Latino Employment Patterns in San Diego County

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Executive Summary

San Diego County's population is expected to reach 3.85 million by 2020. This is an increase of over one million people, or 44 percent, between 1995 and 2020. Latinos, the County's fastest growing population group, will grow by 112 percent during this same time period, expanding from 607,000 to 1,287,000. This rapidly growing population group will constitute a significant portion of the County's future workforce. This leads to important research questions such as what are the industry employment and earnings patterns of Latino workers in San Diego County?

This study analyzes current trends in the labor force experience of Latinos in San Diego County. The data, which have not been previously available to researchers, are based on the administrative files of the State of California's Employment Development Department. The approach is a new and valuable method to analyze the labor market experience of Latino workers. It allows a comprehensive analysis of the employment and earnings profile of Latinos in specific industries and industry clusters.

The data presented in the study show that Latinos tend to be concentrated in seasonal industries, such as agriculture and construction, and in relatively lower-paying industries including nondurable goods manufacturing, services, and tourism. They tend to be underrepresented in many higher-paying industries including the software and the biotechnology industry clusters. Their annual earnings are generally lower than non-Latinos' earnings. These findings have important implications for policymaking in San Diego County.

Introduction

This study analyzes current trends in the labor force experience of Latinos in San Diego County. The employment data presented in the study have not been previously available to researchers. The data are based on the administrative files of the State of California's Employment Development Department (EDD).[1] The approach is a new and valuable method to analyze the labor market experience of Latino workers. It allows a comprehensive analysis of the employment and earnings profile of Latinos in specific industries and industry clusters.

One should always use caution when analyzing Latinos as a homogeneous group as the labor market experiences of Mexican may be different from those of Puerto Ricans or recent immigrants from Central or South America. Unfortunately, the EDD data used in this study only allow one to examine the employment patterns of Latinos as an aggregated group. It is impossible to differentiate among the Latino-origin groups or identify males verses females with these data. In this section of the report, the term Latinos refers to all persons who identified themselves as Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish/Latino origin or descent in census surveys.

The study focuses on Latinos because empirical evidence shows that in terms education and earnings, they seem to be lagging behind other population groups. A recent report, "Latinos and Economic Development in California," brought this situation to the attention of policymakers in State government (Lopez, Ramirez, and Rochin, 1999; Lopez, Puddefoot, and Gandara, 2000). San Diego County has similar concerns. One way to raise the standard of living in the County is to attract and retain employers that pay

[1] The Employment Development Department is a California state agency responsible for administering a variety of programs. These include Unemployment Insurance, which provides benefits to workers who lose their jobs through fault of their own; Job Service, which helps employers find qualified workers; and Labor Market Information.

high wages. A key component for success is a local workforce that has the necessary education and skills required by these employers. Since Latinos will play an increasingly vital role in the future workforce, an examination of their employment patterns is timely.

The study is divided into four parts. It begins with a sociodemographic profile of Latinos in San Diego County and then examines their employment patterns using the new research approach. Next, the study focuses on their employment patterns in two industry clusters—software and biotechnology. The final section is the conclusion and recommendations.

Sociodemographic Profile of Latinos

The Latino population in San Diego County, of which 87 percent is of Mexican descent, is the fastest growing population group in the County. As shown in the Table 1, the County's population is projected to reach 3.8 million by 2020, up from 2.5 million in 1990. The County's planning agency, the San Diego Association of Governments (SANDAG), projects that Latinos will make up approximately 33 percent of San Diego County's population by 2020, up from 20 percent in 1990 (1998a). This rapidly growing population group will constitute a significant portion of the County's future workforce.

Table 1. San Diego County Population by Race and Latino Origin, 1990-2020

	Population					% Chg
	1990	1995	2000	2010	2020	1995-2020
Total	2,511,300	2,669,200	2,946,500	3,437,800	3,853,200	44%
White[a]	1,642,000	1,665,300	1,750,100	1,858,100	1,877,900	13%
Black[a]	150,700	164,800	175,100	196,300	210,900	30%
Asian & Other [a]	205,100	232,100	283,100	383,400	477,400	106%
Latino Origin	513,500	607,000	738,200	1,000,000	1,287,000	112%

Source: San Diego Association of Governments
[a] Excludes Latinos

Table 2 illustrates that in 1990, San Diego County's labor force (the total number of County residents, 16 years or older, who are either working or not working but actively seeking work) totaled 1,219,752 persons. Out of this total, 74,486, or 6.1 percent, were unemployed. The table also shows that Latino men have the highest labor force participation rate of any major racial or ethnic group in the County.[2] Although their attachment to the labor market is higher than other groups, it does not result in lower unemployment rates. In 1990, the Latino male unemployment rate averaged 9.6 percent, while the white, non-Latino males averaged 5.0 percent. Unlike Latino males, Latinas' labor force participation rate is relatively lower than females in most racial and ethnic groups. The Latina unemployment rate averaged 9.4 percent compared to the non-Latinas' rate of 4.5 percent. (The non-Latino Black males and females experienced higher unemployment rates than Latino males and females.) This study does not investigate the reasons why Latinos experience higher unemployment rates than other population groups. However, researchers have suggested that the relatively high unemployment rates for Latinos are influenced by their low average level of educational attainment, high proportion of youth, limited fluency in English, and concentration in occupations with higher unemployment rates (Cattan, 1993; Bean and Tienda, 1987; Chavez, 1992). The continuous arrival of Latino immigrants also influences these data. These are important workforce issues that although cannot be tested with the data in this study, could be explored in other studies.

[2] The civilian labor force participation rate is the percentage of the population 16 years or older who are either employed or unemployed.

Table 2. Labor Force Status by Sex, Race, and Latino Origin, San Diego County, 1990

Universe: Persons 16 Years and Over	Total	Race, Not Latino					Latino Origin
		White	Black	NatAm	Asian/PI	Other	
Total 16 years and older							
Civilian Labor Force	1,219,752	837,825	60,362	7,792	89,618	1,449	222,706
Civilian Labor Force Participation Rate	62.6%	62.4%	55.4%	58.9%	64.1%	64.3%	65.3%
Employed	1,145,266	798,042	53,482	7,104	83,798	1,359	201,481
Unemployed	74,486	39,783	6,880	688	5,820	90	21,225
Unemployment Rate	6.1%	4.7%	11.4%	8.8%	6.5%	6.2%	9.5%
Male 16 years and over							
Civilian Labor Force	671,403	458,328	32,061	4,263	43,937	922	131,892
Civilian Labor Force Participation Rate	67.8%	67.3%	52.9%	61.0%	67.8%	72.9%	75.3%
Employed	628,670	435,461	28,428	3,809	40,880	863	119,229
Unemployed	42,733	22,867	3,633	454	3,057	59	12,663
Unemployment Rate	6.4%	5.0%	11.3%	10.6%	7.0%	6.4%	9.6%
Female 16 years and over							
Civilian Labor Force	548,349	379,497	28,301	3,529	45,681	527	90,814
Civilian Labor Force Participation Rate	57.3%	57.4%	58.6%	56.7%	60.9%	53.4%	54.8%
Employed	516,596	362,581	25,054	3,295	42,918	496	82,252
Unemployed	31,753	16,916	3,247	234	2,763	31	8,562
Unemployment Rate	5.8%	4.5%	11.5%	6.6%	6.0%	5.9%	9.4%

Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 4B
Note: NatAm = Native Americans; Asian/PI = Asian/Pacific Islander.

Educational level is an important predictor of the occupations individuals will hold and their potential earnings. In San Diego County, the educational attainment of Latinos is relatively lower than that of the general population. Educational attainment data presented in Table 3 show that in 1990, 47.5 percent of Latinos age 25 years or older had not graduated from high school, compared to 14 percent for whites. In addition, only 9 percent of Latinos had earned a bachelor's degree or higher in 1990, compared to 25 percent of whites. These data do not diferentiate between native-born Latinos and recent immigrants; thus, are probably influenced downward by the arrival of adult Latino immigrants who had less than an 8th grade education. Researchers have demonstrated that there is a large educational differential between native-born and immigrant Latinos (Mare, 1995; Harrison & Bennett, 1995). However, while these studies show that the pattern of educational attainment for second

and third generation immigrant families improves and begins to match that of the native-born population, other studies (Lopez, Ramirez, and Rochin, 1999) show that third and later generations of Latinos in California still tend to have lower levels of educational attainment than non-Latinos. While the discussion will not be resolved here, these data are alarming as they show that the fastest growing segment of the County's population has the highest percentage of people who have not graduated from high school.

Table 3. Educational Attainment by Race and Latino Origin, San Diego County, 1990

Universe: Persons 25 Years and Over	Total	White	Black	NatAm	Asian/PI	Other	Latino Origin
Total	1,558,082	1,237,883	79,742	12,170	113,820	114,467	241,796
No high school diploma	18%	14%	18%	24%	23%	54%	47%
High school graduate	23%	23%	27%	27%	19%	19%	20%
Some college, no degree	26%	27%	32%	28%	21%	15%	17%
Associate degree	8%	8%	9%	9%	9%	5%	6%
Bachelor's degree or higher	25%	28%	14%	12%	28%	7%	9%

Source: U.S. Bureau of the Census, 1990 Census of Population and Housing
Note: NatAm = Native Americans; Asian/PI = Asian/Pacific Islander. Latino Orign can be of any race.

Table 4 presents graduation and dropout rates for high schools in San Diego County. The data show that only 16 percent of all Latinos who graduated in program year 1996-97 had completed the required courses for entering the University of California (UC) and the California State University (CSU) systems. This compares to 49 percent of Asian students, 46 percent of Filipino students, 44 percent of white students, and 19 percent of Black students. Stated differently, Latinos represented 26.5 percent of all the San Diego County high school graduates in program year 1996-97, but only 12.4 percent of all graduates who completed the UC/CSU required courses. By comparison, white students represented 51.6 percent of all graduates and 64.2 percent of all graduates who had completed the required UC/CSU required classes. The data also indicate that Latinos have the highest dropout rates of all the ethnic

groups. Almost 50 percent of all high school dropouts in 1996-97 were Latino (Department of Education, 1998).

Table 4. High School Graduation and Dropout Rates by Race and Ethnicity, San Diego County, Program Year 1996/97

	Total Graduates	% Grads w/ Req. UC/USC Courses	Total Dropouts	Dropouts Rate*
Total	20,796	35%	3,466	3.1%
White	10,725	44%	1,153	2.1%
Black	1,390	19%	337	4.0%
American Indian	184	26%	54	4.7%
Asian/Pacific Islander	1,531	47%	128	2.2%
Filipino	1,460	46%	108	1.6%
Latino	5,506	16%	1,686	4.9%

Source: Department of Education

* Dropout rate calculation: the sum of the number of dropouts from grades 9-12 divided by the enrollment in grades 9-12. (Enrollment data not shown.)

In terms of college graduates, the number of bachelor degrees granted to Latinos by the CSU system (all 23 campuses in California) has shown steady improvement since 1990. During program year 1990-91, fewer than 10 percent of all the bachelor degrees granted were awarded to Latinos. By program year 1996-97, the percentage had increased to 18. Although this improvement is positive, the 18 percent still represent only 8,059 degrees out of the 45,079 granted system-wide (CSU, 1998).

The low educational attainment for Latinos has a significant impact on their position in the labor market, often resulting in low-wage and unstable work. Since education and occupational and economic attainment are closely related, higher education is a key factor to Latino advancement (Carnoy, Daley, and Hinojosa Ojeda, 1993). In addition, due to the size and youthfulness of the Latino population in San Diego County, its educational status has long-term

economic consequences that may affect the stability of the San Diego County economy. If recent trends in educational attainment continue into the 21st century, the relative income and occupational status gaps between Latinos and whites will likely widen.

Industry Employment of Latino Workers

According to the 1990 Census, Latinos were more likely to be employed in agriculture, construction and mining, and retail trade than other racial groups. The data presented in this section of the study are based on a new approach for examining the industry and earnings patterns of Latinos. The data are derived from the Employment Development Department's (EDD) 1997 administrative files. Only locally-based, private sector firms are included in the analysis.[3] The approach allows one to examine detailed industry employment and earnings for Latino workers including their employment patterns in high-technology industries such as software and biotechnology.

Table 5 in Appendix B displays 1997 annual average employment, average quarters worked, and earnings data for Latinos and non-Latinos in San Diego County. The data for 1997 were derived from quarterly unemployment insurance tax files submitted to EDD by employers.[4] The data show that Latino workers comprise 28 percent of all workers in San Diego County in the locally-based firms and receive average annual earnings of $12,299.[5] The average earnings of non-Latinos workers is $21,578. The data show that Latinos' earnings are 60 percent of non-Latinos' earnings. The earnings data do not show how much an employee could earn if he or she worked a full year since they are based on actual earnings and an

[3] A locally-based firm is one in which all of the firm's employment is in San Diego County. See "Data Limitations" in Appendix A for a complete discussion.

[4] Refer to Appendix A, Methodology, for an explanation of how the data were derived.

[5] The EDD data do not distinguish between the earnings of part-time and full-time employees or employees working year-round or less than year-round. An individual who received earnings from a locally-based employer, whether he or she worked for one week or 52 weeks, is factored into the earnings data. This tends to bring down the average earnings calculated for Hispanics and non-Hispanics.

indeterminate number of workers were at their jobs less than a full year. As shown in the table, the number of quarters worked at each job does not vary much between Latinos and non-Latinos; therefore, the ratio of earnings is probably a fairly reliable estimate. Although the data cannot reveal why there is an earnings differential, researchers argue that it can be partly explained by their lack of English proficiency and low educational attainment levels. In addition, the occupations found within an industry vary widely. It could be possible that the occupations that Latinos hold require less education and skills, and therefore, receive lower pay. This possibility cannot be tested with the EDD data presented in this study, however.

Table 5 in Appendix B illustrates a wide range of employment concentrations for Latino workers within the broad industry groups. Table 6 highlights those industries in which the proportion of Latino workers is 50 percent or higher. The data show that Latinos tend to have the highest concentration in agricultural services and in nondurable goods manufacturing industries such as furniture and fixtures, apparel, rubber goods, and food and kindred products. Although the percentage of Latino workers in each of these industries is high, the actual number of jobs is small. The total number of Latinos employed in these industries is 23,611 or

Table 6. Annual Average Employment and Earnings Latinos and Non-Latinos by Industries where 50 Percent of Workforce is Latino, San Diego County, 1997

		Persons Employed			Ave Annual Earnings		
SIC	Industry Description	Total	Latino	Pct Latino	Latino	Non-Latino	$ Ratio
20	Food and kindred products	4,415	2,891	65%	$ 10,934	$ 17,486	0.6
31	Leather and leather products	388	247	64%	$ 8,368	$ 13,255	0.6
07	Agricultural services	16,566	10,192	62%	$ 7,588	$ 12,824	0.6
23	Apparel	8,444	4,807	57%	$ 8,903	$ 15,669	0.6
25	Furniture and fixtures	4,806	2,669	56%	$ 10,286	$ 16,082	0.6
30	Rubber/misc plastics products	5,690	2,825	50%	$ 12,456	$ 23,847	0.5
	Total, All Industries	916,710	253,259	28%	$ 12,299	$ 21,578	0.6

Source: Mason, data derived from the Employment Development Department's administrative files.

about 9 percent of all Latino workers in the County. These industries have stable employment; however, the annual average earnings of Latinos in these industries range from $8,368 to $12,456, where in all but one, Latinos earn less than the annual average for Latinos of $12,299.

While Table 6 lists the industries that have the highest concentration of Latinos, Table 7 lists the ten industries that employ the largest number of Latinos. In descending order, they are: business services; eating and drinking places; construction—special trades; health services; hotels and lodging places; construction—general contractors; agricultural services; wholesale trade—nondurable goods; engineering, accounting, research, and management; and real estate.

Table 7. Annual Average Employment and Earnings Latinos and Non-Latinos by Top Industries that Hire Latinos, San Diego County, 1997
(Sorted by Latino Employed Persons)

		Persons Employed			Ave Annual Earnings		
SIC	Industry Description	Total	Latino	Pct Latino	Latino	Non-Latino	$ Ratio
73	Business services	129,885	32,603	25%	$ 6,394	$ 13,193	0.5
58	Eating and drinking places	92,214	31,142	34%	$ 5,610	$ 5,244	1.1
17	Construction--special trade contractors	66,272	24,827	37%	$ 11,078	$ 17,128	0.7
80	Health services	70,761	14,218	20%	$ 17,856	$ 27,413	0.7
70	Hotels & other lodging places	27,692	12,038	43%	$ 8,715	$ 10,432	0.8
15	Bldg construction--gen contractors	30,977	11,543	37%	$ 8,613	$ 17,657	0.5
07	Agricultural services	16,566	10,192	62%	$ 7,588	$ 12,824	0.6
51	Wholesale trade--nondurable goods	23,827	9,416	40%	$ 10,572	$ 21,764	0.5
87	Engineering/accountg/research/mgmt	64,127	9,265	14%	$ 18,335	$ 33,963	0.5
65	Real estate	28,713	8,015	28%	$ 9,768	$ 17,581	0.6
	Total, All Industries	916,710	253,259	28%	$ 12,299	$ 21,578	0.6

Source: Mason; data derived from the Employment Development Department's administrative files.

A brief description of the industries follows since these ten employ the largest number of Latinos. Employment in the business services industry grew by 51 percent between 1991 and 1997. This fast-growing industry includes businesses that are engaged in rendering services to other business firms on

a contract or fee basis such as advertising, credit reporting, copying, pest control, building maintenance, data processing, computer programming, and temporary help supply. Within the business services industry, the largest percentage of Latinos is employed in building maintenance services. The EDD projects the business services industry to continue to expand between 1997 and 2004, increasing by 33,000 jobs, or 42 percent.

The eating and drinking places, e.g., restaurants, bars, and cafes, and the hotels and lodging categories are important to San Diego's tourism industry. Employment growth in these industries has been slow, with the former industry expanding by only 3 percent between 1991 and 1997 and the latter actually contracting over the same time period. But the expansion of the convention center and construction of a new baseball stadium in downtown San Diego will spur hotel and restaurant development and create additional jobs. Many jobs found in hotels and restaurants, however, are low-paying. The average earnings of Latinos is $5,610 in the eating and drinking establishment industry and $8,715 in the hotels and lodging places industry. Contributing to the low annual earnings are the many part-time wage earners in these industries and the high turnover rates. (This tends to bring down the average earnings of all workers in the calculations.) In addition, career ladders for upward mobility are limited, especially for some jobs like housekeepers and food service workers. Both industries are projected to increase employment between 1997 and 2004. Eating and drinking places is expected to expand by 10,900 jobs, or 14.3 percent, and hotels and lodging are expected to expand by 3,500 jobs, or 14.5 percent.

Another industry that employs many Latinos is the construction industry. Employment in this industry expanded by 10 percent between 1991 and 1997. Although the industry currently offers many employment opportunities, employees are vulnerable to business cycle downturns and seasonal employment fluctuations. The EDD projects this industry to expand by 16,200 jobs, or 30.6 percent between 1997 and 2004.

Agricultural services, which include landscaping services, tend to provide more stable, year-round jobs than do agricultural crop production jobs. Both are highly labor-intensive and heavy users of Latino migrant labor (Cornelius 1998). Employment in this industry has grown 18 percent between 1991 and 1997. It should continue to grow especially as businesses and home owners continue to contract for landscaping services.

Health services is one of a few industries that continued to grow throughout the recession of the early 1990s and offers a variety of skilled and unskilled job opportunities. Employment in the industry increased by 9 percent between 1991 and 1997. The EDD projects that this industry will grow by 10,800 jobs, or 15.6 percent, between 1997 and 2004.

The engineering, accounting, research, and management industry category comprises a variety of diverse sectors, including some high-technology telecommunications and biotechnology firms. Although more than 9,000 Latinos work in the industry, they represent only 14 percent of all the workers. Out of the ten industries listed in Table 7, this industry offers the highest annual average earnings to Latinos. The number of jobs in this industry grew expanded by 35 percent between 1991 and 1997, which is faster than the average for all private sector industries (10 percent). The EDD projects this industry to expand by 16,900 jobs, or 35 percent, between 1997 and 2004.

The last industry highlighted in Table 7 is real estate. This industry offers relatively high wages, but can be subject to severe business cycles. Employment has increased by only 3 percent between 1991 and 1997. It is projected to grow by 2,100 jobs, or 9.8 percent, between 1997 and 2004. Many real estate agents are self-employed and therefore, the total number of jobs are not captured in this estimate.

In summary, the ten industries that hire the greatest numbers of Latinos comprise 45 percent of all private sector payroll employment in the County. They offer a variety of entry level and skilled jobs. In eight of these ten

industries, however, the annual average earnings of Latinos are less than the average earnings of all Latino workers in the labor market ($12,299).

The industry data presented characterize Latinos working in agriculture, construction, and tourism industries. These findings are consistent with other studies that examine Latino labor force issues in San Diego County (Cornelius 1998; Chavez, 1992). Latinos are highly concentrated in the nondurable goods manufacturing industry—an industry that has been growing steadily since 1991. Service industries have been steadily growing also, but many of the service industries that employ Latinos offer lower paying jobs, often with high turnover rates. In several industries, such as eating and drinking establishments and hotels and lodging places, many jobs are part-time and promotional opportunities are limited.

These findings have important implications about the future workforce for San Diego County. If the earnings distribution identified in the study remains the same in the future, it could have major implications for San Diego County's economic outlook and quality of life. A growing population, whose employment tends to be concentrated in the industries with relatively lower-average earnings, could put downward pressure on the per capita income for San Diego County, resulting in lower economic prosperity levels.

Latino Employment in Selected Industry Clusters

One advantage of using EDD's administrative files to reveal employment patterns, is that the research can be focused on particular industry clusters. The following section discusses employment and earnings patterns of Latinos in two industry clusters—software and biotechnology.

First, an explanation of industry clusters is in order. Industry clusters are concentrations of complementary, competing, and interdependent industries. Firms within the industry clusters are export-oriented, i.e., they sell products or services to customers outside of the local market, bringing dollars into the region. Their employment is more concentrated in the region than the national

average. (SANDAG, 1999). The concept of industry clusters has gained acceptance in the community and is being incorporated into several local development plans. In discussing the San Diego County economy, SANDAG (1999, 8) suggested that "Our ability to create wealth and high-quality jobs—to create prosperity—throughout our entire economy is dependent on the health of our regional clusters." Consequently, over a short period of time, industry clusters have become an important focus of the County's economic development strategy. Industry clusters provide a richer and more meaningful representation of the industries that drive economic growth than the traditional Standard Industrial Classification (SIC) system can provide.[6] The traditional SIC system classifies firms by sectors such as wholesale trade and services. Industries like biotechnology and software do not fit neatly into the traditional SIC system; they often straddle several SIC categories.[7] To resolve the problem, definitions of industry clusters are defined by grouping related 4-digit SICs.

In 1998, SANDAG identified 16 industry clusters in San Diego County, ranging from entertainment and tourism to software and biotechnology.[8] This study uses the SANDAG definitions, i.e., the SIC groupings, of the industry clusters.[9] The software and biotechnology industry clusters were selected for

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[6] The SIC system is a hierarchical classification system which defines all establishments (typically known as firms) to a specific industry based on their primary output or product. It ranges from broad economic activity (at a 1-digit level) to more specific activity (at a 4-digit level).

[7] Approximately in the year 2002, a new industrial classification system will be implemented in the North American Free Trade Agreement (NAFTA) countries. The North American Industry Classification System (NAICS) is designed to reflect the current industry structure. This may help resolve some of these definitional problems. NAICS will be more detailed and will allow for multi-national comparisons. At a broad level, it is comparable the International Standard Industrial Classification of All Economic Activities of the United Nations.

[8] Refer to SANDAG's 1998 ***Info Bulletin*** for a listing of all 16 industry clusters (SANDAG 1998b).

[9] The SANDAG definition of the software industry cluster includes 5 percent of the employment in SIC 8711, Engineering Services, and 15 percent of the employment in SIC 8731, Commercial Physical Research. Sixty percent of the employment in SIC 8731, Commercial Physical Research, also occurs in SANDAG's definition of the biotechnology cluster. It is impossible to break down employment and earnings in this manner for Latino employment. Thus, the two SIC codes are dropped from this analysis.

this analysis because according to SANDAG, their prosperity multiplier effect, i.e., ability to create high-paying jobs and raise per capita income, is exceptionally strong.

Tables 8 and 9 display 1997 annual average employment and earnings data for Latinos and non-Latinos in the software and biotechnology industry clusters. The data are arranged by the specific 4-digit SIC codes that define each of the industry clusters.

Table 8. Annual Average Employment, Quarters Worked, and Earnings of Latino and Non-Latino Persons in the Software Industry Cluster, San Diego County, 1997

		Persons Employed			Ave Qtrs		Ave Annual Earnings		
SIC	Industry Description	Total	Latino	Pct Hisp	Latino	Non-Latino	Latino	Non-Latino	$ Ratio
7374	Computer Processing	1,507	232	15%	2.7	2.9	$ 20,563	$ 31,547	0.7
7373	Computer Integrated Systems Design	2,040	178	9%	3.0	3.1	$ 28,157	$ 36,219	0.8
7372	Prepackaged Software	2,813	241	9%	2.9	3.0	$ 33,487	$ 45,748	0.7
7379	Computer Related Services, nec	2,636	212	8%	2.6	2.7	$ 25,892	$ 33,994	0.8
7371	Computer Programming Services	5,537	441	8%	2.9	3.1	$ 29,683	$ 38,372	0.8
	Cluster Total	14,327	1,291	9%	2.9	3.0	$ 28,207	$ 36,608	0.7

Source: Data derived from the Employment Development Department's administrative files.

Note: Data represent a count of individuals not of jobs. If a person works for two different employers in the same SIC code, then the person is is counted once and earnings from both employers are combined. If a person works for two different employers in two separate SIC codes, then the person is counted in each SIC code. The number of employed persons in the total were adjusted to count individuals only once; therefore, the total may not add to sum of SIC codes.

The software industry cluster is comprised of five sectors defined at the 4-digit SIC level. Firms in the industry provide computer programming, prepackaged software, system integration, data preparation, and processing services. The software industry emerged initially in San Diego County to support local defense companies. Today, however, it is developing products for the commercial marketplace. Software has become an intricate part of other high-technology industries such as biotechnology, telecommunications,

and electronics. Approximately 880 locally-based companies are estimated to be in the software industry cluster in San Diego County.

The data in Table 8 illustrate that out of the estimated 14,327 employed persons in locally-based firms in the software industry cluster, only 9 percent, or 1,291 persons, are Latino. Data presented previously revealed that on average 28 percent of workers in the locally-based firms are Latino, implying that Latinos are underrepresented in the software industry cluster. Latino workers average $28,207 a year—more than double the average earnings of all Latinos in the labor market ($12,229). The earning ratios between Latinos and non-Latinos are higher in this industry cluster than they are in the overall labor market.

Table 9. Annual Average Employment, Quarters Worked, and Earnings of Latino and Non-Latino Persons in the Biotechnology Industry Cluster, San Diego County, 1997

		Persons Employed			Ave Qtrs		Ave Annual Earnings		
SIC	Industry Description	Total	Latino	Pct Hisp	Latino	Non-Latino	Latino	Non-Latino	$ Ratio
2834	Pharmaceutical Preparations	981	322	33%	2.6	3.0	$ 11,138	$ 39,881	0.3
2833	Medicinals & Botanicals	114	30	26%	2.6	2.9	$ 10,625	$ 26,956	0.4
5122	Drugs, Proprietaries, & Sundries	1,289	279	22%	3.1	3.0	$ 27,087	$ 36,785	0.7
2836	Biological Products exc. Diagnostic	1,119	205	18%	2.9	3.0	$ 16,081	$ 39,074	0.4
8071	Medical Laboratories	2,013	352	17%	2.6	2.8	$ 19,515	$ 28,623	0.7
2819, 2869, & 2899	Medical and Industrial Chemicals	220	34	15%	3.4	3.3	$ 22,546	$ 43,619	0.5
8734	Testing Laboratories	957	132	14%	2.8	2.7	$ 21,651	$ 25,233	0.9
2835	Diagnostic Substances	1,415	190	13%	3.4	3.3	$ 23,887	$ 36,147	0.7
8733	Noncommercial Research Org	10,661	1,410	13%	2.7	2.8	$ 13,948	$ 24,594	0.6
	Cluster Total	18,622	2,933	16%	2.8	2.9	$ 16,881	$ 28,659	0.6

Source: Data derived from the Employment Development Department's administrative files.

Note: Data represent a count of individuals not of jobs. If a person works for two different employers in the same SIC code, then the person is is counted once and earnings from both employers are combined. If a person works for two different employers in two separate SIC codes, then the person is counted in each SIC code. The number of employed persons in the total were adjusted to count individuals only once; therefore, the total may not add to sum of SIC codes.

The biotechnology industry cluster is comprised of 11 SIC codes. Approximately 370 locally-based companies are in the biotechnology industry

cluster with many focusing on research and development and production of drug treatments for hundreds of diseases.

Table 9 illustrates that out of the 18,620 persons employed in locally-based firms in the biotechnology industry cluster, 16 percent, or 2,930 persons, are Latino. Again, the data illustrate that Latinos are underrepresented in the biotechnology industry cluster. The average earnings in the biotechnology industry cluster are $16,881 for Latinos and $28,659 for non-Latinos. Latinos' earnings are 60 percent of non-Latinos' earnings in this industry cluster.

These findings show that Latinos who work in the two industry clusters receive annual average earnings ranging from $16,881 to $28,207. As indicated previously, the average earnings of Latino workers in locally-based firms in San Diego County is $12,299; thus, Latinos' earnings are estimated to be about 40 to 130 percent higher in the software and biotechnology industry clusters than the overall average.

Non-Latinos average earnings in the industry clusters range from $28,659 to $36,608. Although Latinos do not earn as much as non-Latinos in the industry clusters, they still benefit from greater earnings potential. Latinos comprise an average of 28 percent of the workers industry-wide. Compared to the industry-wide data, Latinos are underrepresented in the two industry clusters, comprising 9 percent of the workers in software and 16 percent in biotechnology.

Conclusion and Recommendations

This study documents the employment experiences of Latinos in locally-based, private sector firms in San Diego County. Particular emphasis is devoted to Latinos in the software and biotechnology industry clusters as these have been targeted as industries that pay relatively higher wages, and therefore, contribute to higher per capita income levels for the County.

The data presented have important implications for policymaking in San Diego County. It has been established that low educational attainment and

language barriers affect the Latino labor force. Government programs or private sector initiatives geared to improving language proficiency will help widen employment opportunities for Latinos. San Diego County has a large network of training and retraining programs. There are two state universities, one University of California campus, and several private universities. In addition, five community college districts and hundreds of public and private schools offer occupation or skill specific training.

One consideration for local policymakers is that while maintaining the retraining focus, it is also important to emphasize a proactive approach. Studies show that Latinos enter the workforce early and often at the expense of schooling. Therefore, this behavior could exacerbate the wage inequalities among adults in the future. Government-led programs such as California's School-to-Career supports reforms in the educational system that include the integration of school-based and work-based learning for students to choose career-related coursework. Educating students about careers and potential earnings could encourage students to stay in school and help close the gap in dropout rates for Latinos.

The Latino employment profiles generated by this study also impact career counselors, job developers, employment and training agencies, superintendents of schools, and other community organizations. Strategies that improve educational quality and job opportunities and reduce unemployment would benefit all low-skilled, less education labor whether Latino or not. Improvement for Latinos is particularly relevant, as it is a relatively undereducated population group in San Diego County.[10] The schooling gap is large and it is generally accepted that increasing one's education results in increasing one's income. Agencies representing Latinos need to become involved with these efforts to advocate change for their

[10] Education, employment, and income data for Latinos are influenced by continuous immigration to San Diego County. Additional studies using longitudinal data are needed to examine differences among first, second, and third generation Latinos.

constituents. In addition, parents of Latino students need to help their children take the necessary steps to prepare themselves for high wage careers.

The report reveals certain patterns that policymakers can use as a basis to improve the well being of the Latino population group. In addition, it provides an opportunity to increase the understanding of the Latino labor market experiences and to add to the existing literature on this subject.

A data-driven study like this can influence the research agenda by focusing on employment and income dynamics; however, more qualitative research is needed to supplement these “descriptive” studies to help generate explanations about why these inequalities occur. One of the shortcomings of this study is that is does not differentiate between the various Latino origin groups, age, gender, or length of time in the U.S. Qualitative research could identify different strategies for the different Latino origin groups rather than assuming that one strategy will fit all population groups.

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APPENDIX A

METHODOLOGY

Methodological Notes

This researcher requested data tabulations from the Employment Development Department (EDD) using data from three data sources. The first is the Employment Development Department's (EDD) base wage file that contains quarterly earnings for individual employees in California. The second is EDD's quarterly unemployment insurance (QUI) address file that contains payroll information for employers by county.[11] The third is a list of Spanish surnames that was developed by the U.S. Bureau of the Census and used to code employees as either Latino or non-Latino.

Base Wage File

The 1997 base wage file contains quarterly earnings reports for individual workers. The reports were submitted to EDD by firms in accordance with the Unemployment Insurance (UI) program. Each file contains the employer account number (EAN), employee's social security number (SSN), the first six characters of the employee's last name, employee's first name initial, and employee's quarterly earnings. Employees who work for more than one firm will be recorded on each firm's payroll. The base wage file contains this information for all California employers covered by the UI program. A subset of the base wage file for San Diego County employees was created for this analysis.

Quarterly Unemployment Insurance (QUI) Address File

The QUI address file is a file containing employer records for each active employer in California that is subject to UI coverage during the reported

[11] The base wage and QUI address files are from EDD's administrative records. The files contain confidential data about employees and employers. Although the data used in this study are derived from the confidential employer files, EDD removed all employer- and employee-identifying elements prior to releasing any data. EDD only released aggregated, nonconfidential data for this study.

quarter.[12] For this analysis, only those employers located in San Diego were included. When employers had employees in other counties in addition to San Diego County, and the strictly San Diego County employees could not be identified, the employer was deleted from the QUI database for San Diego County. This will be discussed under "Data Limitations" below.

Spanish Surname List

The U.S. Bureau of the Census released a comprehensive list of Spanish surnames based on the 1990 Census. The list contains 23,276 Spanish surnames. The names are based on a sample of 5,609,592 records that included both a valid Spanish surname and valid response to the self-identifying Latino-origin question in the 1990 Census. This analysis uses the 12,982 names that are considered either "Heavily" or "Generally" Latino. Weeks (1996) evaluated the list and determined that the most accurate group of names was a list that combined names coded as "Heavily Latino" with those coded as "Generally Latino." In this combined grouping, type I and type II errors were minimized. Type I errors are individuals who consider themselves to be Latino, but who do not have Latino surnames, and therefore, were omitted from the list. Type II errors are persons who acquired their Spanish surname through marriage or from a remote ancestor and do not consider themselves to be Latino; however, due to their surname, they are included on the list.

Deriving Latino Employment and Earnings Estimates

Figure 1 illustrates the process that EDD used to derive the estimates for Latino employment and earnings estimates, using the guidelines established by this author. To summarize the process, selected employer variables from the San Diego County QUI file were merged with variables on

[12] Virtually every employer in California who has at least one employee is required to pay into the Unemployment Insurance (UI) Program. Some exceptions include railroad employers, some clergy, and federal employers who are covered by their own insurance program. The file does not include self-employed.

individual workers in the California base wage file. An EAN is assigned to every employer participating in the UI program. Since both files contain the EAN, the files could be merged. This procedure resulted in one file that contains a list of employees who are on the payrolls of locally-based San Diego County employers. Residency of the employees is not indicated in the file. If an employee lives outside the County, but works for a locally-based firm, then he/she will be included in the database. The quarterly earnings were converted to annual 1997 earnings for each social security and SIC combination.[13] The data represents a count of individuals not of jobs. Therefore, if a person works for two different employers who are listed in the same SIC code, then the person is counted once and the earnings from both employers are combined. But if the person works for two different employers who are listed in two different SIC codes, then the person is counted in each SIC code.

The Spanish surname list was matched against the last names in the San Diego base wage file. The records were recoded as either Spanish surname or non-Spanish surname. The names that do not match with the Spanish surname list were referred to as non-Spanish surname. The individual records were summed by SIC and then the confidential data were dropped from the file. The Spanish surname is used in this thesis as a proxy for Latino workers; from this point the term Latino or non-Latino will be used rather than Spanish surname and non-Spanish surname.[14] This is done only for reasons of terminological convenience.

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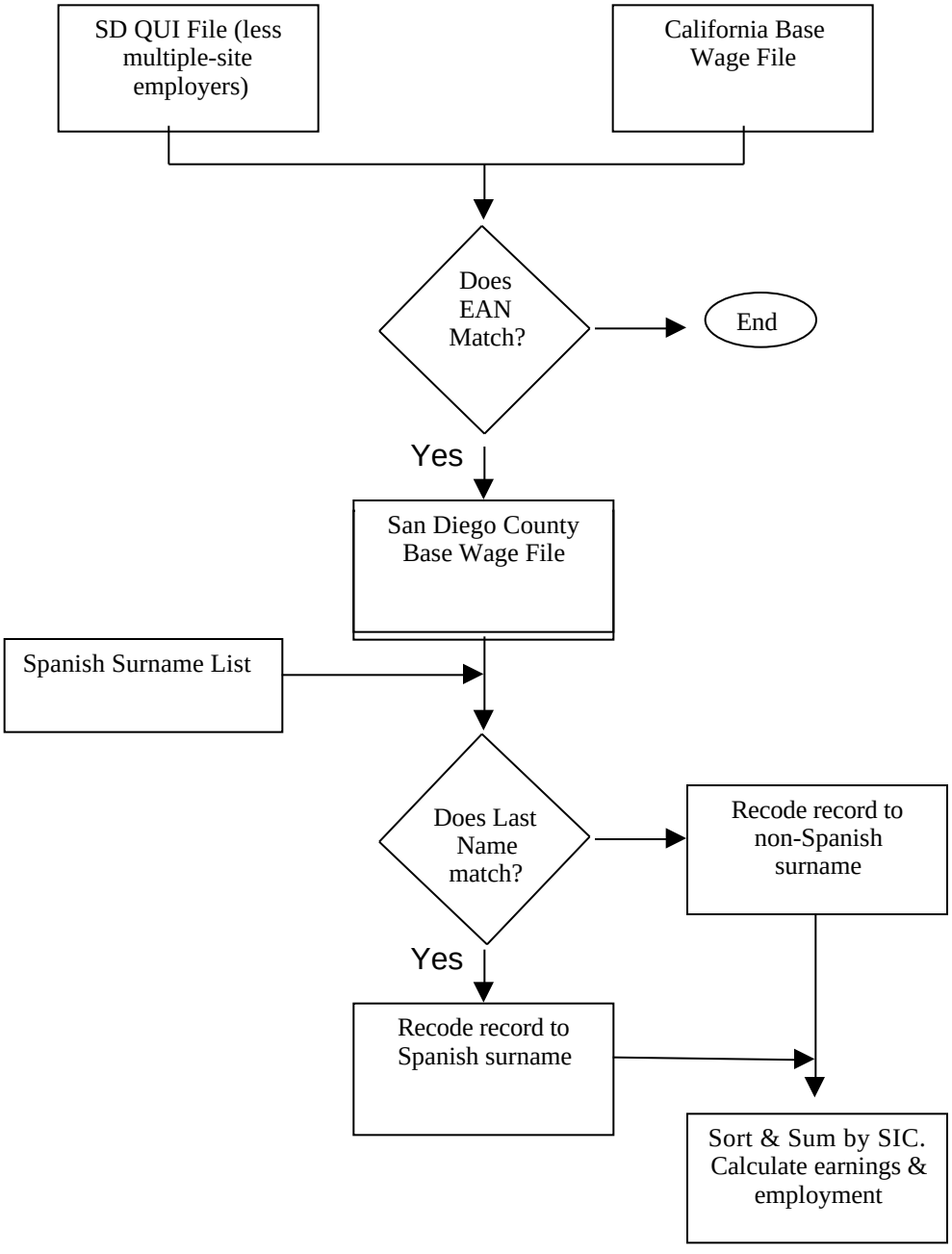
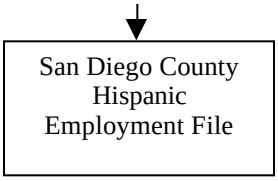
[13] Data represent a count of individuals, not of jobs. If a person works for two different employers in the same SIC code, then the person is counted once and earnings from both employers are combined. If a person works for two different employers in two separate SIC codes, then the person is counted in each SIC code. The number of employed persons in the total were adjusted to count individuals only once; therefore, the total may not add to the sum of SIC codes.

[14] In the previous section of this study, the Latino refers to all persons who identified themselves as Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish/Hispanic origin in census surveys. When using EDD data, the term Latino refers to all persons whose last name matched with a name of the Spanish surname list.

In summary, the base wage file contains data about employees and the QUI file contains data about employers. The files are merged together to create the industry employment and earnings data for San Diego County. The Spanish surname list was merged with the previously-mentioned files to create the Latino industry employment and earnings database for San Diego County.

Figure 1. Methodology Flow Chart.




San Diego County
Hispanic
Employment File

Data Limitations

The EDD data files have a significant limitation due to multiple worksite employers, which are establishments or firms that are located in more than one county. For example, a large firm like Bank of America has employees in many locations throughout the state. Unfortunately, the base wage file lists all employees in California by employer account number, and for those employers with multiple worksites, it is impossible to identify the strictly San Diego County employees. Therefore, EDD removed the multiple worksite employers from the San Diego QUI file. This removed 11 percent of the private sector firms and 30 percent, or 261,060, employees from the San Diego QUI file. Eighty-nine percent of all private sector firms (57,000 firms) and approximately 619,000 employees are included in the analysis. All single-site or locally-based employers remained in the file; that is, the universe of locally-based employers. The file used for the analysis contained all employees who work for firms that have all of their employment in San Diego County.[15]

The thesis examines employment patterns for Latinos for San Diego County's locally-based employers only. The study cannot address the employment profile of employers who have employment in San Diego County and in other counties. This procedure should not introduce any additional sampling bias (other than those introduced because of the type I and type II errors in the Spanish surname list) because the firms represent the universe of locally-based employers. The data present a clear picture of the employment and earnings patterns for Latinos who work in locally-based firms.

Another limitation to the data files is that the base wage file contains only the first six characters of the employees' last names. Matching the names on the Spanish surname list against the names in the San Diego base wage file was successful except for a couple of exceptions. The most important

[15] If an employer had multiple sites, but all sites were located in San Diego County, the employer would be included in the database.

exception is the last name of Martin. The last name Martin comprised 3 percent of the names that matched. Because the base wage file is limited to the first six characters, it is impossible to know if the names in EDD's file were really Martin, Martinez, or some other variation. Martinez is one of the most common surnames on the Spanish surname list while Martin is not included on the Spanish surname list. Keeping the Martins in the file would increase the type II error (counting individuals as Latino when they really are not), and excluding them would increase the type I error (excluding individuals who do consider themselves to be Latino). This researcher chose to delete them to avoid inflating the employment and earnings data.

Another limitation to EDD files is that they only allow one to examine the employment patterns of Latinos as an aggregated group. This approached conceals variations in the labor market patterns among Latino national origin groups, age, and gender.

To summarize, the industry employment and earnings data for Latino workers were derived from three data sources: the base wage file, the QUI address file, and the Spanish surname list. All multiple worksite employers were removed from the analysis. The data provide a unique method to analyze Latino employment patterns because they are based on actual employer records of firms in San Diego County. These data provide the detailed employment and earnings data needed to analyze Latino industry concentrations and earnings.

APPENDIX B

TABLE 5

Table 5. Annual Average Employment, Quarters Worked, and Earnings of Latino and Non-Latino

Persons by Industry, San Diego County, 1997

SIC	Industry Description	Persons Employed			Ave Qtrs		Ave Annual Earnings		
		Total	Latino	Pct Latino	Latino	Non-Latino	Latino	Non-Latino	$ Ratio
07	Agricultural services	16,566	10,192	62%	2.5	2.7	$ 7,588	$ 12,824	0.6
15	Bldg construction--gen contractors	30,977	11,543	37%	2.2	2.4	$ 8,613	$ 17,657	0.5
16	Heavy construction other than bldg const	7,683	2,628	34%	2.4	2.6	$ 15,176	$ 23,218	0.7
17	Construction--special trade contractors	66,272	24,827	37%	2.5	2.5	$ 11,078	$ 17,128	0.7
20	Food and kindred products	4,415	2,891	65%	2.7	2.6	$ 10,934	$ 17,486	0.6
22	Textile mill products	1,083	534	49%	2.7	2.7	$ 9,440	$ 14,028	0.7
23	Apparel/other products made from fabric	8,444	4,807	57%	2.8	2.7	$ 8,903	$ 15,669	0.6
24	Lumber/wood products, excl furniture	2,792	1,353	48%	2.8	2.8	$ 10,629	$ 18,809	0.6
25	Furniture and fixtures	4,806	2,669	56%	2.7	2.7	$ 10,286	$ 16,082	0.6
26	Paper and allied products	957	355	37%	3.0	3.0	$ 16,848	$ 24,868	0.7
27	Printing/publishing & allied industries	12,364	2,213	18%	2.9	3.1	$ 17,711	$ 28,014	0.6
28	Chemicals and allied products	4,965	1,245	25%	2.9	3.1	$ 14,381	$ 36,932	0.4
30	Rubber/miscellaneous plastics products	5,690	2,825	50%	2.9	2.9	$ 12,456	$ 23,847	0.5
31	Leather and leather products	388	247	64%	2.8	2.7	$ 8,368	$ 13,255	0.6
32	Stone/clay/glass/concrete products	2,682	906	34%	2.8	3.0	$ 13,160	$ 23,222	0.6
33	Primary metal industries	1,158	330	28%	3.0	3.2	$ 16,902	$ 33,128	0.5
34	Fabricated metal products	7,907	3,033	38%	2.9	3.0	$ 14,991	$ 24,186	0.6
35	Indus/commercial mach/computer equip	15,296	3,831	25%	2.9	3.0	$ 15,889	$ 31,471	0.5
36	Electronic/other electrical equip	28,967	5,628	19%	3.0	3.0	$ 20,637	$ 34,246	0.6
37	Transportation equipment	13,702	4,458	33%	3.2	3.2	$ 22,043	$ 30,516	0.7
38	Meas/analyzing/controlling instruments	11,008	2,152	20%	3.3	3.3	$ 21,389	$ 36,053	0.6
39	Misc manufacturing industries	11,141	4,724	42%	3.1	3.0	$ 15,101	$ 31,754	0.5
41	Local/interurban passenger transp	4,058	741	18%	2.5	2.5	$ 8,149	$ 8,116	1.0
42	Trucking & warehousing	9,453	3,448	36%	2.3	2.6	$ 10,205	$ 14,449	0.7
44	Water transportation	1,349	604	45%	2.5	2.4	$ 9,978	$ 12,080	0.8
45	Transportation by air	1,538	323	21%	2.6	2.6	$ 11,323	$ 15,294	0.7
47	Transportation services	5,187	1,165	22%	2.9	2.8	$ 12,491	$ 15,347	0.8
48	Communication	12,975	2,839	22%	2.5	2.7	$ 12,123	$ 21,012	0.6
50	Wholesale trade--durable goods	28,674	7,103	25%	2.8	2.9	$ 14,325	$ 26,997	0.5
51	Wholesale trade--nondurable goods	23,827	9,416	40%	2.6	2.7	$ 10,572	$ 21,764	0.5
52	Bldng materials & garden supplies	4,144	1,128	27%	2.8	2.9	$ 11,467	$ 15,909	0.7
54	Food stores	19,837	6,035	30%	2.5	2.4	$ 6,229	$ 6,780	0.9
55	Automotive dealers & service stations	25,278	6,428	25%	2.8	2.8	$ 14,121	$ 21,483	0.7
56	Apparel and accessory stores	6,020	1,584	26%	2.2	2.2	$ 5,307	$ 6,543	0.8
57	Home furniture & furnishings	11,919	2,553	21%	2.6	2.6	$ 12,415	$ 19,162	0.7
58	Eating and drinking places	92,214	31,142	34%	2.5	2.4	$ 5,610	$ 5,244	1.1
59	Miscellaneous retail	36,863	6,581	18%	2.3	2.3	$ 6,256	$ 7,823	0.8
60	Depository institutions	5,963	1,547	26%	2.9	3.1	$ 14,099	$ 25,890	0.5
61	Credit agencies excl banks	8,224	1,439	17%	2.5	2.5	$ 16,914	$ 24,038	0.7
62	Security/commodity brokers,dealers	5,231	891	17%	2.5	2.8	$ 16,214	$ 52,861	0.3
63	Insurance carriers	2,780	464	17%	2.7	2.7	$ 15,242	$ 20,175	0.8
64	Insurance agents, brokers & service	5,795	945	16%	2.8	2.9	$ 15,802	$ 25,224	0.6
65	Real estate	28,713	8,015	28%	2.8	2.8	$ 9,768	$ 17,581	0.6
67	Holding/other investment offices	2,745	377	14%	2.5	2.6	$ 12,766	$ 31,121	0.4
70	Hotels & other lodging places	27,692	12,038	43%	2.8	2.6	$ 8,715	$ 10,432	0.8
72	Personal services	16,063	4,234	26%	2.5	2.4	$ 6,274	$ 6,813	0.9
73	Business services	129,885	32,603	25%	2.1	2.3	$ 6,394	$ 13,193	0.5

Table 5—Continued

SIC	Industry Description	Persons Employed			Ave Qtrs		Ave Annual Earnings		
		Total	Latino	Pct Latino	Latino	Non-Latino	Latino	Non-Latino	$ Ratio
75	Auto repair/services/parking	21,090	7,753	37%	2.6	2.6	$ 9,225	$ 12,590	0.7
76	Miscellaneous repair services	5,606	1,505	27%	2.7	2.7	$ 13,109	$ 17,451	0.8
78	Motion pictures	3,794	745	20%	2.3	2.4	$ 4,940	$ 10,834	0.5
79	Amusement and recreation services	31,103	6,511	21%	2.6	2.6	$ 8,286	$ 12,444	0.7
80	Health services	70,761	14,218	20%	3.2	3.2	$ 17,856	$ 27,413	0.7
81	Legal services	11,168	1,498	13%	3.0	3.1	$ 22,873	$ 37,976	0.6
82	Educational services	15,284	2,116	14%	2.6	2.7	$ 10,508	$ 15,132	0.7
83	Social services	30,085	6,702	22%	2.5	2.5	$ 7,577	$ 8,714	0.9
84	Museums/art galleries/botan & zoo	3,710	637	17%	3.0	3.1	$ 10,908	$ 16,021	0.7
86	Membership organizations	12,203	2,328	19%	2.7	2.6	$ 8,404	$ 8,575	1.0
87	Engineering/accountg/research/mgmt	64,127	9,265	14%	2.6	2.9	$ 18,335	$ 33,963	0.5
88	Private households	9,519	3,090	32%	2.9	2.8	$ 6,189	$ 6,264	1.0
89	Misc services	968	181	19%	2.6	3.0	$ 13,198	$ 31,635	0.4
	Total, All Industries	916,710	253,259	28%	3.0	3.1	$ 12,299	$ 21,578	0.6

Source: Mason; data derived from the Employment Development Department's administrative files.

Note: Data represent a count of individuals not of jobs. If a person works for two different employers in the same SIC code, then the person is is counted once and earnings from both employers are combined. If a person works for two different employers in two separate SIC codes, then the person is counted in each SIC code. The number of employed persons in the total were adjusted to count individuals only once; therefore, the total may not add to sum of SIC codes.