries	32,557	2,584.6	79,342	38.1	957

*Average hourly wage = average annual wage/52 weeks/40hr per week

Source: California EDD, QCEW Data

Table 33: Nonemployer Statistics, 2008

	No. of Nonemployer Firms (Industry Sector)	Los Angeles County	Orange County	Riverside County	San Bernardino County	San Diego County	Ventura County
311	Food	989	237	133	161	246	66
312	Beverage & Tobacco Products	74	26	14	na	22	11
313	Textile Mills	101	22	5	11	11	na
314	Textile Product Mills	142	29	13	17	27	7
315	Apparel	2,039	416	177	181	295	83
316	Leather & Allied Products	194	28	35	17	41	10
321	Wood Products	379	123	106	119	169	25
322	Paper	48	25	12	9	10	8
323	Printing & Related Support Activities	1,363	578	240	240	369	91
324	Petroleum & Coal Products	39	17	8	na	8	na
325	Chemicals	369	118	79	67	118	25
326	Plastic & Rubber Products	176	91	51	52	69	23
327	Nonmetallic Mineral Products	270	83	60	50	90	25
331	Primary Metals	156	45	30	34	28	18
332	Fabricated Metal Products	1,125	522	331	364	383	135
333	Machinery	522	249	125	139	130	68
334	Computer & Electronic Products	341	198	72	49	167	45
335	Electrical Equip., Appliance & Components	347	152	57	43	124	42
336	Transportation Equipment	261	81	63	84	62	28
337	Furniture & Related Products	707	160	122	116	170	48
339	Miscellaneous (medical, jewlry, toys, etc.)	2,216	933	389	401	897	226
	Total of Manufacturing Industries	11,858	4,133	2,122	2,154	3,436	984

	Receipts, $Millions (Industry Sector)	Los Angeles County	Orange County	Riverside County	San Bernardino County	San Diego County	Ventura County
311	Food	55.5	16.6	5.9	8.7	12.9	5.5
312	Beverage & Tobacco Products	6.4	1.3	0.7	na	2.6	1.0
313	Textile Mills	3.0	0.5	0.1	0.2	0.2	na
314	Textile Product Mills	9.1	0.9	0.2	0.3	0.9	0.2
315	Apparel	125.7	20.4	4.9	5.3	8.8	3.2
316	Leather & Allied Products	9.9	1.6	2.2	1.1	2.1	0.2
321	Wood Products	31.9	11.9	8.6	8.4	9.1	1.1
322	Paper	4.5	2.1	0.5	0.3	0.7	0.1
323	Printing & Related Support Activities	78.7	38.8	12.4	13.4	19.0	5.8
324	Petroleum & Coal Products	1.0	0.9	0.1	na	0.3	na
325	Chemicals	22.1	7.2	5.2	2.0	11.4	1.7
326	Plastic & Rubber Products	19.0	8.9	3.7	4.7	5.7	1.3
327	Nonmetallic Mineral Products	14.4	5.3	3.5	2.2	3.0	1.5
331	Primary Metals	17.3	6.8	3.5	3.9	1.0	1.0
332	Fabricated Metal Products	101.3	42.7	23.6	28.4	26.0	10.3
333	Machinery	36.1	17.2	10.1	9.3	13.2	4.0
334	Computer & Electronic Products	18.8	16.6	3.3	3.8	12.7	3.1
335	Electrical Equip., Appliance & Components	20.3	13.4	3.4	2.9	14.0	5.1
336	Transportation Equipment	22.0	8.2	5.7	7.9	4.1	2.5
337	Furniture & Related Products	47.3	11.1	7.6	5.5	12.4	2.6
339	Miscellaneous (medical, jewlry, toys, etc.)	141.6	67.0	23.1	23.7	49.6	14.2
	Total of Manufacturing Industries	785.8	299.1	128.2	132.2	209.6	64.4

Source: U.S. Department of Commerce, Bureau of the Census, 2008 Nonemployer Statistics

Table 34: Industrial Vacancy Rates (%)

	Los Angeles County	Orange County	Inland Empire	San Diego County	Ventura County
06Q1	2.1	4.3	2.9	7.6	3.9
06Q2	1.8	4.0	3.8	7.2	3.3
06Q3	1.6	3.8	4.3	7.3	3.8
06Q4	1.5	3.8	4.4	7.6	2.4
07Q1	1.8	3.6	4.4	8.1	2.8
07Q2	1.8	3.7	4.8	8.4	3.7
07Q3	1.6	4.0	4.9	8.8	3.2
07Q4	1.5	4.0	4.8	8.8	3.6
08Q1	1.6	4.3	6.5	8.4	4.7
08Q2	1.8	4.3	7.9	8.0	3.6
08Q3	2.3	4.6	8.6	8.1	4.2
08Q4	2.2	5.2	9.9	9.1	6.1
09Q1	2.7	5.7	11.8	10.3	5.7
09Q2	3.1	6.2	12.3	11.2	8.7
09Q3	3.2	6.5	12.8	12.0	9.1
09Q4	3.3	6.7	12.5	12.7	9.3
10Q1	3.4	7.0	11.9	12.5	9.4
10Q2	3.3	6.9	11.5	12.4	8.9
10Q3	3.3	6.9	10.8	12.2	8.6
10q4	3.2	6.3	10.0	11.9	8.5

Industrial Vacancy Rates (%) -- LA County by Area

	Central Los Angeles	Mid-Cities	San Fernando Valley	South Bay	San Gabriel Valley
06Q1	1.4	2.5	2.4	2.5	1.9
06Q2	1.3	2.4	2.1	2.2	1.5
06Q3	1.1	2.2	2.2	2.2	1.1
06Q4	0.9	2.3	1.9	1.9	1.2
07Q1	1.2	2.2	2.4	1.8	1.8
07Q2	1.0	2.4	2.3	2.1	1.6
07Q3	0.7	1.6	2.5	1.8	1.9
07Q4	0.8	1.7	2.7	1.5	1.2
08Q1	1.2	1.4	2.8	1.7	1.2
08Q2	1.2	1.3	2.5	2.5	1.6
08Q3	1.8	2.5	2.5	2.4	2.5
08Q4	1.7	2.3	2.6	2.5	2.2
09Q1	2.3	1.8	3.1	2.4	4.0
09Q2	2.5	3.1	3.4	2.7	4.3
09Q3	2.5	4.1	3.4	2.8	4.3
09Q4	2.8	4.2	3.5	2.4	4.3
10Q1	2.6	5.1	3.7	2.7	4.1
10Q2	2.4	5.0	3.6	2.8	3.8
10Q3	2.5	5.0	3.4	3.0	3.7
10q4	2.3	4.4	3.7	3.2	3.6

Source: Grubb & Ellis, Cassidy Turley BRE Commercial

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