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High-Growth Industries and Highly-Educated Workers in California

Elias S. Lopez, Ph.D.

*Prepared at the Request of
Assemblymember Bob Pacheco,
Chair of the Latino Republican Caucus*

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Internet Access

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INTRODUCTION

Over the past four years Democrats and Republicans alike have asked the California Research Bureau to provide information that can be used to formulate a strategic plan for the future economic development of California in light of the state's changing demographics.

That California is undergoing a major demographic transformation is not news anymore. For instance, it is well known that Latinos are a significant proportion of the population and that they will, in a not too distant future, become the largest group in the labor force. Still, when people talk about Latinos, whether explicit or not, one question or theme always seems to dominate: Will Latinos be like the immigrants of the past that after the third or fourth generation are accepted and virtually indistinguishable from others?

The reality, however, is that there are four million Latino children in California that will be moving through our K-12 system and into the labor force. Can California afford to wait for the grandchildren of the children of today to take leadership roles?

A better question, but also more challenging, is whether California can take a disadvantaged child (be that child White, Latino, African American, Native American, South East Asian, and so on), with parents that may have low levels of education, and within that same generation provide that child with opportunities to succeed.

In June of 1999 the report, *Latinos and Economic Development in California*,¹ was released to document the educational attainment and wages of Latinos in the workforce. The study revealed that even native-born Latinos of native-born parents were not doing well scholastically and that California could gain substantially by making sure that disadvantaged groups obtain higher levels of education.

The Latinos and Economic Development in California report had identified a comparatively large number of workers in California that lacked a high school education. Seeing that there was a need for this information among the workforce investment system, and that the education of parents is an important factor for the economic progress of a family, the Latino Legislative Caucus requested that we compile information on *Less-Educated Workers in California: A Statistical Abstract*.²

The first attempt at a strategic plan came with the production of a report titled, *A Coordinated Approach to Raising the Economic Status of Latinos in California*.³ Thirty-three different persons were brought in to talk about their area of expertise (preschool, K-12, postsecondary education, business, law enforcement, health care, and so on) and wherever possible provide suggestions for working together between the different systems.

A Coordinated Approach to Raising the Economic Status of Latinos in California report also identified other groups, like African Americans, that are in a similar situation to

Latinos scholastically. To avoid making the assumption that all groups are the same and erroneously proposing one solution for all, the Latino Legislative Caucus requested that we put together a comprehensive profile of the living and familial conditions of individuals in California by ethnic groups. The report, *Census 2000 for California: A Friendly Guide*,⁴ was released in July of 2002. The intent of the report was to highlight the differences between groups without asserting any values as to whether the situation was good or bad. As stated earlier, the goal of this project is to understand the current situation of a group without passing judgment and to come up with an evolving plan that encourages upward economic mobility within one generation.

Although the reports mentioned above are a start, there is still much more to do. With the goal of refining the strategic plan for the economic development of California in light of the demographic changes, Assemblymember Bob Pacheco, Chair of the Latino Republican Caucus, asked the Research Bureau to do a report on the high-growth industries, the ones responsible for most of the economic growth in California.

As it turns out, these high-growth industries employ the largest share of the highly-educated workforce. However, in planning for the future, this report identifies two issues that policymakers may want to consider. One deals with the lack of adequate preparation of disadvantaged groups in California graduating from our high schools, an issue that has implications for the degree of employability in the high-growth industries. The other finding of this report is that employees (and their families) in small businesses seem to be at a disadvantage, a finding that applies regardless of the educational attainment of the individual. Even highly-educated persons working in small businesses tend not to have access to health insurance and pension benefits at the same rate as large businesses.

About the data source:

This report analyzes data from four different data sources.

- The Bureau of Economic Analysis (BEA),
- The Census Bureau's March Current Population Survey,
- The Census Bureau's Census 2000, Summary File 1, and
- The California Department of Education, the CBEDS files.

The California Economy in Perspective

THE LAST FORTY YEARS, 1960 TO 2000

This section provides a brief discussion of the structural changes occurring in the California economy. Since such changes are more evident when looking at long-term trends, two snapshots of the California economy are provided, one of 1960 and another of 2000.

Although there are many measurements and indicators to assess and track the economy, the best and most readily understood measurement is personal income. Personal income is the income of individuals, including: the earnings (wages and salaries) of workers; income from investments, income from social security and pension plans; and any other form of income.* For this report, the discussion will focus on one of the major components of personal income, the earnings of workers, since it is easier to trace worker earnings to the industries that employ them.

A MORE DIVERSE ECONOMY

The economy of California today is very different than that of 1960. Three industries dominated California's economy in 1960, generating close to 50 percent of total worker earnings. These industries were manufacturing, retail trade, and government services.†

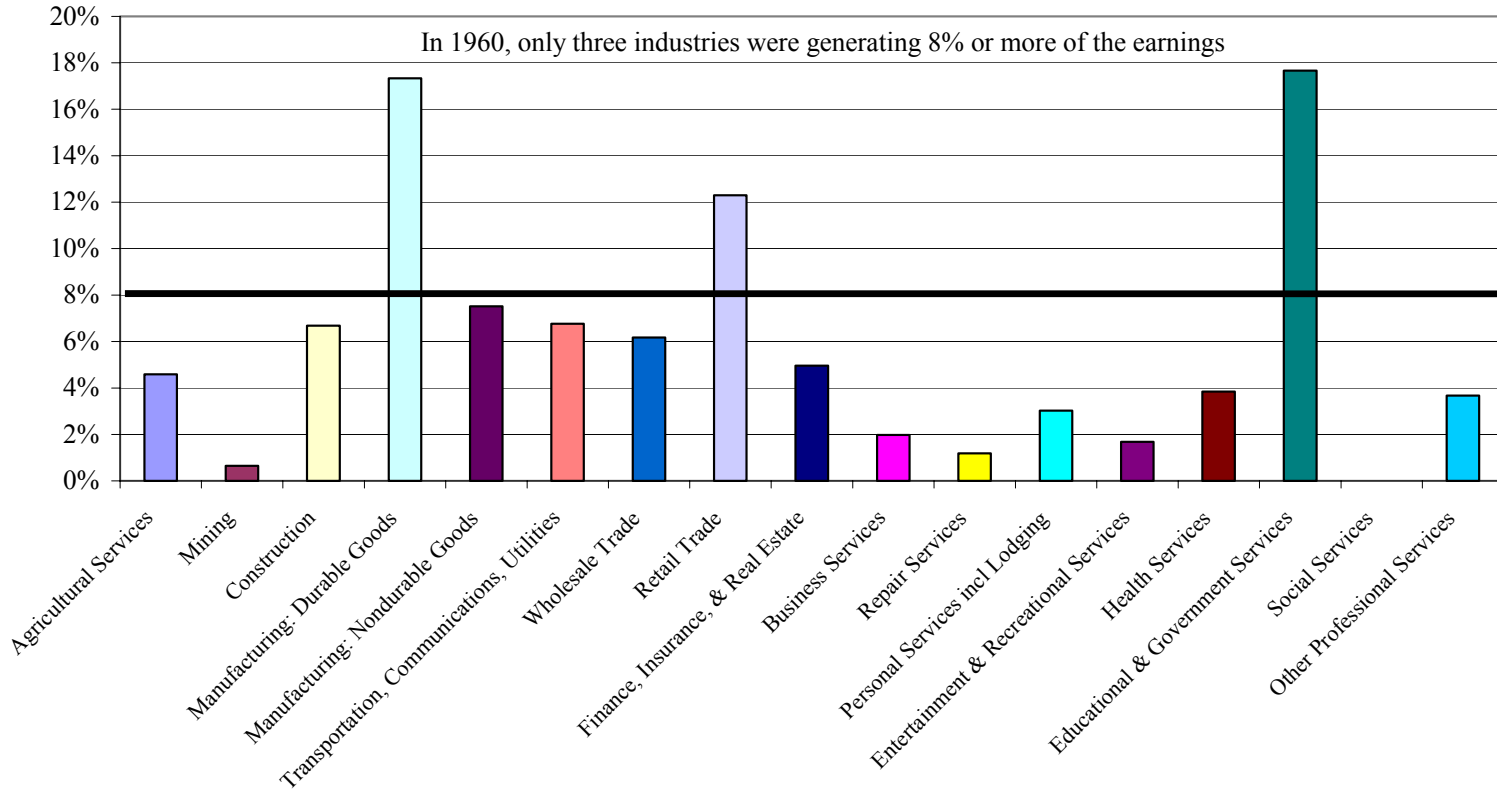
In 2000, while these industries are still contributors to employment and the economy, other industries have become increasingly important. For example, the finance, insurance, and real estate industry; business services; and other professional services now generate as much in worker earnings as the retail trade industry. As Figures 1 and 2 show, the economy of California is now more diverse in its production mix than it was in 1960.

* The reader should note that the size of the California economy is measured by the gross state product (GSP), an indicator that measures the dollar value of the total goods and services produced in the state. For long-term economic trends, however, this report finds the earnings of workers more useful. Worker earnings are indicative of the purchasing power of consumers. Also, comparable data on earnings by industry are available only as far back as 1960 allowing for a longer trend analysis of the economy. BEA data on earnings, however, are still in the 1977 Standard Industrial Classification (SIC) code and are not yet available in the newly adopted North American Industry Classification System (NAICS).

† Throughout this paper, reference will be made to major industry categories and a description of types of employment per industry can be found in Appendix A. Also, throughout this report, earnings include both the wage and salary of workers and the income that owners pay themselves, or proprietor's income. Thus, the earnings of the self-employed are also counted.

Figure 1

Percent of Total Personal Income Generated by Industry in 1960

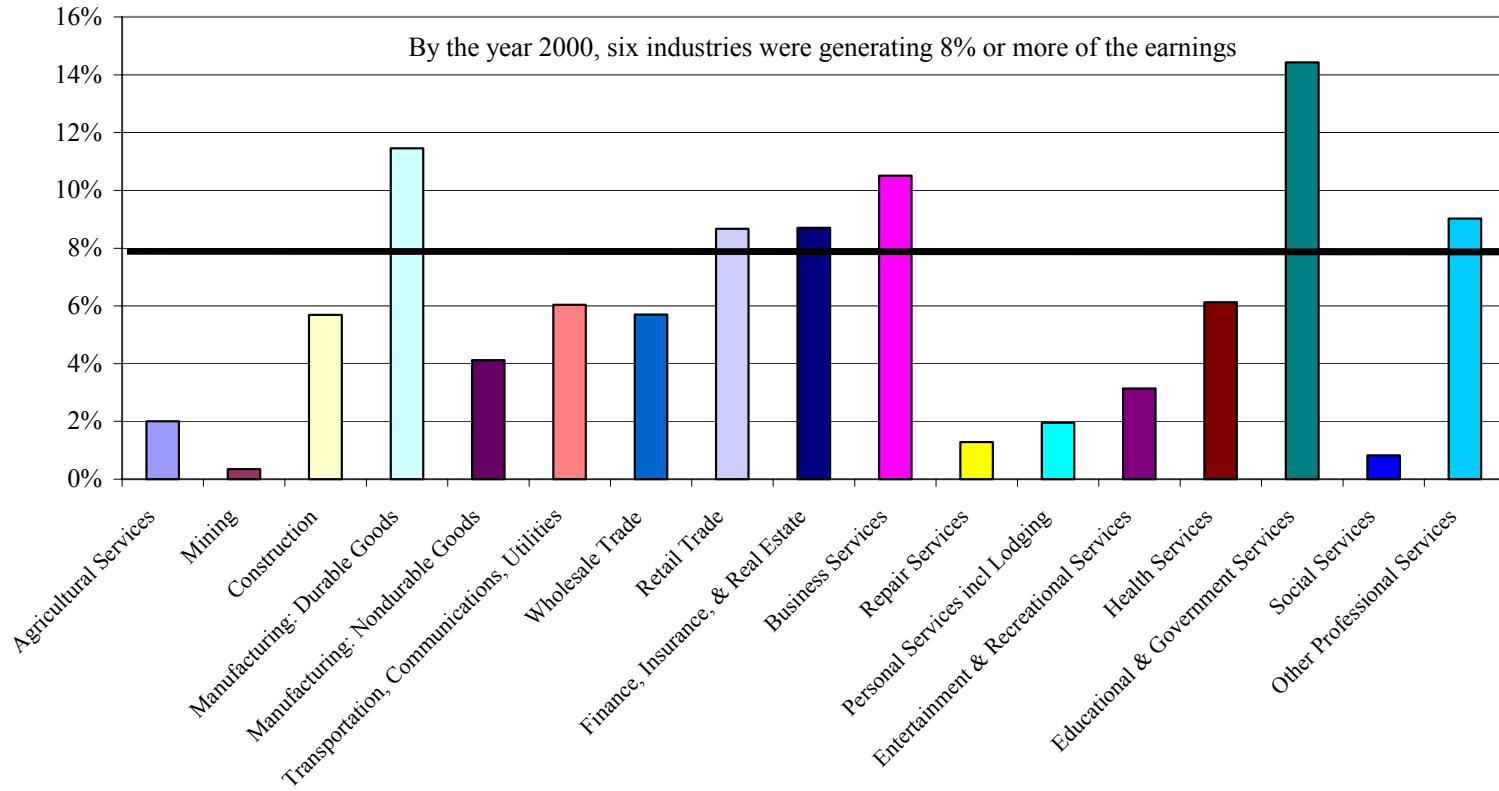


Source: California Research Bureau, California State Library using BEA's 2001 SA05 file for California.

Note: Data for "Social Services" was not available for 1960.

Figure 2

Percent of Total Personal Income Generated by Industry in 2000



Source: California Research Bureau, California State Library using BEA's 2001 SA05 file for California.

THE TRANSFORMATION OF THE MANUFACTURING INDUSTRY

A trend analysis on economic shifts would not be complete without the manufacturing industry. Manufactured products are normally broken into two classifications—a “durable good” or a “non-durable good.” In 1960, durable goods comprised 70 percent of all manufacturing in California. By 2000, this share increased slightly, comprising close to three quarters of total workers’ earnings paid by manufacturers.

Figure 3

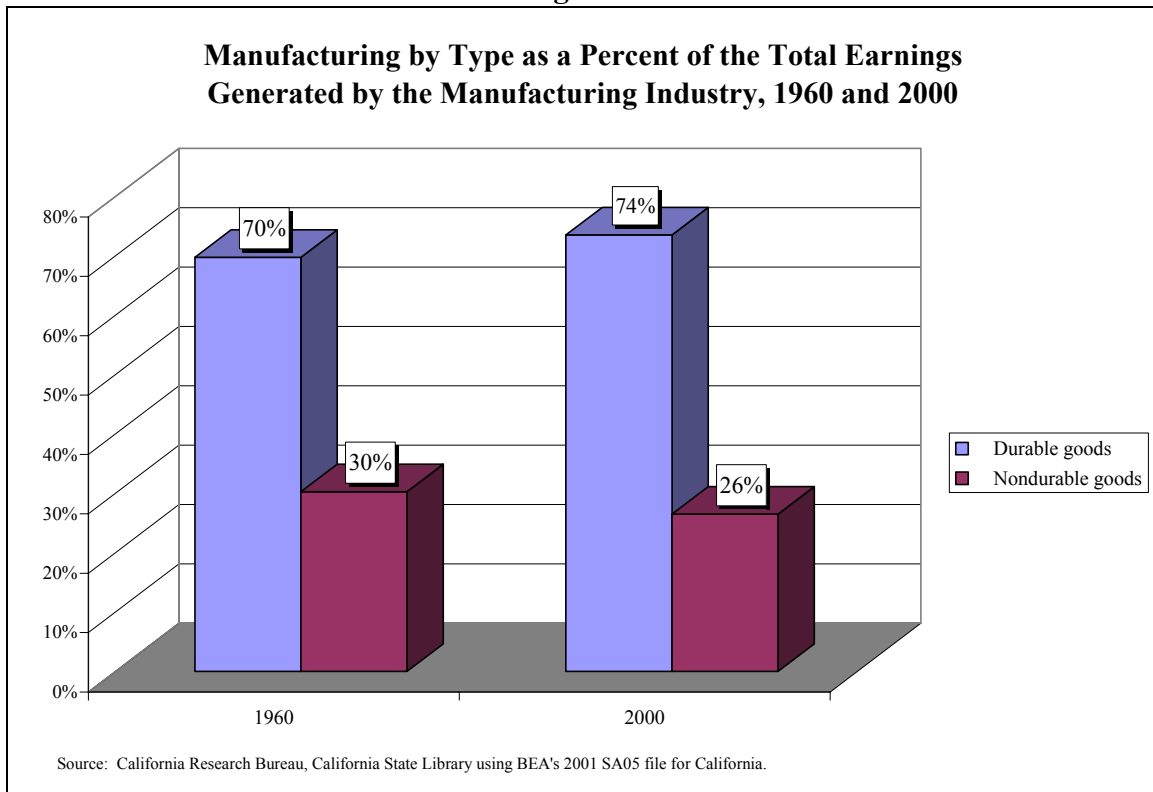
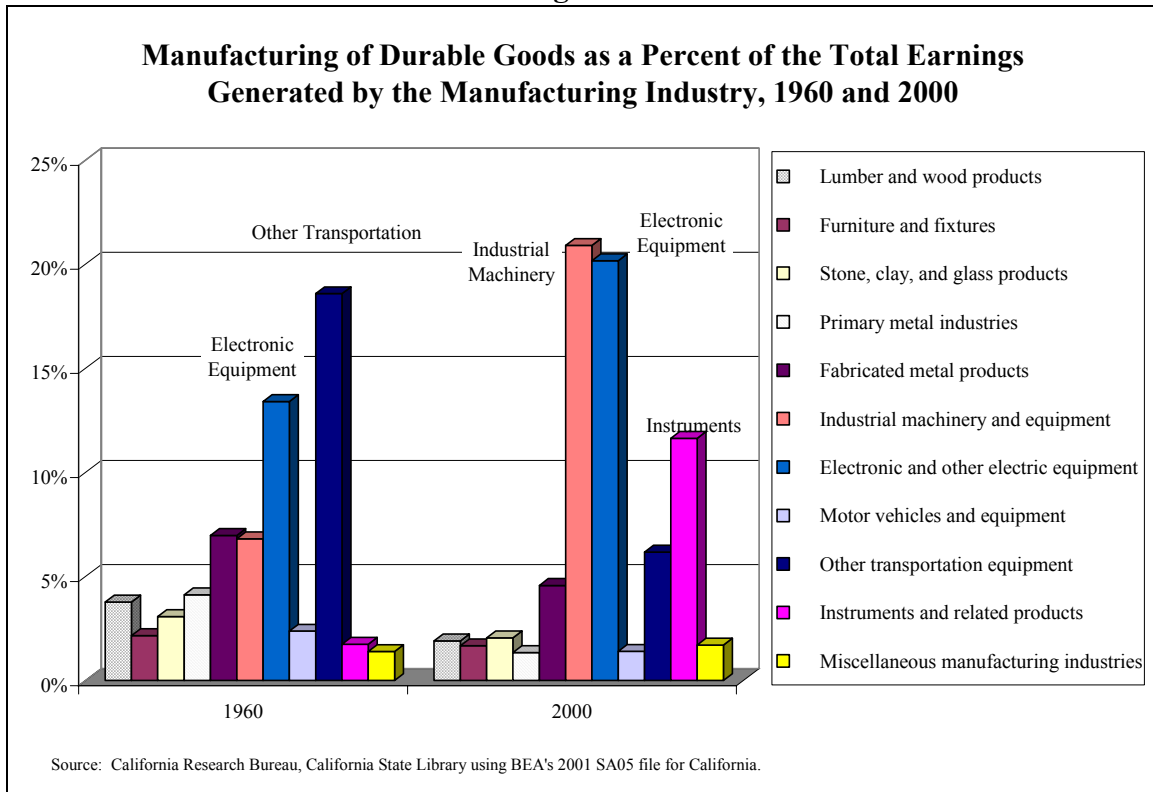


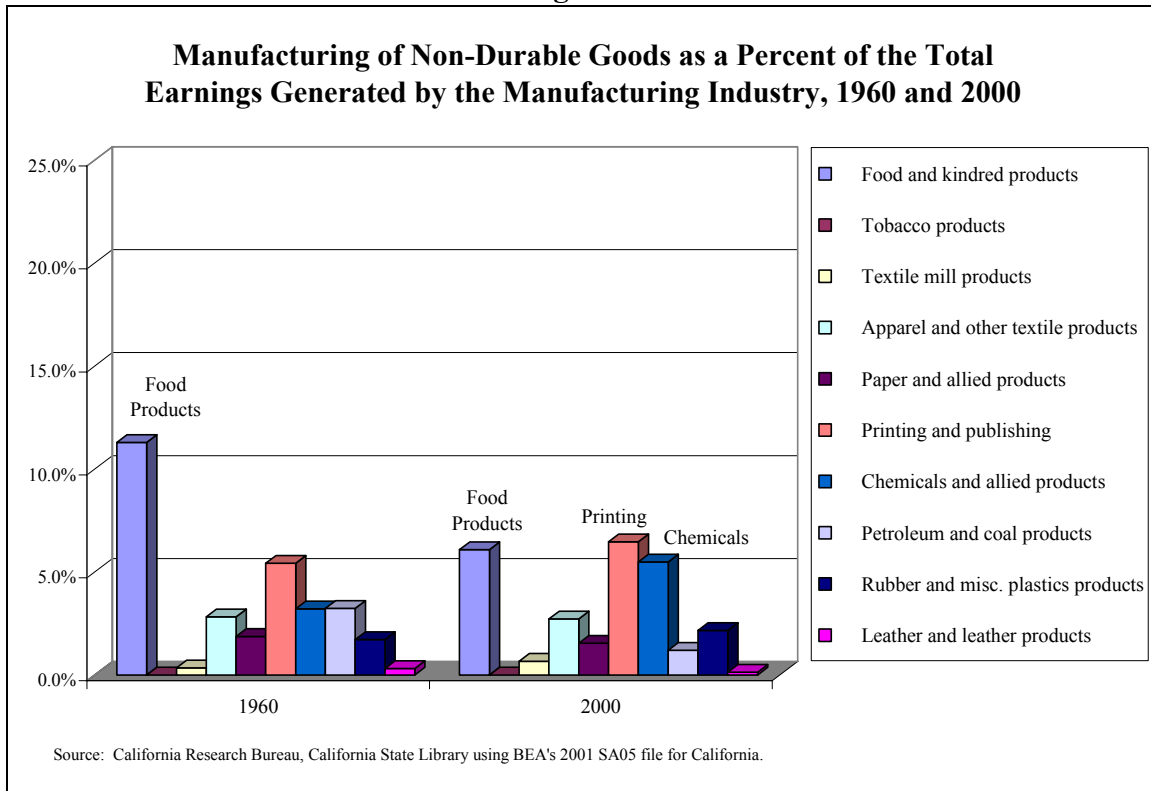
Figure 4 shows a stark contrast in the type of durable goods manufactured over time. In 1960, the manufacturing industry was heavily invested in the manufacturing of transportation equipment (aircrafts, ships, boats, railroads, guided missiles, and space vehicles) and electronic equipment (household appliances, communications equipment, electric lighting and wiring equipment, and other electric accessories). By 2000, the focus had shifted to industrial machinery (computer and office equipment, engines, turbines, farm machinery, construction machinery, and metal working machinery) and instruments (search navigation equipment, measuring and controlling devices, medical instruments, photographic equipment, watches and clocks). The manufacturing of electronic equipment also grew in importance. This data reflects the decline of the aerospace industry in California and the corresponding development of the computer industry.

Figure 4



In the manufacturing of non-durable goods, a similar transformation has been occurring. In 1960, the non-durable goods sector was less diversified, dominated by food products. By 2000, the printing and chemical industries, along with food products, accounted for most of the non-durable goods production.

Figure 5

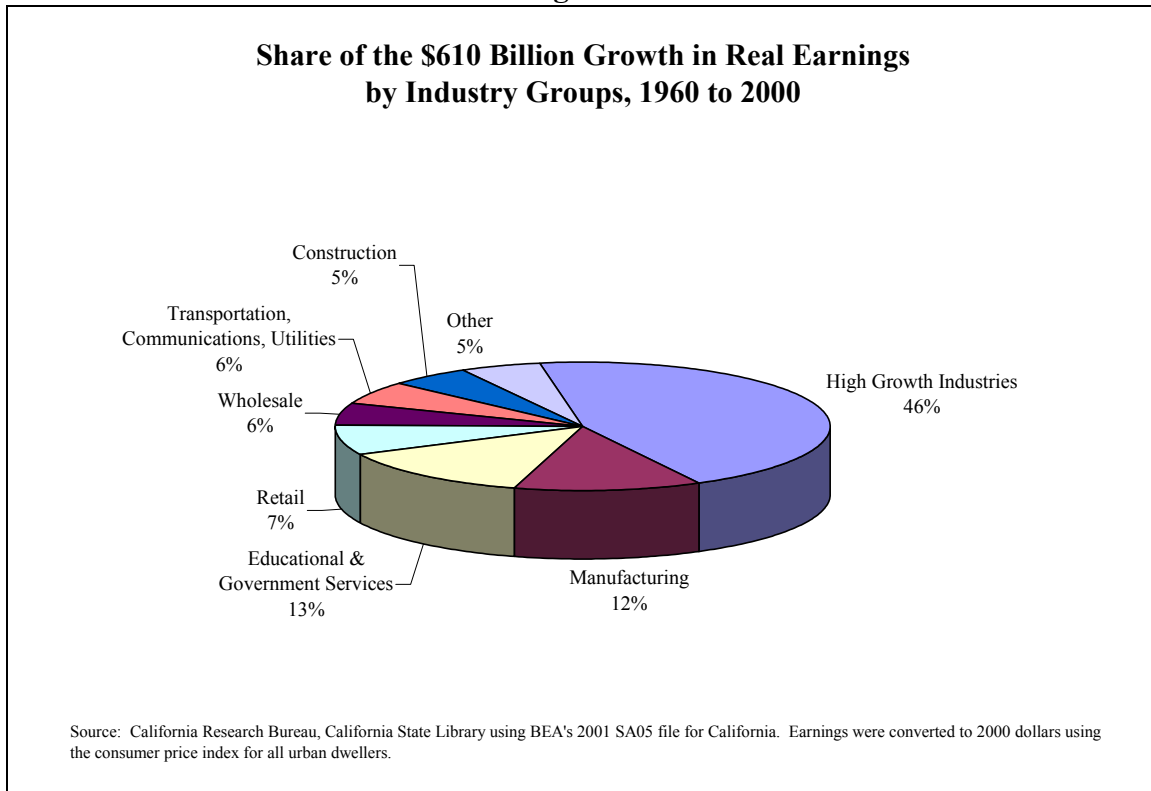


Although the manufacturing industry is not as dominant in the production mix as it used to be (Figures 1 and 2), it would be a mistake for the reader to conclude that manufacturing is not important for California and that it is no longer needed. Durable and non-durable goods manufacturing together comprise 16 percent of the earnings generated in 2000 (Figure 2), making this the single most important industry in California.⁵

HIGH-GROWTH INDUSTRIES

The rate of economic development, just in worker earnings, in California in the past four decades has been remarkable. Think of it as a pie that expands. In the case of California, this pie expanded close to 300 percent between 1960 and 2000 in worker earnings after adjusting for inflation. In 1960, the industries in California generated \$216 billion in worker earnings.[‡] By 2000, this amount had gone up to \$826 billion. The pie chart below shows the industries responsible for this growth.

Figure 6



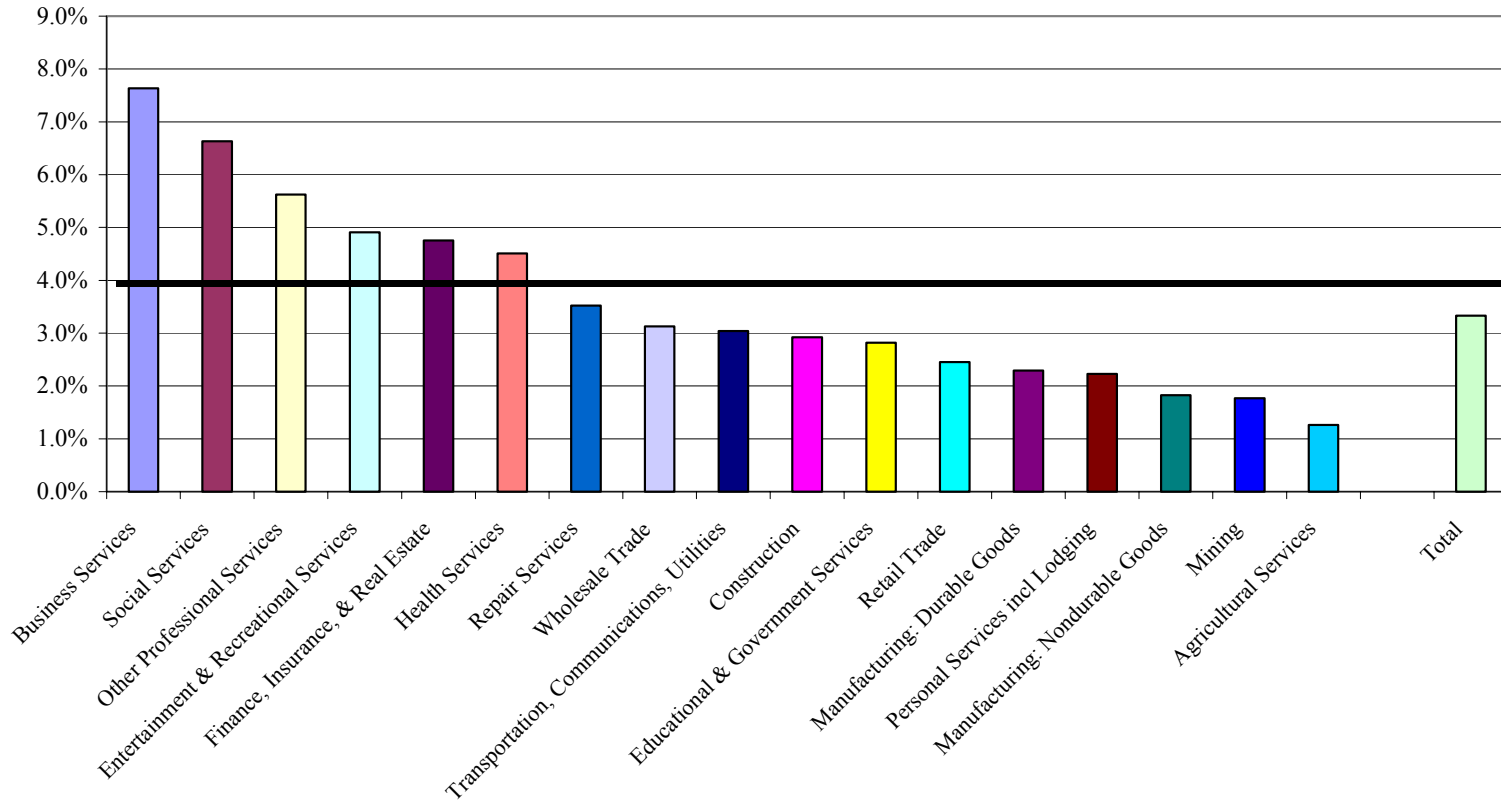
As Figure 6 shows, all the industries played an important role in the economic expansion that took place. Some industries, however, because of their high-growth, merit closer attention and for this reason we lumped them into the “High-Growth Industries” category.

For this report we define high-growth industries as those that have an annual rate of growth of more than four percent from 1960 to 2000. According to Figure 7, the following six industries have annual growth rates of more than four percent: Finance, insurance, and real estate; business services; entertainment and recreational services; health services; social services; and other professional services.

[‡] The 1960 figure was adjusted for inflation using the consumer price index for all urban dwellers in California. Thus, the economic expansion, in terms of worker earnings, shown above is over and above the inflation that took place during that time span.

Figure 7

Real Annual Rate of Growth of Worker Earnings Generated by Industry, 1960 to 2000



Source: California Research Bureau, California State Library using BEA's 2001 SA05 file for California.

Note: The annual rate of growth for "Social Services" is based on data for 1975 to 2000. All the other industries are based on the 1960 to 2000 time-span.

The reader should note that although six industries emerge with an annual rate of growth of four percent or more, only five will be considered in the analysis that follows. Unlike other industries, data for “social services” was not available for the time-span 1960 to 2000. Nevertheless, the reader should note that it is an industry that has experienced rapid growth since 1975. This industry includes privately run individual and family services, job training services, childcare services, and residential care.

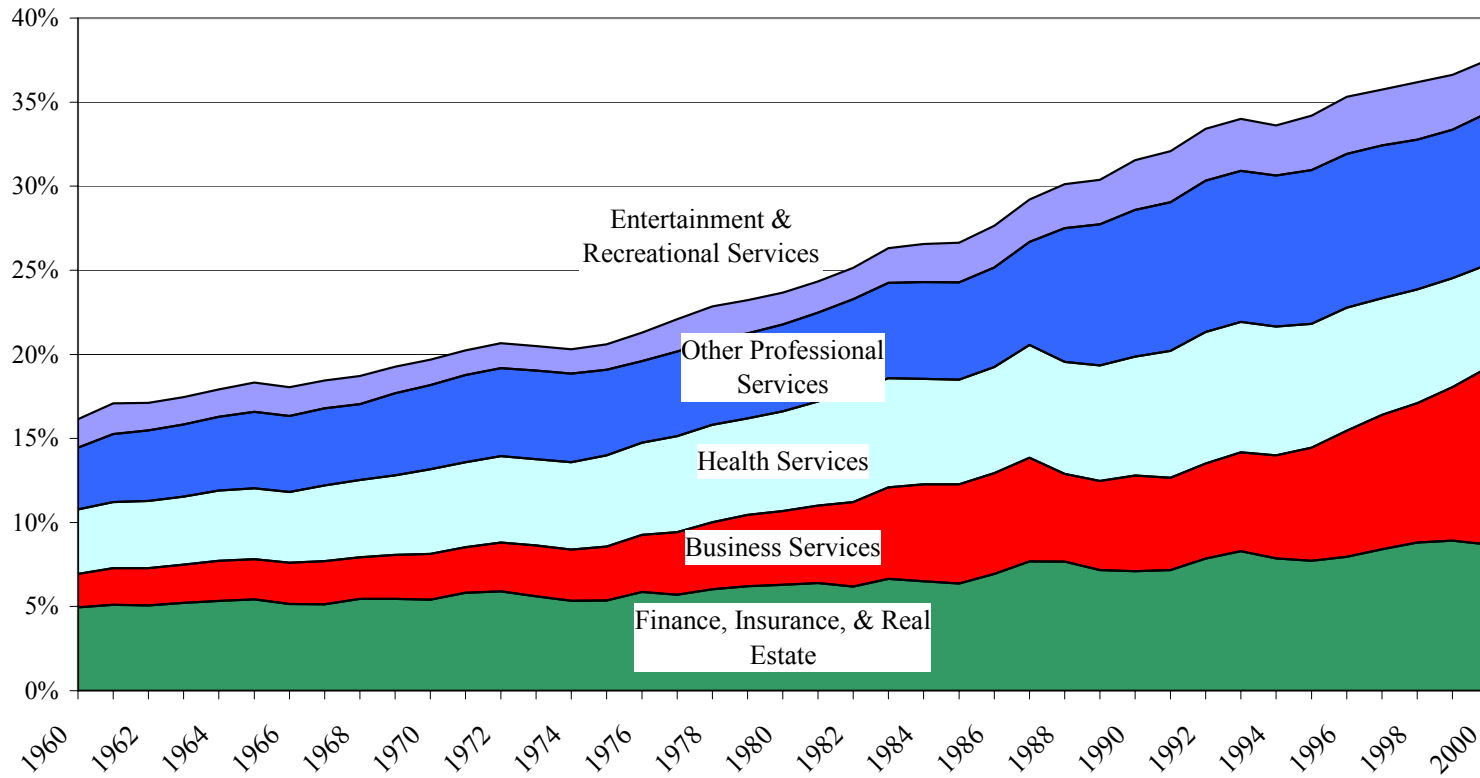
Another way to present this data, perhaps more strikingly, is by showing the total amount of worker earnings these industries generate relative to other industries. Since 1960, these industries are generating a larger percentage of the total worker earnings in California. These industries went from generating 16 percent of total worker earnings in 1960 to 37 percent in 2000.

It is important to note that the industrial categories shown are a group of related industries, as defined by the Standard Industrial Classification (SIC) system and as made available by the BEA. The individual industries within each category are described in the appendix but the following provides a brief description of the above industries.

- The entertainment and recreational service industry includes motion pictures, amusement and recreation services, museums, and botanical and zoological gardens.
- Other professional services include legal services, membership organizations, and engineering and management services.
- Health services include all the different health services industries. These include medical offices and clinics, nursing and personal care facilities, hospitals, medical and dental laboratories, and home health care services.
- Of all the industrial categories shown in Figure 6, perhaps the most diverse is the business services industry. It includes advertising, credit reporting, mail and reproduction services, services to buildings, miscellaneous equipment rental, personnel supply services, and computer services (including computer programmers).
- The finance, insurance, and real estate classification includes depository and non-depository financial institutions; security and commodity brokers; insurance carriers, agents, and brokers; and real estate.

Figure 8

Fast Growing Industries and Their Share of Total Worker Earnings in California, 1960 to 2000



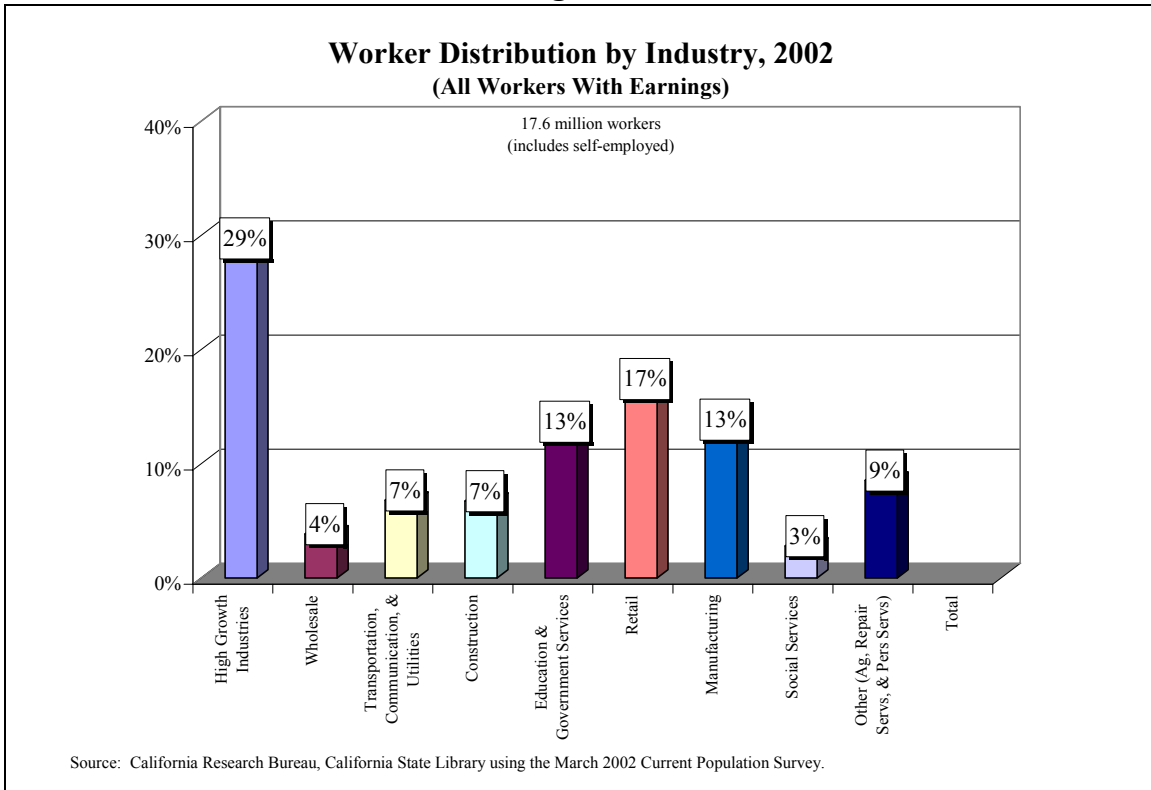
Source: California Research Bureau, California State Library using BEA's 2001 SA05 file for California.

HIGHLY-EDUCATED WORKERS AND THE INDUSTRIES THAT EMPLOY THEM

This section focuses on the highly-educated labor force of California, those with a bachelor's degree or more. Although all industries employ highly-educated workers, some depend more on them than others.

California, being the biggest state, has a large workforce. The chart that follows shows the distribution of all workers by industry, regardless of education. Together, the high-growth industries employ 29 percent of the workforce. Keep in mind that the charts in this report include all workers with earnings, including the self-employed.

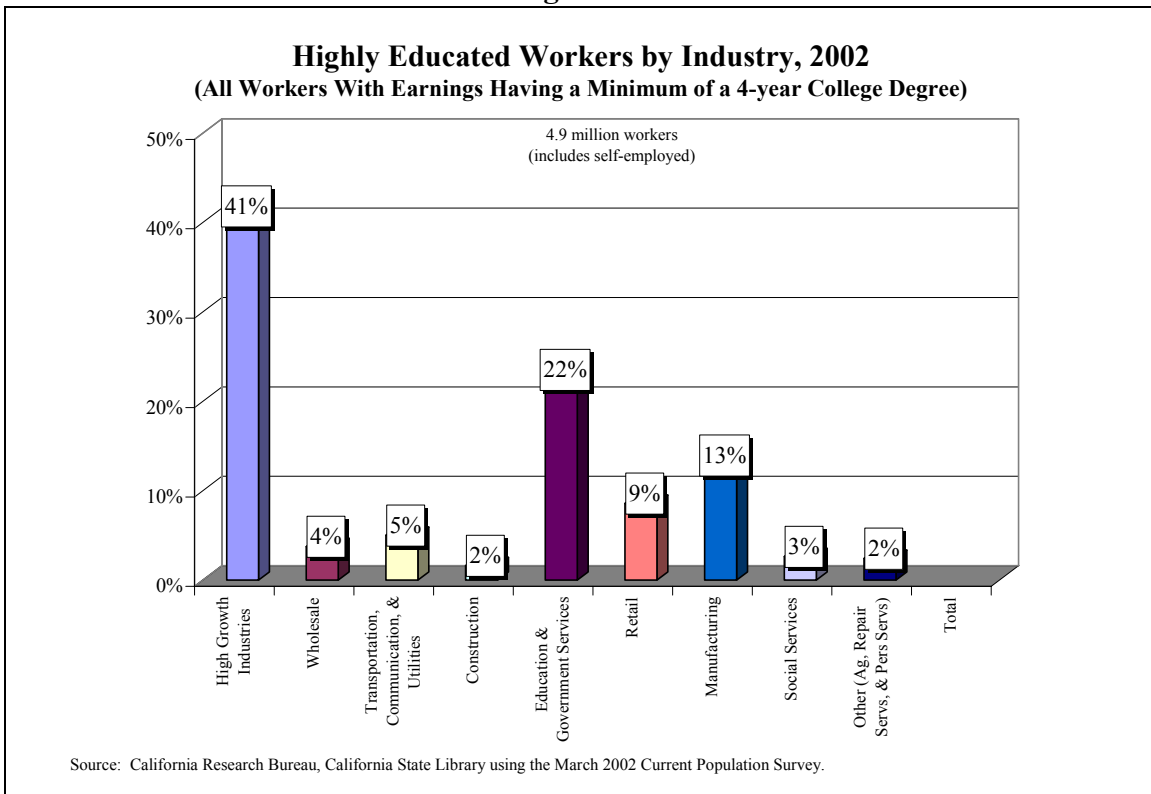
Figure 9



When it comes to the highly-educated workforce, the high-growth industries employ an even larger share of workers. Although high-growth industries employ only 29 percent of all workers, they employ 41 percent of the highly-educated workers. These industries employ more highly-educated workers than even the education and government sector.

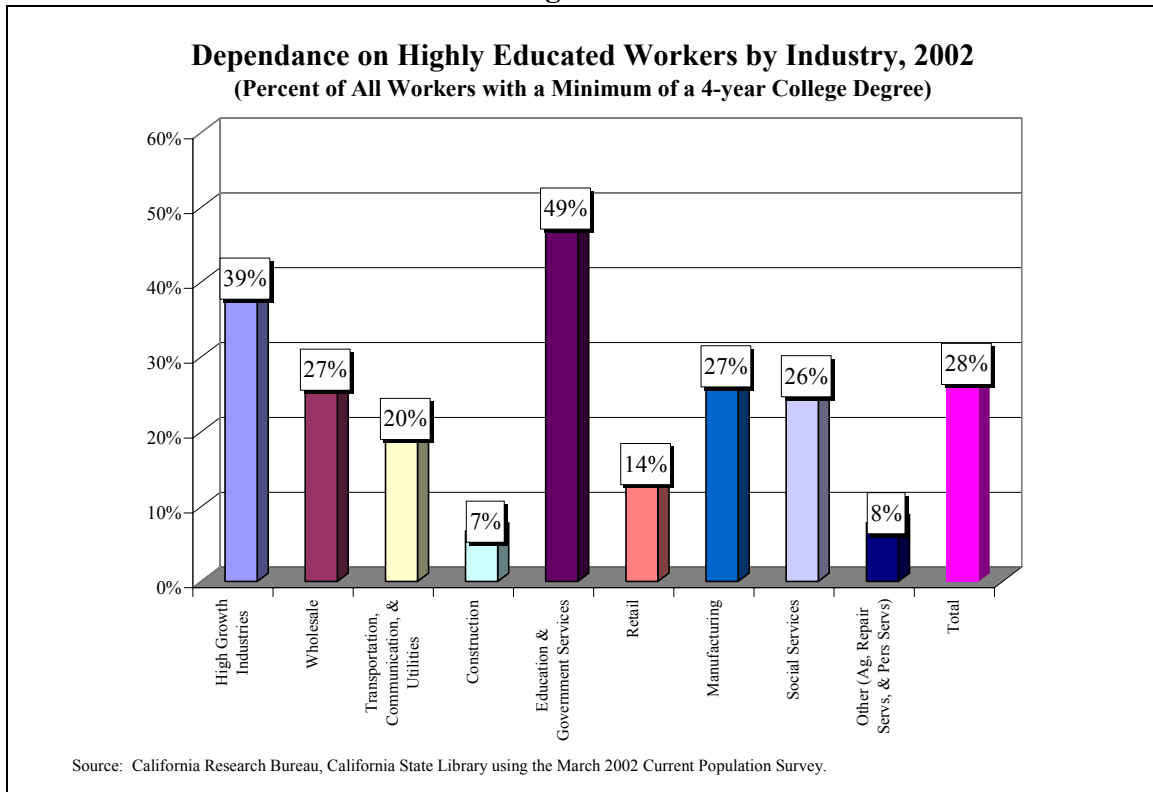
The chart below reveals that the demand for highly-educated workers is greatest among the high-growth industries. Moreover, if the past is any indication of the future, i.e., given the growth of these industries in the past, these industries will continue to be the largest employer of highly-educated workers for many years to come.

Figure 10



The high-growth industries also have a high dependence on these workers (Figure 11). All the industries depend on highly-educated workers to some degree, but some more than others. The industry that has more highly-educated workers as a proportion of all workers is the education and government sector. Second in line are the high-growth industries. Close to 40 percent of their labor force are highly-educated. Notice that the state average is 28 percent and that wholesale, manufacturing, and social services are close to the state average.

Figure 11



Given the long-term trends, implicit in these findings is that the educational attainment of workers will play a growing role as California's economy continues to change. Those industries that drive California's economy and in which there is the greatest growth in workers' earnings demand a highly trained and educated workforce.

Issues to Consider

ISSUES TO CONSIDER

The previous section underscores the importance of the high-growth industries in the economic development of California. But what does it all mean? More importantly, what should we consider in planning for the future?

We take a two-prong approach in answering this question. We first look at the early preparation of workers, i.e., high school students and their scholastic performance. Then we look at the well being of workers once they are employed. The focus is on the gaps where public policy might be applicable.

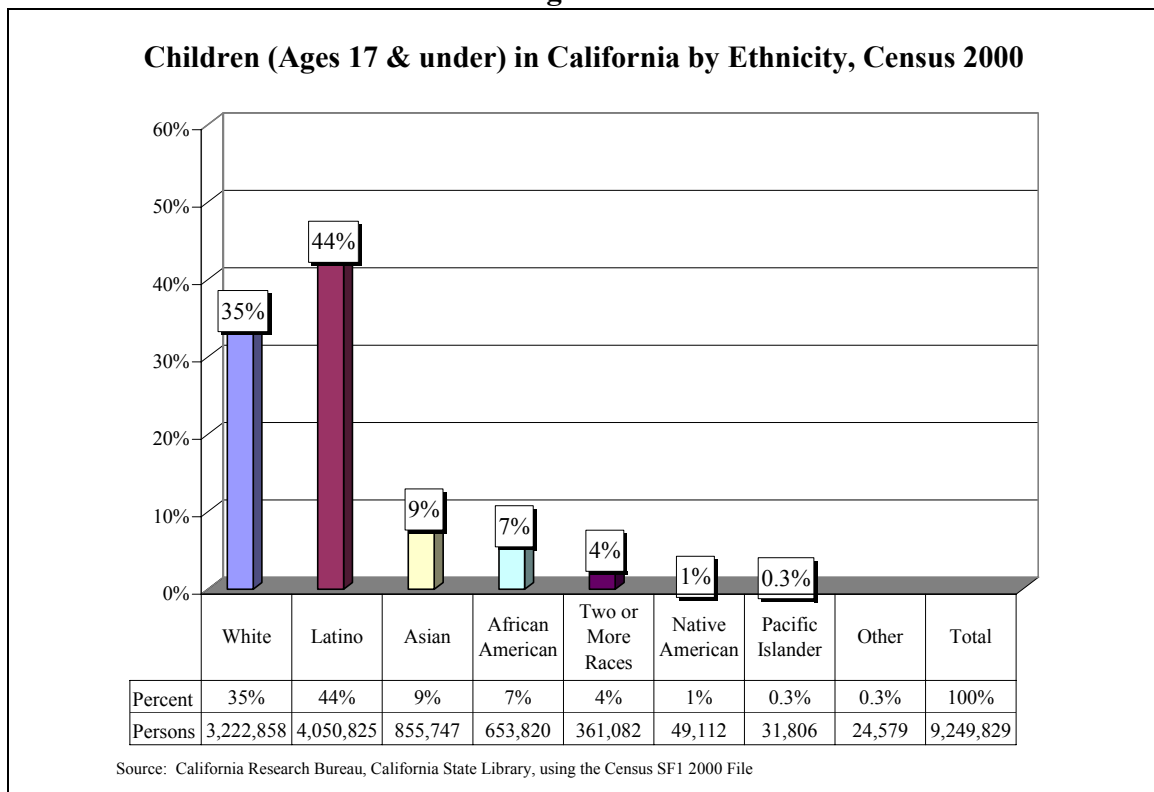
What are the implications for the preparation of the domestic labor force? It is clear that the economy of California is going to continue to need highly-educated workers. The question, however, is not whether California will have enough highly-educated workers. Employers (industries) have proven that they can always attract highly-educated workers from abroad. The better question is whether California is on track to producing its own supply⁶ and whether California is prepared to take a disadvantaged child and give her the preparation needed to get a college education.

In addition to ensuring that California is producing a well-prepared labor force, the strategic plan should also consider the well being of workers and their families once in the workforce. Because of the structure and the competitiveness of the different industries, certain segments, such as smaller businesses, are in a situation where their workers do not have the same access to health insurance nor pension benefit plans. This creates a serious gap, one that can perhaps be addressed through public policy.

CHANGING DEMOGRAPHICS AND LEADERSHIP FORMATION

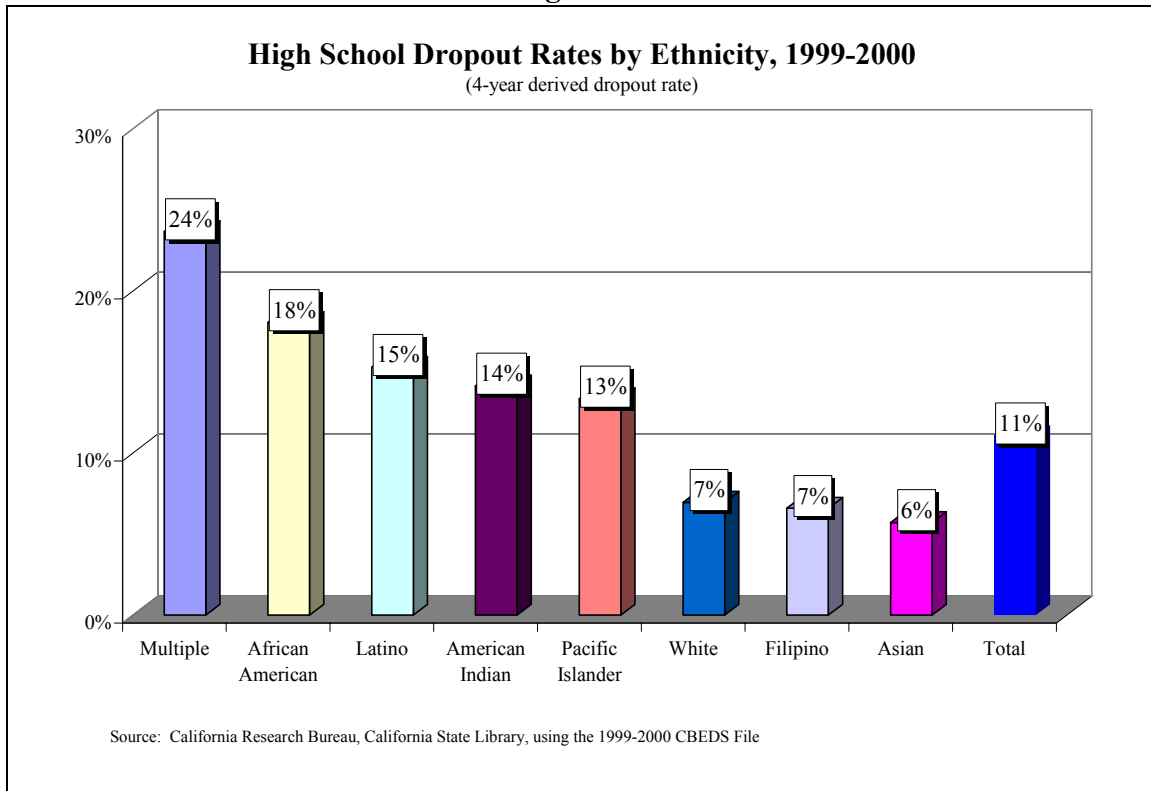
With high-growth industries consisting of a larger percentage of highly-educated employees, the future economic development of California is going to be intricately linked to the State's changing demographics. The last 30 years witnessed a tremendous growth in the Latino and Asian populations. Despite this, the California economy has not felt the full magnitude of this transformation because these populations are young and a large proportion have not entered the labor force. In the case of Latinos, the most demographically dynamic population, close to 40 percent of the population are children. In the next decade, for instance, there are going to be over 4 million Latino children moving through the K-12 system and into the labor force. With Latinos comprising the largest demographic group under age 18, there will be a significant change in the labor force over the next 10 to 20 years.

Figure 12



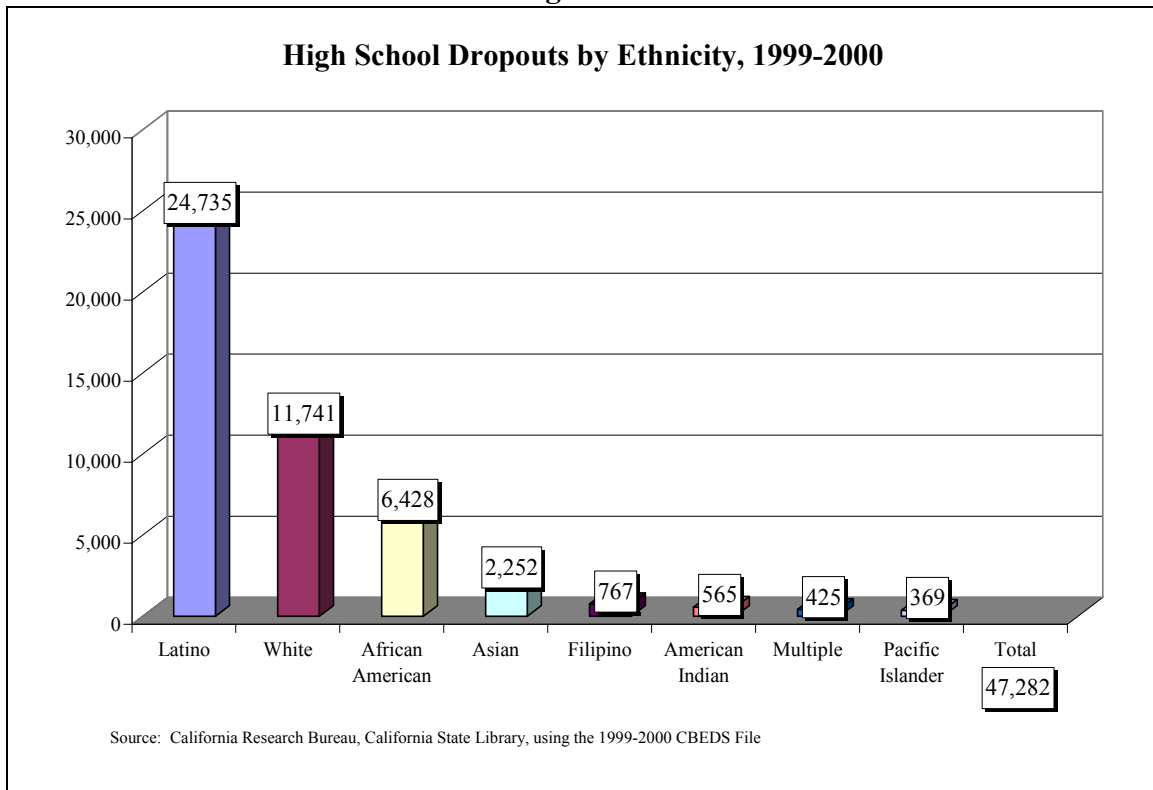
However, given the current performance in school, the long-term employment outlook for these groups does not look good. Students of multiple races, African Americans, Latinos, American Indians, and Pacific Islanders have the highest high school dropout rates. In light of the previously discussed demand of high-growth industries for a better-educated workforce, the drop out rates amongst these groups is cause for concern.⁷

Figure 13



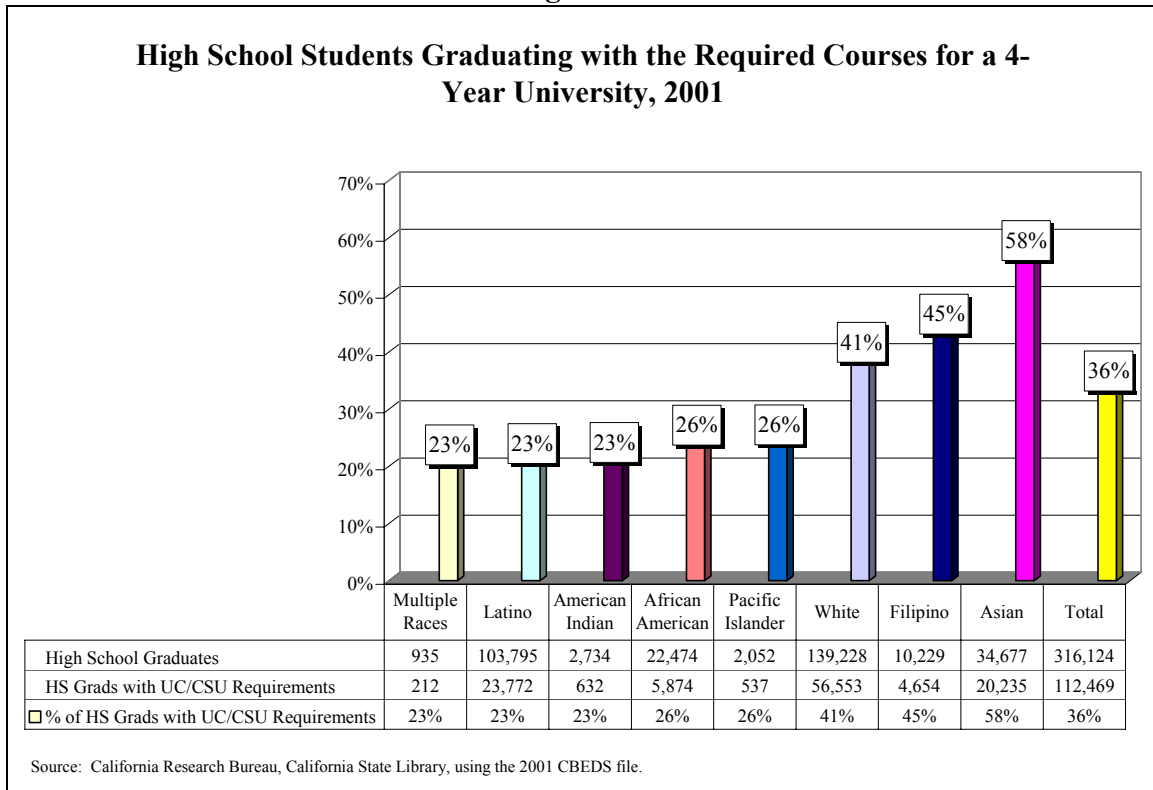
When looking at the actual number of students, Latinos are by far the largest group of dropouts, comprising over 50 percent. Numerically, the next two largest groups are Whites and African Americans, respectively.

Figure 14



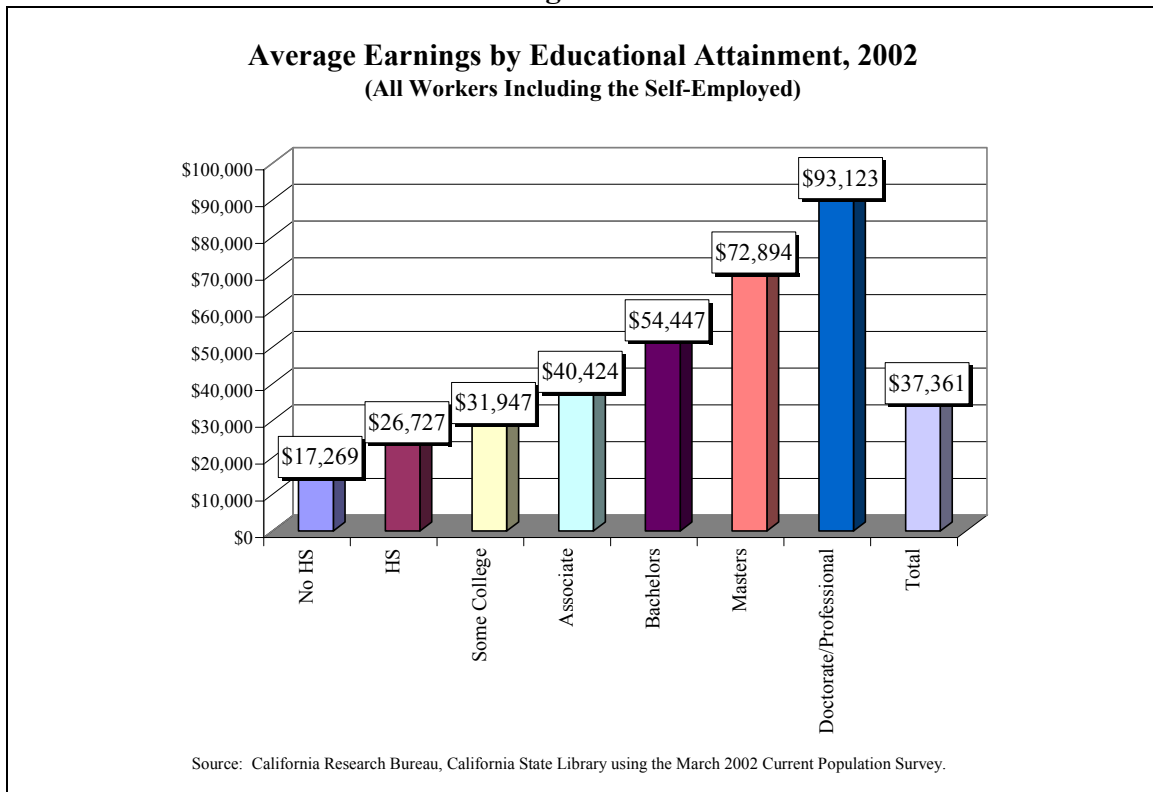
These same groups are also disproportionately unprepared to enter four-year universities. Figure 15 illustrates the percentage of high school graduates who completed the required courses for entry into a four-year university. The groups least likely to complete the requisite courses for entrance into a four-year university are persons of Multiple Races, Latinos, American Indians, African Americans, and Pacific Islanders. To assess the magnitude, the reader should look at the row titled “High School Graduates.” Of those groups least prepared, the two largest groups are Latinos and African Americans.

Figure 15



Figures 14 and 15 demonstrate that certain ethnic groups in California are more likely to be at the bottom of the educational spectrum. The implications of an individual's education level are predictable when it comes to earning potential -- the more education a person has, the more income they tend to make. With persons falling under the groupings of Multiple Races, Latinos, American Indians, African Americans, and Pacific Islanders more likely to drop out of high school and less likely to enter a 4-year university, their long-term earning potentials are limited. Even if the person that drops out gets her or his high school diploma at a later time, the difference in income between somebody with a bachelor's degree and a high school diploma is quite striking.

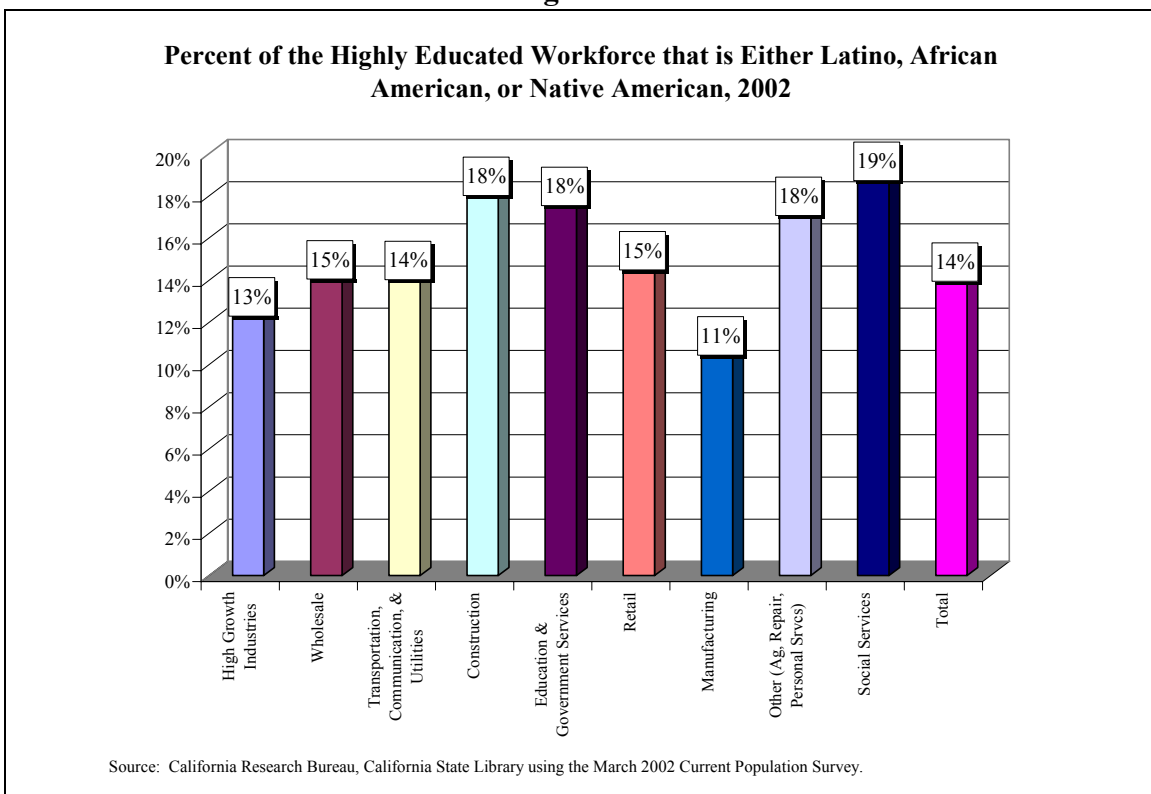
Figure 16



The economic development of California is intricately linked to the income of its residents. Whether California takes advantage of the increasing diversity to foster further economic development will depend on how California educates and prepares new workers.

Scholastic preparation however is but the first step. The next step is getting the job. Currently, because of the lower levels of education, Latinos, African Americans, and Native Americans are a very small proportion of the highly-educated workforces within any industry. (Among all workers, these three groups comprise 38 percent of the workforce.) However, their representation is especially low in the high-growth industries comprising only 14 percent of the highly-educated workforce.[§]

Figure 17



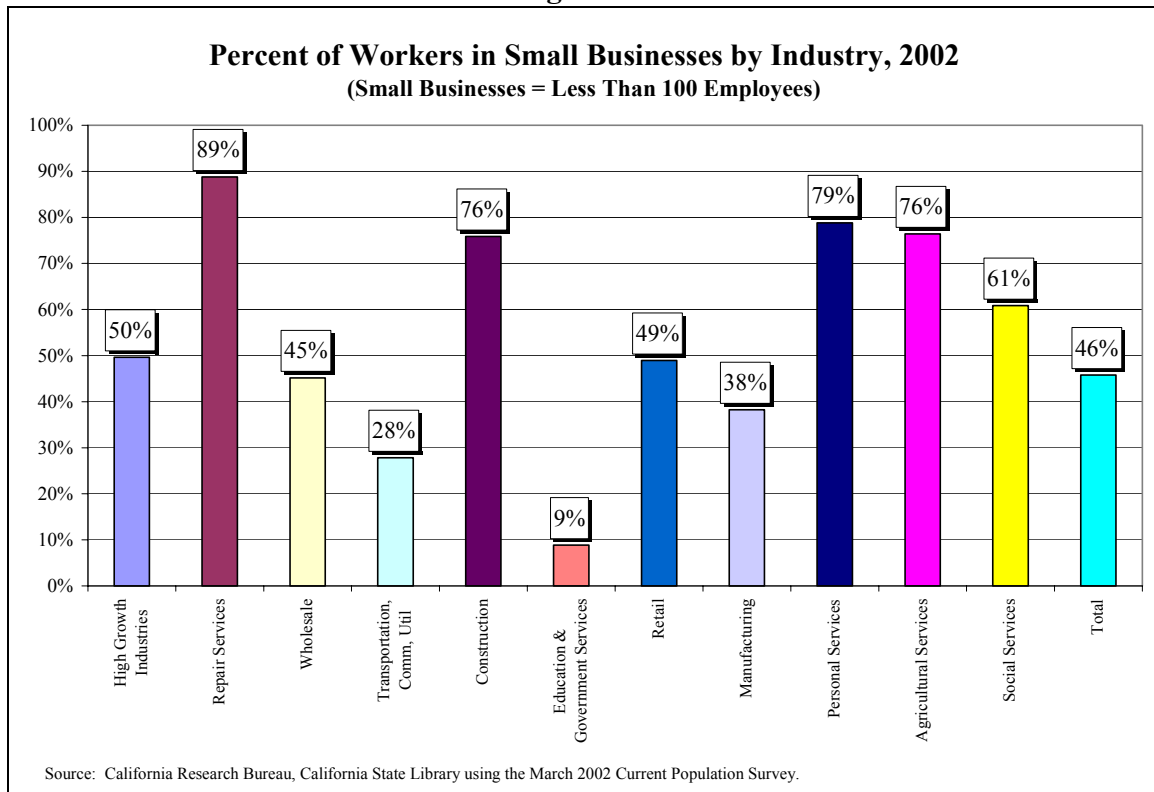
[§] Pacific Islanders are not included in these calculations because of the small sample size.

SMALL BUSINESSES AND BENEFITS TO WORKERS

In planning for the future, it is important to consider not only the type of preparation an individual requires to succeed, but also the conditions once they are in the labor market. An area that needs greater public policy attention is small businesses.** In particular, individuals that end up working in small businesses tend not have pension benefits nor health insurance benefits. This is a finding that holds even for those that have high levels of education. Pension plans are important because it is an effective means for an individual to save and, after she or he retires, to maintain their level of spending in the economy. Health insurance benefits are important because of the high cost of medical treatment, the ability to provide early detection and treatment, and because it also ensures a healthy workforce.

In California, small businesses, defined as those having less than 100 employees, employ 46 percent of the 17.6 million workers with earnings.

Figure 18



** In this paper, small businesses are defined as those having less than 100 employees. Note, however, that the official definition used by the state for procurement has many more conditions. According to California Government Code, Section 14837 (d), “‘small business’ means an independently owned and operated business, which is not dominant in its field of operation, the principal office of which is located in California, the officers of which are domiciled in California, and which together with affiliates, has 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or is a manufacturer, as defined in subdivision (c), with 100 or fewer employees.”

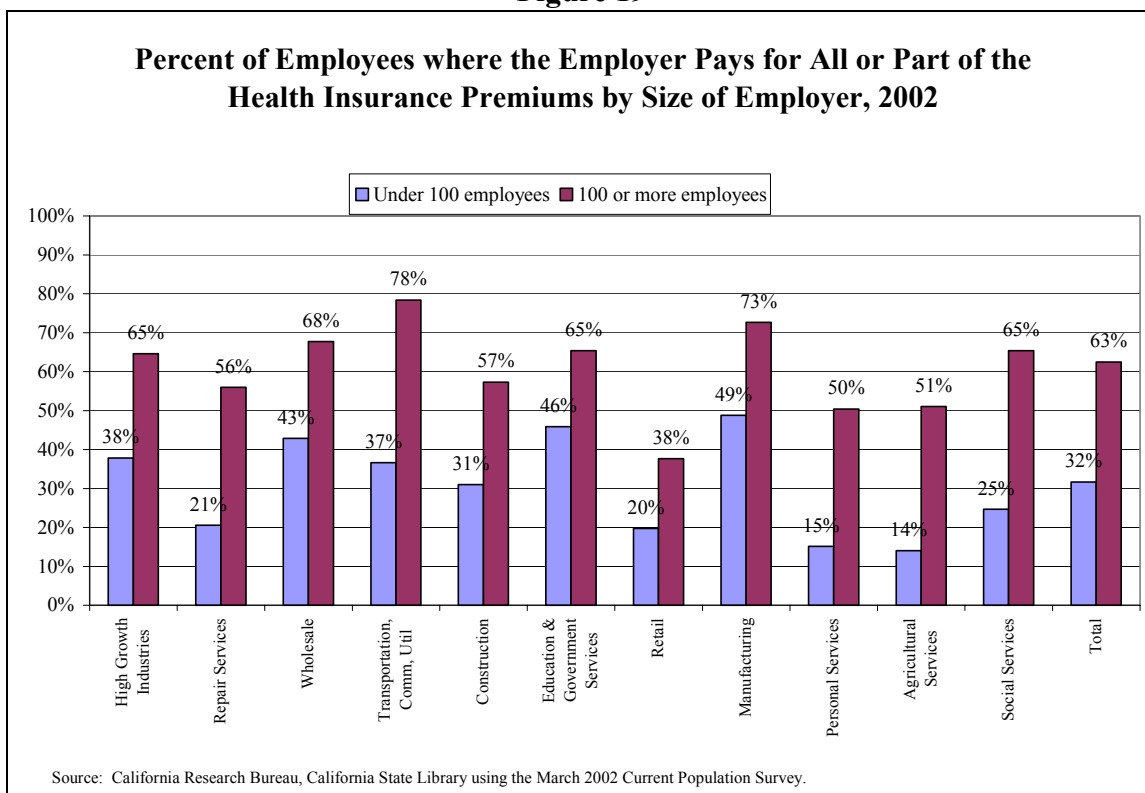
Notice that some industries rely more on small businesses (Figure 18). At the high end are repair services, construction, personal services, agricultural services, and social services. Over 60 percent of the employees in these industry groups are employed by small businesses. At the mid-level are the high-growth industries, wholesale, retail, and manufacturing. Relying less on small businesses are the transportation, communication, and utilities industry and the education and government sector.

Despite the variations on the reliance of small businesses, the conditions for workers employed by a small business tend to be the same. Small businesses tend not to offer benefits like health care insurance to their employees at rates comparable to larger businesses. Only 32 percent of the employees in small businesses are in a situation where the employer helps pay for all or part of the health insurance premiums (Figure 19). In comparison, for employees in larger businesses the percentage is almost twice as high at 63 percent. As Figure 19 shows, this condition holds across all industries. There are some noticeable exceptions. The retail industry rates are low regardless of the size of the employer. In general, however, over 50 percent of the employees in large businesses have health insurance, whereas, it is under 50 percent for those in small businesses.

It is not that small businesses do not want to provide health care benefits. They do. In a nationwide survey of 1,031 small businesses, conducted by the American Express Small Business Services, business owners ranked “affordable health care for their employees” as the most important issue.⁸

The problem however, according to the U.S. General Accounting Office (GAO), is not only the price or premium, but also the quality of the coverage.⁹ For the same premium, small business get less in terms of medical coverage and their employees have to pay more out-of-pocket. A partial explanation for the lower quality is that small businesses have higher administrative costs; it is easier for an insurance company to deal with one company of 1,000 employees than with 50 companies with 20 employees each. According to the GAO, the administrative costs for small business are in the range of 20 to 25 percent of the premium, whereas for large businesses it is 10 percent.

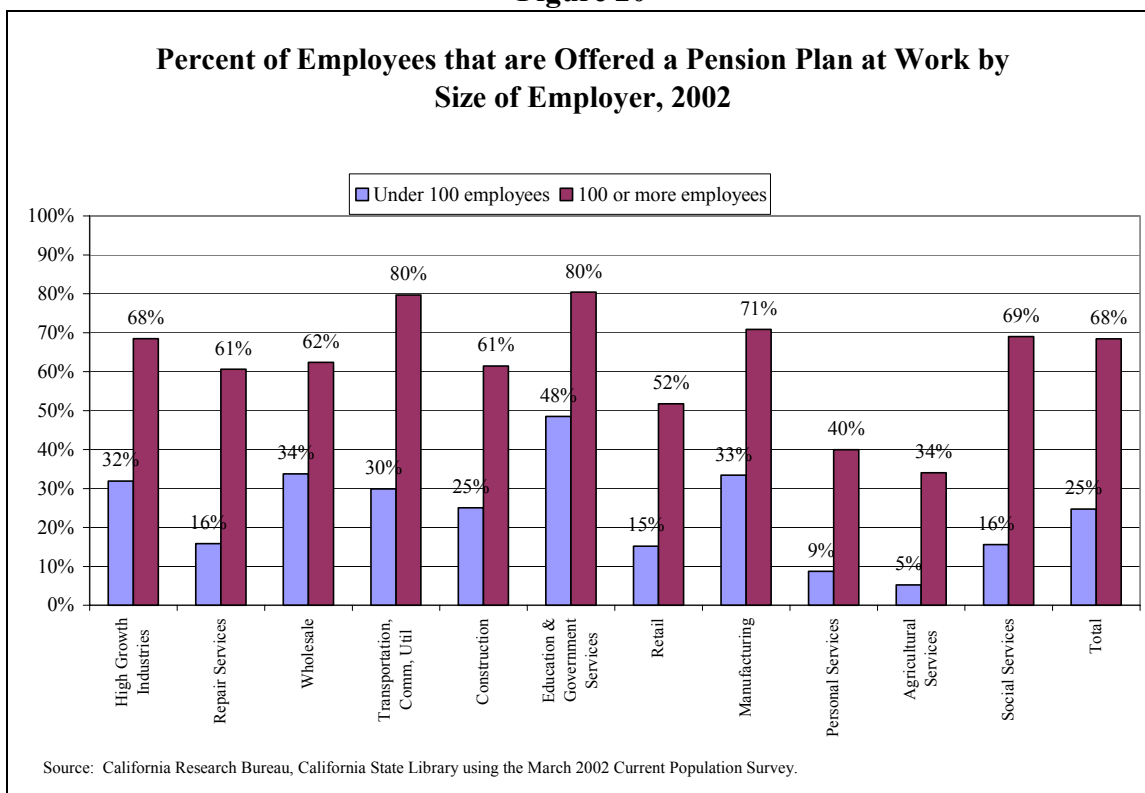
Figure 19



Small businesses face a similar disparity in the pension plans they offer employees. Once again, in general, small businesses are limited in what they can offer compared to large businesses.

For purposes of this report, pension plans include employer provided retirement plans. Usually these plans fall into one of two categories. “Defined benefit” plans are usually in the form of annuities (payments made on periodic basis) and are based on a formula that usually takes into account the years of service, age, and wages. The California Public Employees’ Retirement System (CALPERS) for state workers is a defined benefit plan. The other types of plans are “defined contribution” plans and the amount that is paid-out depends on the amount the employee and/or the employer put into the plan. The 401(k), for instance, is a defined contribution plan. Because of the numerous types of plans, it is important to note that the charts that follow do not account for the quality of the pension plan nor do they account for the amount that the employee or employer contribute to the plan. Research seems to indicate that employees working for a small business will have a lower employer contribution.¹⁰

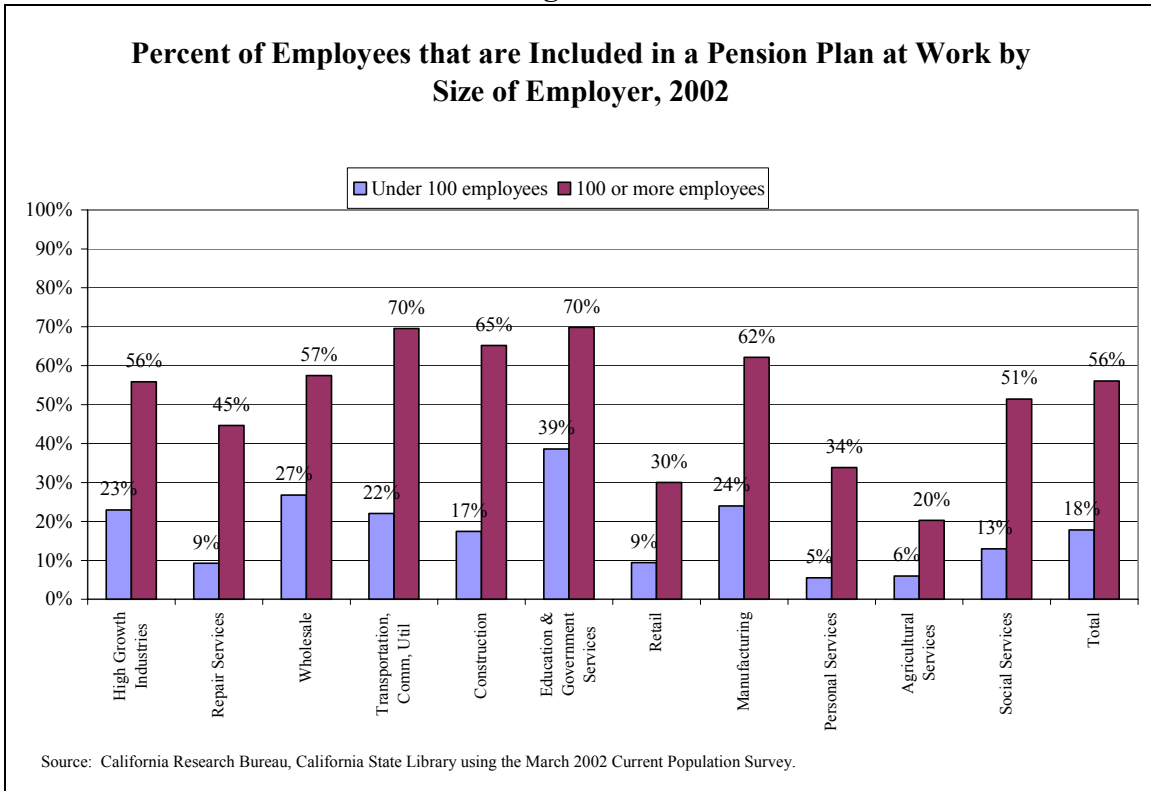
Figure 20



Like health insurance, limited pension plan offerings from small businesses cut across all industries (Figure 20). In general, only 25 percent of the employees in a small business are offered a pension plan whereas for employees in larger businesses it is 68 percent. A general rule of thumb, similar to health insurance, is that large businesses tend to provide pension benefits to at least 50 percent of the employees and small businesses to less than half of their employees. Notable exceptions are the personal service industry and agricultural services with low offer rates even among large businesses.

Figure 20 illustrates the “offer rate” for pensions and Figure 21 shows the “take-up rate.” As expected, not all workers take advantage of offered pension plans, leading to a gap between the offer rate and the take up rate. This gap exists for both small and large businesses. The general trend of disadvantage for small businesses, however, remains the same, with the take up rate for employees of small businesses lower across all the industries. Worth noticing is that in the case of some industries, especially the low-wage industries (repair services, retail, personal services, and agricultural services), the take-up rates are low even among large businesses.

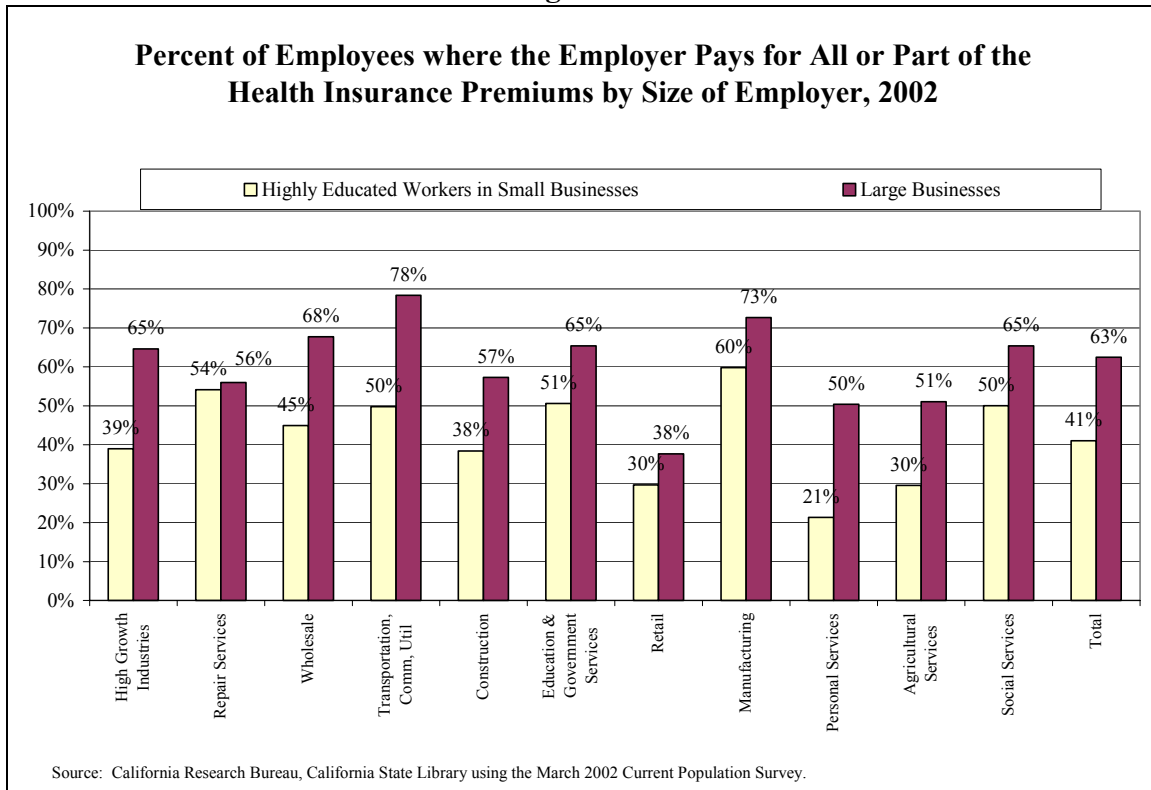
Figure 21



Although an employer may offer a pension plan at work, not all the workers take advantage of the plan. There are many reasons for this. One reason is that in all the industries, including government, a fraction of the workers are employed part-time and may not qualify for pension benefits. Another reason may be cost, wherein, the employer may require a partial contribution or a total contribution from the employee. Also, workers may be covered under a family member plan.

It is worth noting that even the highly-educated workers in small businesses have lower acceptance rates than those in larger businesses. Take the case of health insurance. Only 41 percent of the highly-educated workers in small businesses are in a situation where the employer helps pay for a portion or the entire health insurance premium. For workers in larger businesses this percentage is 63 percent (Figure 22). This tendency holds true for most industries with the repair industry being the exception. In the high-growth industries, for instance, highly-educated workers in small business have access to employer provided health insurance at a rate far lower than workers in larger businesses.^{††}

Figure 22



As shown, small businesses offer health insurance and pension plans at a lower rate than large businesses, and appear to have greater difficulty in enrolling employees in those benefit programs. With small businesses accounting for 46 percent of total employment in California, the inability of such businesses to offer health and pension benefits poses significant public policy questions regarding both the overall health condition and economic prospects for millions of Californians. Any long-term solution to these public policy issues (health care insurance and pensions) must address the condition of small businesses directly. Small businesses, due to their size, may not be able to afford to pay for these benefits or may lack the administrative capacity to do the required paperwork.

^{††} The differences would be even larger if highly-educated workers in small businesses were being compared to highly-educated workers in larger businesses. On Figure 22, the bar for large businesses is inclusive of all workers.

Conclusion

CONCLUSION

California experienced prolonged economic growth from 1960-2000, primarily driven by a handful of high-growth industries. The importance of these five industries (Finance, Insurance and Real Estate; Business Services; Entertainment and Recreational Services; Health Services; and Other Professional Services) to California's economic health is underscored by the fact that they accounted for 37 percent of total worker earnings in 2000 (see Figure 8 on page 14).

The report also shows that these industries are the largest employer of highly-educated workers. With over 41 percent of employees possessing at least a bachelor's degree in these high-growth industries (see Figure 10 on page 17), the ability of California to continue to produce a highly-educated workforce becomes increasingly consequential to furthering economic growth and employment opportunities.

However, demographic and educational trends clearly show that California faces a challenge in improving the educational attainment for its future workforce. Data presented in this report shows that Latinos, African Americans, Native Americans, and Pacific Islanders are disproportionately more likely to drop out of high school and are less prepared to enter into a four-year university than their peers.

In moving to address the educational attainment level of California's students, a number of things should be considered. What have been the impacts of the education reforms of the mid to late 1990s and are additional reforms necessary? Is additional funding necessary? Also, what role are businesses and communities to play in the education of our youth?

In addition to the scholastic preparation, it is just as important to look at the conditions once in the workplace. In California a large disparity exists between small and large businesses. Small businesses continue to account for a significant portion of total employment in California, yet they often do not offer comparable compensation packages to employees as those offered by large businesses—as demonstrated by the offer rates for health care insurance and pension plans. The ability of small businesses to offer non-wage compensation such as health care insurance and pension plans not only impacts an individual business's ability to attract and retain employees, but it poses significant policy questions.

How can California better assure adequate healthcare for these individuals? Can health care insurance be structured in such a way that increases the participation of small businesses, perhaps through a partnership with government programs? Also, are any of the health care reforms improving the health insurance market for small businesses in a significant fashion?

Similarly, pension plans provide critical avenues for employees to set funds aside in financial accounts for retirement, educational expenses, and other activities. Pension plans facilitate long-term financial planning, allowing an employee to significantly improve their financial situation during retirement. However, since pension plans vary so much in the variety and depth of options available, it is not clear that they all accomplish that goal. Which plans are most effective in preventing or easing the financial troubles of individuals during their retirement? Also, given the importance of education, which plans better enable individuals to save and afford for the education of their children?

Appendix A: Industry Descriptions

INDUSTRY DESCRIPTIONS

AGRICULTURAL SERVICES

Includes SIC 01, 02, 07, 08, and 09:

- Farming (crops and livestock production)
- Agricultural Services (soil preparation, veterinary, farm labor management, landscaping services)

Note: Agricultural services include landscaping services.

- Forestry
- Fishing, Hunting, and Trapping

MINING

Includes SIC 10, 12, 13, and 14:

- Metal Mining
- Coal Mining
- Oil and Gas Extraction
- Nonmetallic Minerals

CONSTRUCTION

Includes SIC 15, 16, and 17:

- General Building Contractors
- Heavy Construction (highways, bridges, water, sewer, and utility lines)
- Special Trade Contractors (plumbing, heating, air conditioning, painting, electrical work, masonry, carpentry, roofing, concrete work, water well drilling)

MANUFACTURING-DURABLE GOODS

Includes SIC 24, 25, 32, 33, 34, 35, 36, 37, 38, and 39:

- Lumber and Wood Products
- Furniture and Fixtures
- Stone, Clay, and Glass Products
- Primary Metals (basic steel products, iron foundries, nonferrous metals)
- Fabricated Metal Products
- Industrial Machinery (engines, turbines, farm machinery, construction machinery, metalworking machinery, other industrial machinery, computer and office equipment, refrigeration machinery)

Note: Industrial machinery includes computer manufacturing.

- Electronic Equipment (electric distribution equipment, household appliances, electric lighting, household audio and video, communications equipment, electronic accessories)
- Transportation Equipment (motor vehicles, aircraft, ship and boats, railroad, motorcycles, guided missiles, space vehicles)

- Instruments (search and navigation equipment, measuring and controlling devices, medical instruments, photographic equipment, watches and clocks)
- Miscellaneous (jewelry, silverware, musical instruments, toys, sporting goods, office supplies)

MANUFACTURING-NONDURABLE GOODS

Includes SIC 20, 21, 22, 23, 26, 27, 28, 29, 30, and 31:

- Food and Kindred Products
- Tobacco Products
- Textile Mill Products
- Apparel and Other Textile Products
- Paper and Allied Products
- Printing and Publishing
- Chemicals and Allied Products
- Petroleum and Coal Products
- Rubber and Plastics
- Leather and Leather Products

TRANSPORTATION AND PUBLIC UTILITIES

Includes SIC 40, 41, 42, 43, 44, 45, 46, 47, 48, and 49:

- Railroad Transportation
- Local and Interurban Passenger Transit
- Trucking and Warehousing
- U.S. Postal Service
- Water Transportation
- Transportation by Air
- Pipelines, Except Natural Gas (petroleum)
- Transportation Services (travel agencies, freight transportation)
- Communications (telephone, telegraph, radio and television, and cable)
- Electric, Gas, and Sanitary Services

WHOLESALE TRADE

Includes SIC 50 and 51:

- Wholesale Trade-Durable Goods
- Wholesale Trade-Nondurable Goods

RETAIL TRADE

Includes SIC 52, 53, 54, 55, 56, 57, 58, and 59:

- Building Materials and Garden Supplies
- General Merchandise Stores
- Food Stores
- Automotive Dealers and Service Stations
- Apparel and Accessory Stores
- Furniture and Homefurnishings Stores

- Eating and Drinking Places
- Miscellaneous Retail (drug stores, liquor stores, used merchandise, catalog and mail-order, florists, etc.)

FINANCE, INSURANCE, AND REAL ESTATE

Includes SIC 60, 61, 62, 63, 64, 65, and 67:

- Depository Institutions
- Nondepository Institutions (federal, personal, and business credit institutions, loan brokers)
- Security and Commodity Brokers
- Insurance Carriers
- Insurance Agents, Brokers, and Service
- Real Estate
- Holding and Other Investment Offices

BUSINESS SERVICES

Includes SIC 73:

- Advertising
 - Credit Reporting and Collection
 - Mailing, Reproduction, Stenographic
 - Services to Buildings
 - Misc. Equipment Rental and Leasing
 - Personnel Supply Services
 - Computer and Data Processing Services
- Note: Business services includes computer programming.*
- Miscellaneous Business Services

REPAIR SERVICES

Includes SIC 75 and 76:

- Auto Repair, Services, and Parking
- Miscellaneous Repair Services

PERSONAL SERVICES, INCLUDING LODGING

Includes SIC 70, 72, and 88:

- Hotels and Other Lodging Places
- Personal Services (laundry, studios, beauty shops, funeral services, tax return preparation, and other misc. services)
- Private Households

ENTERTAINMENT AND RECREATIONAL SERVICES

Includes SIC 78, 79, and 84:

- Motion Pictures (production, distribution, theaters, video rentals)
- Amusement and Recreation Services (dance studios, entertainers, bowling groups, commercial sports, etc.)
- Museums, Botanical, Zoological Gardens

HEALTH SERVICES

Includes SIC 80:

- Medical Offices and Clinics
- Nursing and Personal Care Facilities
- Hospitals
- Medical and Dental Laboratories
- Home Health Care Services
- Home and Allied Services, Not Elsewhere Classified

GOVERNMENT SERVICES

Includes SIC 91, 92, 93, 94, 95, 96, 97, and the publicly provided part of 82:

- Executive, Legislative, and General
- Justice, Public Order, and Safety
- Finance, Taxation, and Monetary Policy
- Administration of Human Resources
- Environmental Quality and Housing
- Administration of Economic Programs
- National Security and International Affairs

Note: Publicly provided educational services are included in this category whereas privately provided educational services are included under the "Other Professional Services" category.

- Educational Services Provided by the Government (K-12, Colleges and Universities, Libraries, and Vocational Schools)

SOCIAL SERVICES

Includes SIC 83:

- Individual and Family Services
- Job Training and Related Services
- Child Day Care Services
- Residential Care

OTHER PROFESSIONAL SERVICES

Includes SIC 81, 86, 87, and the privately provided part of 82:

- Legal Services
- Membership Organizations (Business Associations, Labor Organizations, Political Organizations, Religious Organizations, etc.)
- Engineering and Management Services

Note: Privately provided educational services are included in this category whereas publicly provided educational services are included under the government category.

- Educational Services Provided by the Private Sector

ENDNOTES

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- ¹ Elias Lopez, Enrique Ramirez, and Refugio Rochin, *Latinos and Economic Development in California*. (Sacramento: California Research Bureau, California State Library, June 1999), <http://www.library.ca.gov>.
- ² Elias Lopez, *Less-Educated Workers in California: A Statistical Abstract*. (Sacramento: California Research Bureau, California State Library, August 2000), <http://www.library.ca.gov>.
- ³ Elias Lopez; Ginny Puddefoot, and Patricia Gándara, *A Coordinated Approach to Raising the Socio-Economic Status of Latinos in California*. (Sacramento: California Research Bureau, California State Library, March 2000), <http://www.library.ca.gov>.
- ⁴ Elias Lopez, *Census 2000 for California: A Friendly Guide*, CRB 02-007. (Sacramento: California Research Bureau, California State Library, July 2002), <http://www.library.ca.gov>.
- ⁵ For a more in depth discussion on the transformations taking place and on the importance of the manufacturing industry in California see the report by Ross C. DeVol, and others, *Manufacturing Matters: California's Performance and Prospects*. (Santa Monica: Milken Institute, August 2002).
- ⁶ For an analysis of the demand for highly educated workers by occupation see California Council on Science and Technology (CCST), *Critical Path Analysis of California's Science and Technology Education System*. (Sacramento: CCST, April 2002).
- ⁷ For other indicators of school performance and outcomes see Belinda I. Reyes (Editor), *A Portrait of Race and Ethnicity in California: An Assessment of Social and Economic Well-Being*. (San Francisco: Public Policy Institute of California, 2001), <http://www.ppic.org/publications/Portrait/Portrait.Chapter.4.pdf>.
- ⁸ American Express Small Business Services, *Assessing the State of Small Business Workforce Skills*. (June 2000).
- ⁹ General Accounting Office (GAO), *Private Health Insurance: Small Employers Continue to Face Challenges in Providing Coverage*. (Washington, D.C.: GAO, October 2001).
- ¹⁰ Defined benefit plans, which are usually of a higher quality in terms of the employer match, are usually only offered by large employers. For more information see
- General Accounting Office (GAO), *Answers to Key Questions About Private Pension Plans*. (Washington, D.C.: GAO, September 2002),
 - General Accounting Office (GAO), *Private Pensions: Improving Worker Coverage and Benefits*. (Washington, D.C.: GAO, April 2002).