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Report on the Future of
the San Francisco Bay
Area Economy

*Part III: Equity and
Distributional Aspects of the Bay
Area Economy*

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Andreas Ferreira Cluver, Mélange
Matthews, and Theresa Navarro

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REPORT ON THE FUTURE OF THE SAN FRANCISCO BAY AREA ECONOMY

Understanding the Implications of Structural Change and Socio-Economic Distribution

Part 3: Equity and Distributional Aspects of the Bay Area Economy

CP284C: Graduate Research Seminar
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PREFACE TO THE REPORT

This report is the product of a graduate class in city and regional planning. The course evolved from a forecasting seminar into a research studio in which teams of students took on questions of concern to the client, in this case the Bay Area Economic Forum. The students reviewed various published reports on the region's development and hosted a number of speakers, including speakers from The Association of Bay Area Governments (ABAG), Bay Vision 20/20, and the County of Alameda.

The studio focused on the economic structure and dynamics of the San Francisco Bay Area and related public policy concerns facing the region. The students researched a wide range of issues before forming teams to pursue more in-depth studies. One team analyzed the data and forecasts of the region's economic structure and provided both the background and the underlying framework found in Part 1. The other two teams took on in-depth research on two issues: the nature of regional interdependence among the nine counties (Part 2) and the bifurcation of the Bay Area labor force and its socioeconomic consequences (Part 3).

This research will be used by the Bay Area Economic Forum in a follow-up publication to its earlier (1989) work, *The Bay Area Economy: A Region at Risk*. It is being published as part of the Forum's ongoing efforts to promote regional policy and decision-making in the Bay Area.

INTRODUCTION TO THE REPORT

The San Francisco Bay Area has emerged over the past forty years as one of the world's most prosperous, dynamic, and cosmopolitan regions. It has been historically attractive to people and capital. Its industries are among the most globally competitive. Its people are educated and highly skilled, providing a high-quality labor force with incomes among the highest in the nation and the world. Its quality of life is enhanced by a beautiful natural setting.

The Bay Area has a world-class economy. It is a center for high-technology manufacturing and research and development. The region's three international airports, three ports, and its highway and rail systems make it a center for transportation services, transportation equipment manufacturing, and wholesale trade. In addition, the region has three world-class research universities. These have contributed to the region's research and development strengths and the rise of the high-tech electronics, biotechnology, and medical instruments industries. The region has a widespread strength in business services, financial services, and educational and nonprofit services. It also has a strong retail base with higher levels of retail employment in most counties than the nation as a whole.

The region consists of nine counties and three major metropolitan centers. They share, to varying degrees, a strong and diverse set of industries. Santa Clara County ("Silicon Valley") and the city of San Jose have the highest concentration of manufacturing employment in the state. San Francisco is a center for financial services, as well as the nation's third largest apparel industry. Alameda County and the city of Oakland have both the older manufacturing industries, as well as strong transportation (air and water), wholesale, and, most recently, high-tech instruments manufacturing and communications services.

For its residents, the Bay Area economy has provided plentiful job opportunities and a high quality of life. Bay Area residents are among the wealthiest in the nation. Personal income per capita was \$25,000 in 1990—20 percent higher than the state, which is in turn 12 percent higher than that of the United States. Payrolls have increased 2 percent a year in the 1980s, contrasted with .9 percent in the United States as a whole. Unemployment has been consistently lower here than other parts of the country. During the 1980s, Bay Area incomes grew faster than any other region, and are expected to continue do so into the 1990s. Historically, housing has been abundant and affordable, and the educational systems among the best in the nation.

The result is that the Bay Area attracts people from all over the world. Highly educated individuals have come in large numbers, and, coupled with graduates of the region's universities

and colleges, provide a large workforce of technical and professional workers. Even larger numbers of immigrants who arrive relatively poor and unskilled have come seeking greater economic opportunity. These immigrants enable the expansion of the service and manufacturing sectors, stimulate urban retail sectors, and promote international ties through trade and capital investment.

The region's economy then, is a synergistic blend of competitive export industries serving international markets, and an even larger set of domestic industries serving regional markets. Both are supported by a large, diverse, and relatively affluent population.

The attractiveness of the region and its dynamism, however, are also the source of a number of trends which may undermine long-term viability of the economy. An earlier report by the Bay Area Economic Forum identified a number of factors which put the Bay Area "at-risk"—increasingly vulnerable to stagnation or even decline. These included high housing costs, severe traffic congestion and air quality problems, stagnating incomes, and potential labor shortages.

The region's strength in high technology, for example, may be leading to a narrowing of the economic base. Even as this is written, Silicon Valley has entered the most severe recession in its history, with employment cutbacks and firm relocations occurring among the largest of employers. The implications of this contraction is as yet unknown, but it will be felt throughout all the counties in the region.

The authors of this report have tackled the question of regional economic viability in several ways:

- Part 1 provides an overview of the regional economy and the factors contributing to its viability. It focuses particularly on the region's labor force and the ability of the local public sector to provide the basic social and physical infrastructure necessary to sustain the economy.
- Part 2 provides a method for understanding and analyzing regional interdependence based on firm-to-households and firm-to-firm linkages. Using existing data sources on regional employment, trade flows, and regional commute patterns, the counties are assessed on four measures: jobs, housing, industrial suppliers, and industrial customers. Part 2 also gives a county-by-county description of each county's patterns of interdependence.
- Part 3 supplies a detailed analysis of the distributional aspects of the Bay Area economy. It documents job and payroll growth, occupational and wage mix in the economy, and then discusses changes in the distribution of incomes and poverty levels

among Bay Area counties. The authors' findings reiterate national studies that indicate an overall bifurcation of the workforce into high-skill and low-skill segments, and the decline of middle-income workers.

The report's findings suggest a number of opportunities and concerns for future regional development. It reiterates the key role of high-tech manufacturing in the economy, and its links to rapid growth in business services. The high-tech medical instruments, communications industries, and business services are spreading throughout the region, and large firms in several counties, notably San Francisco and Solano, are pursuing a buy local/buy regional policy.

The region still has a diversified set of industrial strengths, however. Study of key industries shows that "old-tech" and other types of service firms are both more dispersed through the counties and generate more linkages with other firms than do high-tech firms. High-tech manufacturing (except instruments) remains concentrated in Silicon Valley and is relatively independent of linkages with other counties. Other industries, notably petroleum, apparel, and rubber and leather manufacturing, have more potential linkages within the region. This suggests that retaining these old-tech industries is at least as important as supporting high-tech growth. It also suggests that the regional economy has further opportunity to develop internally by taking advantage of potential linkages among firms to buy or sell within the region.

The report also finds that regional economic success has not been evenly distributed. This has resulted in a growing disparity in income between the richest and the poorest members of the population, and an erosion of the middle class. Although Bay Area jobs are increasingly in higher value-added sectors, more than half of all new jobs are in the lowest-paid and lowest-skilled categories. Many have limited health benefits, job security, or opportunities for upward mobility. This is particularly true in the largest and fastest-growing sectors of services and retail trade.

The dominant role of services and trade in job growth overall has particular socio-economic implications. It has meant that low- (< \$24,000) and very-low- (< \$14,000) income households are the fastest-growing segment of the population and constitute a majority of nearly every county's tax base. Their children are a majority in many financially strapped school systems. The numbers of persons in poverty has increased in the Bay Area, while the ability of local governments to provide needed services has declined.

The loss of mid-skill, middle-income production jobs as a result of a shrinking manufacturing sector is another cause for re-thinking our reliance on high-technology. A narrowing industrial base may mean fewer economic opportunities in the future. As skills and work opportunities polarize, the ability of firms to adapt to dynamic international conditions

narrows further. While firms may save costs by transferring labor-intensive production jobs to overseas locations, the region may lose over time the related knowledge and skills in its labor pool, limiting the ability of industries to adapt in the long run. Another disturbing finding is that the shift away from manufacturing toward lower-income occupations may have disproportionately affected Blacks and Latinos. Given that a majority of the region's population will be "minorities" in the next fifteen years, the social consequences of persistent economic disparities among ethnic groups loom large.

The authors argue that investment in social and physical infrastructure is essential if the region's economy is to continue to be competitive and sustainable in the long term. However, they suggest that the political outlook for regional governance remains uncertain. Many counties are experiencing fiscal crises and are competing among themselves for new industry and higher-income residents. Growing intra-regional disparities in jobs, income, and tax base may not provide a climate for "regional problem-solving."

On the whole, the findings of this report suggest a variety of ways that the nature of interdependence and the implications of economic change for the region might be understood. They provide a further basis for citizens and regional and local decision-makers to evaluate their prospects in the future, and begin to devise common strategies that will enhance the economic well-being and quality of life for residents and businesses alike.

These studies provide a detailed and critical look at key issues in the Bay Area economy. They raise a number of warning flags and point out disparities as well as commonalities among the region's counties and cities. But problems and crises do not have to be taken in a negative light if they can promote realistic and constructive discussion among the many actors whose cooperation is necessary to bring about useful regional problem-solving.

PART 3:

EQUITY AND DISTRIBUTIONAL ASPECTS OF THE BAY AREA ECONOMY

ABSTRACT

This report examines job growth, occupational mix, income, and poverty in the San Francisco Bay Area in the 1980s. Analysis of payrolls and occupational mix shows a declining share of mid-level, middle-income jobs in all sectors. While much of the job growth has occurred in industries with relatively high average payroll per employee, household incomes and individual income tax returns by county indicate that the lowest income groups are increasing the most quickly throughout the Bay Area. Although poverty rates have been stable, the number of people in poverty has been increasing, while funding for local governments to provide social services has declined. This paper argues that continued bifurcation of the labor force makes the Bay Area economically vulnerable in the long-run and increase the social and political disparities among residents and counties.

I. INTRODUCTION

Since the 1950s, the Bay Area has experienced sustained economic growth. Its strong high-technology sectors and historical economic diversity, coupled with a traditionally high-skilled labor force, has made the region an economically vital area with a high quality of life for its residents. Unemployment has been lower and incomes have been higher than other parts of the country. Region-wide unemployment rates have consistently been 1 to 2 percentage points below the state for the past two decades and below the national average for the past decade. Personal and per capita incomes have grown steadily. The annual rate of increase in total personal income generally has been greater than the state and the nation. Per capita income as well has grown more rapidly than those statewide or nationwide, except during periods of recession (Kroll, 1989).

The general assumption of economic developers is that social improvement follows economic growth. Is this the case in the Bay Area? Although the region has many positive economic indicators, prudent analysis suggests that there is a trend toward growing social inequality in the Bay Area. This report analyzes the distributional aspects of regional economic growth and its effects on the well-being of Bay Area residents. It examines changes in the distribution of jobs across industrial sectors and its effects on income and occupational opportunities for the labor force. As we explored these issues, we asked several questions.

- Is a bifurcation of the labor force occurring; that is, is there a polarization toward high- and low-paying occupations?
- If so, how extensive is it, and in which industries and/or occupations is it occurring?
- How is the distribution of income changing and what has happened to poverty levels?
- What are the implications of these changes for the long-term viability of the region?

In the first section, we will examine employment and occupational change during the last decade, identifying regional trends in industry payrolls and wage levels. The economic implications of a polarized work force are considered in detail. Next, we will examine changes in income distribution and poverty levels among Bay Area counties. Finally, we will discuss the implications of these changes for the economic and social well-being of the Bay Area.

II. STRUCTURAL CHANGES IN EMPLOYMENT AND OCCUPATIONS (1981-1987)

A. Introduction

Recent literature on industrial development has documented that radical industrial restructuring has occurred on the national level since the mid-1970s. This process has transformed major industrial cities previously dependent on the production and distribution of goods into centers of administration, finance, information exchange, and research and development (Kasarda, 1989; Harrison and Bluestone, 1986).

The coming of the "post-industrial" society has meant profound changes in the occupational mix and employment structure of these cities. The literature shows the disappearance of relatively well-paying, blue-collar manufacturing jobs — the economic middle class of many cities and communities. These jobs are being replaced on the one side by high-paying professional and technical jobs requiring a high degree of education, and on the other side by low-end service and retail jobs which provide little or no job security nor upward mobility. The result is that the post-industrial economy is characterized by an increasingly "polarized" or "bifurcated" workforce.

In many cities, economic restructuring meant high unemployment and declining incomes. The Bay Area has been spared devastating deindustrialization primarily because of its strategic geographic location and expanding high-tech sector!¹ Nonetheless, it is plausible that the region *has* suffered the social consequences of the decline of its traditional manufacturing base. As we

¹Although there is considerable debate concerning the definition of "high tech," this study uses the same categories as defined by Glasmeier, 1986: those industries with higher-than-average numbers of professional and technical employees. Five industries are classified high-tech for this analysis: chemicals (SIC 2500), nonelectrical machinery (SIC 3500), electrical machinery (SIC 3600), transportation equipment (SIC 3700), and scientific instruments (SIC 3800).

will show, economic restructuring has translated into both economic opportunity and loss for Bay Area residents.

In this study, we will examine to what extent higher-wage technical and managerial jobs and lower-wage service jobs are replacing middle-wage production jobs in Bay Area industries. The analysis has three parts. First, we will compare industries by average payroll per employee to see how employment has shifted among high-, middle-, and low-paying sectors. Second, we will examine the occupational mix within industrial sectors to determine the relative wage levels of new jobs. We will also look at changes in firm size for additional insight into the quality of new jobs. Finally, we will consider the economic and social implications of these changes for the long-term economic viability of the Bay Area.

B. Sectoral Analysis of Job Growth and Payrolls

Industry growth can be measured by both increases in jobs and increases in payrolls. Jobs and payrolls are not perfectly correlated, but reflect differences in the occupational structure and productivity of various sectors. To distinguish differences among industries, we have divided total annual payroll by the number of employees in the industry group to arrive at average payroll per employee.² Average payroll per employee is not the salary any specific worker would receive, nor is it meant to be representative of actual income in the industry. Since it averages all salary ranges for different occupations within the industry, the figures tends to be pulled up by the relatively fewer but higher-paying executive and managerial jobs. However, it is useful as a means of comparing the income potential of particular sectors.

As Table 1 shows, between 1981 and 1987 payrolls grew faster than the number of jobs. Employment grew by 17.7 percent and average payroll per employee grew by 5.3 percent. There were, however, major differences among sectors. Manufacturing; wholesale trade; services; and Finance, Insurance, and Real Estate (F.I.R.E) have all increased their payrolls faster than the number of employees, meaning that at least some employees have made wage gains.

Manufacturing declined in share from 24 percent of total employment in 1981 to 20 percent in 1987. It is the only sector which shows a net decrease in employment (-2 percent) along with an increase in average payroll (11 percent). This is indicative of the more technology- and knowledge-intensive set of industries attracted to the Bay Area.

²All payroll and income data has been adjusted using the Bay Area Consumer Price Index (CPI) for April 1988. The factor used to adjust 1981 payroll figures to 1988 was 1.3496; 1987 figures were adjusted by 1.0334.

TABLE 1: CHANGE IN EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
 BAY AREA 1981-1987
 BROAD ONE-DIGIT SECTORS

INDUSTRY	SIC CODE	1981			1987			1981-1987 CHANGE			
		EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOYMENT NO.	% CHG	AVG PAYROLL NO.	% CHG
Total Employment		2,101,165		24,656	2,472,910		25,963	371,745	17.69%	1,307	5.30%
Agricultural Services, Forestry, Fisheries	7	9,356	0.4%	16,531	14,070	0.6%	15,910	4714	50.4%	-621	-3.8%
Contract Construction	15	139,564	6.6%	34,638	141,309	5.7%	31,402	1745	1.3%	-3236	-9.3%
All Manufacturing Industries	19	498,761	23.7%	30,730	489,612	19.8%	34,099	-9149	-1.8%	3369	11.0%
Transportation and Public Utilities	40	170,776	8.1%	32,919	174,410	7.1%	32,050	3634	2.1%	-870	-2.6%
Wholesale Trade	50	137,869	6.6%	29,813	185,343	7.5%	31,702	47474	34.4%	1889	6.3%
Retail Trade	52	396,020	18.8%	14,868	477,783	19.3%	14,054	81763	20.6%	-814	-5.5%
Finance, Insurance, and Real Estate	60	191,930	9.1%	23,645	230,874	9.3%	29,286	38944	20.3%	5641	23.9%
Services	70	533,232	25.4%	20,213	745,051	30.1%	23,314	211819	39.7%	3101	15.3%

SOURCE: County Business Patterns

NOTE: Mining has been excluded; therefore, employment and percent figures may not add to totals.

Wholesale trade, a higher-paid sector, also grew impressively: 34 percent between 1981 and 1987, and expanded payrolls by 6.6 percent. F.I.R.E. grew by about 20 percent. F.I.R.E. is becoming better paid, as evidenced by a 30 percent rise in payroll per employee, the highest percentage increase of all the sectors. Agriculture and retail trade by contrast are experiencing growth in employment and decline in average payroll per employee.

The services sector, the largest source of employment and growth, expanded 40 percent between 1981 and 1987. However, average payroll per employee grew 15 percent more slowly than other sectors.

What do these changes in average payroll figures say about incomes and job opportunities in the Bay Area during this period? To more easily analyze this change, the different industrial sectors were classed into higher-, middle-, and lower-paying categories according to their average payroll. Table 2 shows a breakdown of industries in each category, the average payroll per employee, and the share of total employment in these categories, while Figures 1, 2, and 3 illustrate the changes occurring across categories between 1981 and 1987.³

In 1981, 45 percent of all regional employment was in higher-paying sectors (construction, transportation and public utilities, manufacturing, and wholesale trade) and 35 percent was in the middle-paying categories (F.I.R.E. and services). Retail trade and agricultural services, the lowest-paying sectors, constituted 19 percent of those employed.

By 1987, a shift occurred from the middle-paying to the higher-paying categories (Figure 2). Only services remains in the middle-paying category, which accounts for 30 percent of employment, while the share of employment in the higher-paying sectors has increased 4 percentage points to 49 percent. This shift is accounted for entirely by the fact that the F.I.R.E. sector became better paid during this period and moved from a middle-paying sector in 1981 to a higher-paying sector in 1987. Both retail trade and agricultural services remain in the lower paid categories, but have increased their share slightly to 20 percent of total employment.

Thus, we see a slight trend toward an increasing share of employment at both the high- and low-paying sectors, while the middle has lost ground. Figure 3 graphs the percent change in employment in these categories since 1981 and demonstrates how the gains in employment in the higher-paying and lower-paying sectors is outpacing the modest gains in employment in the middle-paying sectors.

³Categories were determined by observing the largest natural gaps among sectors. Gaps between categories range from about \$4,000 to \$6,000. Within pay categories, the gaps between sectors are much smaller, ranging roughly from \$1,000-\$2,000.

TABLE 2: TOTAL EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
 BAY AREA 1981 AND 1987
 HIGH, MIDDLE, LOW PAYING INDUSTRIAL SECTORS

CATEGORY	SIC CODE	EMP SHARE	AVG PAYROLL (1988 \$)
<u>1981</u>			
TOTAL EMPLOYMENT			24,656
<u>HIGHER PAYING SECTORS:</u>			
Contract Construction	15	6.6%	34,638
Transportation and Public Utilities	40	8.1%	32,919
All Manufacturing Industries	19	23.7%	30,730
Wholesale Trade	50	<u>6.6%</u>	29,813
		45.1%	
<u>MIDDLE PAYING SECTORS:</u>			
Finance, Insurance, and Real Estate	60	9.1%	23,645
Services	70	<u>25.4%</u>	20,213
		34.5%	
<u>LOWER PAYING SECTORS:</u>			
Agricul. Services, Forestry, Fish.	7	0.4%	16,531
Retail trade	52	<u>18.8%</u>	14,868
		19.3%	
<u>1987</u>			
TOTAL EMPLOYMENT			25,963
<u>HIGHER PAYING SECTORS:</u>			
All Manufacturing Industries	19	19.8%	34,099
Transportation and Public Utilities	40	7.1%	32,050
Wholesale Trade	50	7.5%	31,702
Contract Construction	15	5.7%	31,402
Finance, Insurance, and Real Estate	60	<u>9.3%</u>	29,286
		49.4%	
<u>MIDDLE PAYING SECTORS:</u>			
Services	70	30.1%	23,314
<u>LOWER PAYING SECTORS:</u>			
Agricul. Services, Forestry, Fish.	7	0.6%	15,910
Retail trade	52	<u>19.3%</u>	14,054
		19.9%	

SOURCE: County Business Patterns, 1981, 1987

Figure 2

CHG IN EMPLOYMENT SHARE BY AVG PAYROLL
ALL ONE DIGIT INDUSTRIAL SECTORS
Bay Area - 1981-1987

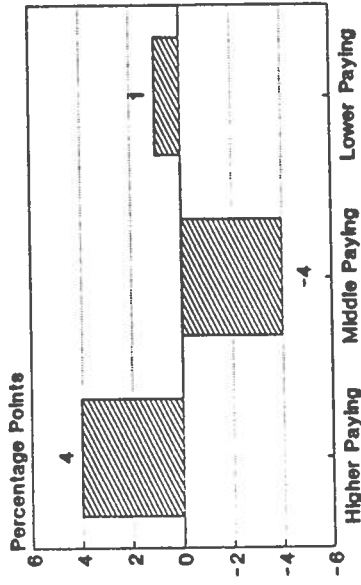
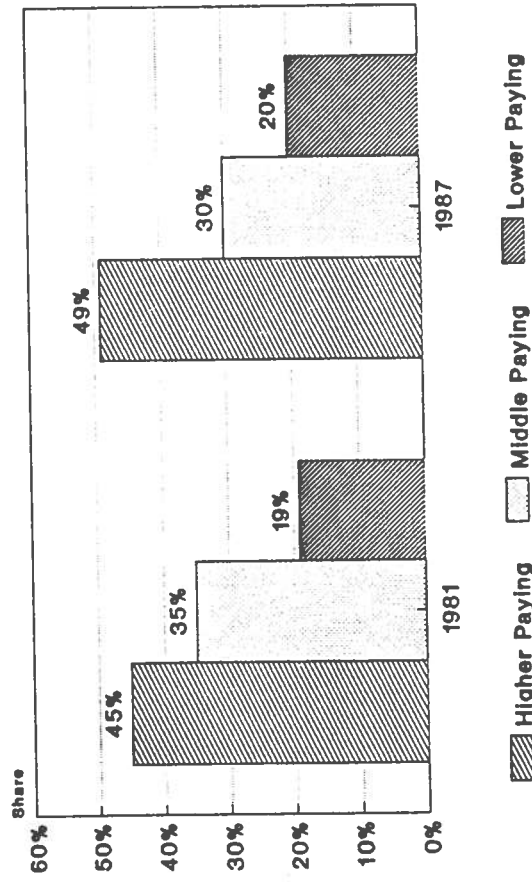


Figure 1

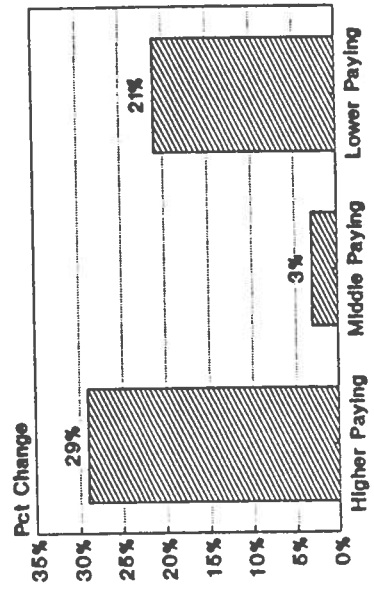
SHARE OF EMPLOYMENT BY AVERAGE PAYROLL
All One Digit Industrial Sectors
Bay Area - 1981 and 1987



Source: County Business Patterns

Figure 3

CHANGE IN EMPLOYMENT BY AVERAGE PAYROLL
ALL ONE DIGIT INDUSTRIAL SECTORS
Bay Area - 1981-1987



On the whole, Bay Area employment is occurring in sectors with higher income potential. However, the gap between the lowest-paying sectors and the middle-paying sectors grew considerably. It was approximately \$3,700 in 1981, but increased to \$7,400 in 1987.

These trends, when taken together, suggest increasing disparities between the kinds of job opportunities that different sectors of the economy provide to their employees. In order to understand these trends further, the next section provides a more detailed look at the two most important sectors: services, manufacturing, and retail trade.

Services

Table 3 presents employment figures and average payroll for industry groups in the services sector in 1981 and 1987. Health services and business services are the two most important industries, with respect to share of employment, both at over 6 percent in 1981.

During 1981-1987, the business services group made the most significant gains overall. It gained the most in percent share of total employment: from 7 percent in 1981 to 9 percent in 1987. It experienced a significant increase in employment (57 percent) and a 17 percent increase in average payroll. The health services group made only modest gains in employment and payroll during this period, but maintained its share of total employment.

Legal services, the highest-paid group within the services sector, showed the greatest increase in average payroll (33 percent) and a significant increase in employment (60 percent). Although it increased its share of services slightly (from 3.5 percent to 4 percent), it still represents less than 2 percent of total employment. Three industries (membership organizations, personal services, and auto repair), became lower-paid, as evidenced by the decrease in average payroll but increase in employment.

Service industry groups have also been classified into higher-, middle-, and lower-paying categories (see Table 4). Again, the separations between the categories were made where natural gaps in pay levels between the groups occurred. These categories and their share of employment are graphically represented in Figure 4.

In 1981, 11 percent of service jobs were in the higher wage categories (miscellaneous, legal, other), while 57 percent were in middle-level categories (health, business, auto and miscellaneous repairs). The lower-wage industries constituted 32 percent of the sector. They included education, hotel, membership, and personal services. In 1987, there were slightly more jobs in the higher-

TABLE 3: CHANGE IN EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
 SERVICES SECTOR - INDUSTRY GROUPS
 BAY AREA 1981 - 1987

INDUSTRY	SIC CODE	1981			1987			1981-1987 CHANGE			
		EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOYMENT NO.	% CHG	AVG PAYROLL NO.	% CHG
Total Employment		2,101,165		24,656	2,472,910		25,963	371,745	17.7%	1,307	5.3%
<u>Services</u>	70	533,232	25.4%	20,213	745,051	30.1%	23,314	211,819	39.7%	3,101	15.3%
Other Services	70R	7,651	0.4%	26,518	12,957	0.5%	34,426	5,306	69.4%	7,907	29.8%
Miscellaneous Services	8900	37,485	1.8%	33,092	60,369	2.4%	35,196	22,884	61.0%	2,105	6.4%
Legal Services	8100	19,901	0.9%	30,202	31,822	1.3%	40,100	11,921	59.9%	9,898	32.8%
Business Services	7300	138,166	6.6%	20,434	216,316	8.7%	23,846	78,150	56.6%	3,412	16.7%
Social Services	8300	29,025	1.4%	11,684	42,608	1.7%	14,944	13,583	46.8%	3,260	27.9%
Membership Organizations	8600	30,374	1.4%	14,427	42,025	1.7%	14,358	11,651	38.4%	(69)	-0.5%
Auto Repair, Services, Garages	7500	18,391	0.9%	20,557	24,853	1.0%	19,697	6,462	35.1%	(861)	-4.2%
Educational Services	8200	37,550	1.8%	15,802	49,562	2.0%	16,930	12,012	32.0%	1,129	7.1%
Amusement/Recreation Services	7900	17,880	0.9%	15,633	23,385	0.9%	16,812	5,505	30.8%	1,179	7.5%
Hotels; other Lodging Places	7000	27,500	1.3%	13,273	35,742	1.4%	14,749	8,242	30.0%	1,476	11.1%
Personal Services	7200	25,171	1.2%	11,875	31,465	1.3%	11,420	6,294	25.0%	(455)	-3.8%
Health Services	8000	129,490	6.2%	22,697	158,753	6.4%	26,406	29,263	22.6%	3,709	16.3%
Miscellaneous Repair Services	7600	8,368	0.4%	22,280	9,249	0.4%	24,387	881	10.5%	2,107	9.5%
Motion Pictures	7800	6,280	0.3%	14,769	5,945	0.2%	16,652	(335)	-5.3%	1,883	12.8%

SOURCE: County Business Patterns, 1981, 1987

**TABLE 4: TOTAL EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
SERVICES SECTOR - HIGH, MIDDLE, LOW PAYING INDUSTRY GROUPS
BAY AREA 1981 AND 1987**

CATEGORY	SIC CODE	SHARE OF SERVICES	AVG PAYROLL (1988 \$)
<u>1981</u>			
SERVICES EMPLOYMENT	70		20,213
<u>HIGHER PAYING SECTORS:</u>			
Miscellaneous Services	8900	7.0%	33,092
Legal Services	8100	3.7%	30,202
		10.8%	
<u>MIDDLE PAYING SECTORS:</u>			
Other Services	70R	1.4%	26,518
Health Services	8000	24.3%	22,697
Miscellaneous Repair Services	7600	1.6%	22,280
Auto Repair, Services, Garages	7500	3.4%	20,557
Business Services	7300	25.9%	20,434
		56.6%	
<u>LOWER PAYING SECTORS:</u>			
Educational Services	8200	7.0%	15,802
Amusement/Recreation Services	7900	3.4%	15,633
Motion Pictures	7800	1.2%	14,769
Membership Organizations	8600	5.7%	14,427
Hotels; other Lodging Places	7000	5.2%	13,273
Personal Services	7200	4.7%	11,875
Social Services	8300	5.4%	11,684
		32.6%	
<u>1987</u>			
SERVICES EMPLOYMENT	70		23,314
<u>HIGHER PAYING SECTORS:</u>			
Legal Services	8100	4.3%	40,100
Miscellaneous Services	8900	8.1%	35,196
Other Services	70R	1.7%	34,426
		14.1%	
<u>MIDDLE PAYING SECTORS:</u>			
Health Services	8000	21.3%	26,406
Miscellaneous Repair Services	7600	1.2%	24,387
Business Services	7300	29.0%	23,846
		51.6%	
<u>LOWER PAYING SECTORS:</u>			
Auto Repair, Services, Garages	7500	3.3%	19,697
Educational Services	8200	6.7%	16,930
Amusement/Recreation Services	7900	3.1%	16,812
Motion Pictures	7800	0.8%	16,652
Social Services	8300	5.7%	14,944
Hotels; other Lodging Places	7000	4.8%	14,749
Membership Organizations	8600	5.6%	14,358
Personal Services	7200	4.2%	11,420
		34.3%	

SOURCE: County Business Patterns, 1981, 1987

Figure 5

CHG IN EMPLOYMENT SHARE BY AVG PAYROLL
SERVICES SECTOR
Bay Area - 1981-1987

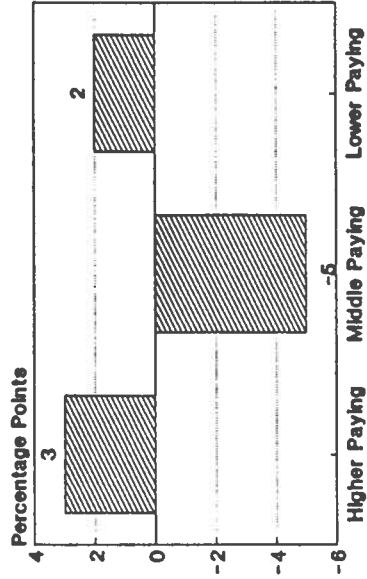
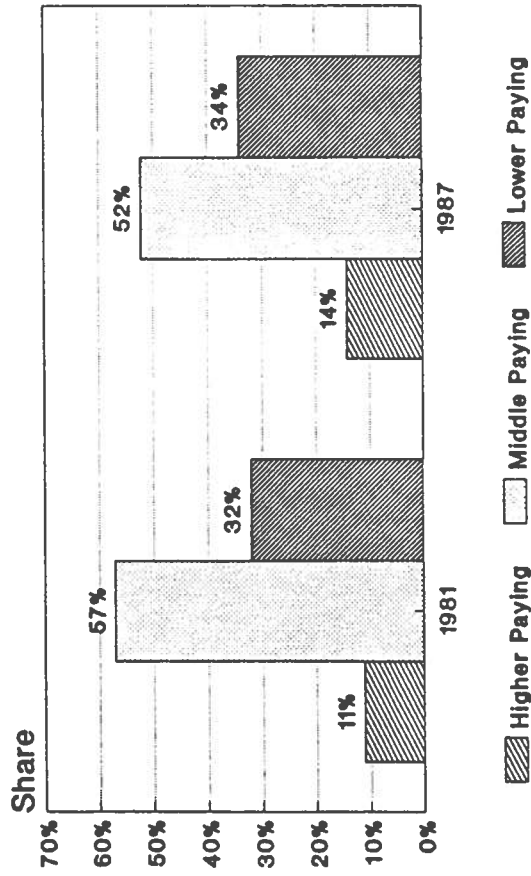


Figure 4

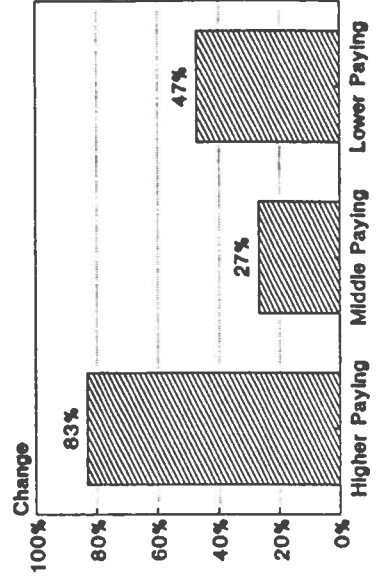
SHARE OF EMPLOYMENT BY AVERAGE PAYROLL
SERVICES SECTOR
Bay Area - 1981-1987



Source: County Business Patterns

Figure 6

CHANGE IN EMPLOYMENT BY AVERAGE PAYROLL
SERVICES SECTOR
Bay Area - 1981-1987



paying category (14 percent) and fewer jobs in middle-paying categories (52 percent), while more jobs were concentrated in lower-paying categories (34 percent).

Although the majority of jobs in services are still in middle-level industries, there is a slight trend toward increasingly higher- and lower-paying jobs. Figure 5 shows more dramatically the loss in share of service employment by the middle-paying industry groups, while Figure 6 shows again that the middle-paying industries grew very little compared to the growth in the higher- and lower-paying industries in the services sector.

Manufacturing

A similar analysis was done for key Bay Area manufacturing industries. Table 5 gives employment figures and average payroll for selected industry groups in 1981 and 1987. The remaining industries are combined into the "all other manufacturing (SIC 19R)" category.

The two most important manufacturing industries for the region are electric and electronic equipment, which comprise 5 percent of total employment, and non-electrical machinery, comprising 4 percent of total employment in 1981. Electronic equipment shows the most significant gains during this period. It increased its share of manufacturing employment from 21 percent in 1981 to 24 percent in 1987. It also has the greatest increase in average payroll (20 percent), but only a 10 percent increase in employment, indicating it is an industry which is becoming higher-paid.

Three other industries (non-electrical machinery, instruments and instrument-related, and chemicals) show decreasing employment but increasing payroll, indicating they are also becoming higher-paid. Food processing shows both employment losses and decreasing average payrolls per employee.

For comparison of income potential, industries were classified into higher-, middle-, and lower-paying categories. The choice of categories was based on knowledge of the industries involved and verified by information on average earnings at the national level as well as relative rankings within the region.

In 1981, 16 percent of manufacturing employment fell in lower-wage industries— such as food and food-related, printing and publishing, and apparel— while the traditionally higher-paying groups of petroleum and transportation equipment (which includes missiles and space vehicles) constituted 10 percent of employment. All the remaining industries (74 percent) fell into the middle-paying category. These included such groups as non-electrical machinery, instruments,

TABLE 5: CHANGE IN EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
 MANUFACTURING - INDUSTRY GROUPS
 BAY AREA 1981 - 1987

INDUSTRY	SIC CODE	1981			1987			1981-1987 CHANGE			
		EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOY	PCT SHARE	AVG PAYROLL (1988 \$)	EMPLOYMENT NO.	% CHG	AVG PAYROLL NO.	% CHG
Total Employment		2,101,165		24,656	2,472,910		25,963	371,745	17.7%	1,307	5.3%
<u>All Manufacturing Industries</u>	19	498,761	23.7%	30,730	489,612	19.8%	34,099	-9149	-1.8%	3369	11.0%
Printing and Publishing	2700	30,046	1.4%	26,214	35,655	1.4%	27,153	5609	18.7%	939	3.6%
Apparel and other textile Products	2300	13,930	0.7%	12,756	15,521	0.6%	13,009	1591	11.4%	253	2.0%
Electric and Electronic Equipment	3600	105,144	5.0%	28,551	115,494	4.7%	34,181	10350	9.8%	5631	19.7%
Transportation Equipment	3700	42,730	2.0%	39,200	45,329	1.8%	39,887	2599	6.1%	687	1.8%
Fabricated Metal Products	3400	26,111	1.2%	30,370	25,284	1.0%	30,273	-827	-3.2%	-98	-0.3%
All Other Manufacturing	19R	101,057	4.8%	31,623	94,346	3.8%	36,259	-6711	-6.6%	4636	14.7%
Petroleum and Coal Products	2900	5,676	0.3%	41,077	5,247	0.2%	39,912	-429	-7.6%	-1165	-2.8%
Food and Kindred Products	2000	36,167	1.7%	28,302	33,398	1.4%	27,223	-2769	-7.7%	-1079	-3.8%
Instruments and Related Products	3800	37,214	1.8%	31,227	33,915	1.4%	35,424	-3299	-8.9%	4197	13.4%
Machinery Except Electrical	3500	86,166	4.1%	32,914	73,320	3.0%	38,977	-12846	-14.9%	6063	18.4%
Chemicals and Allied Products	2800	14,520	0.7%	30,385	12,103	0.5%	33,509	-2417	-16.6%	3124	10.3%

SOURCE: County Business Patterns, 1981, 1987

chemicals, fabricated metals, and electronic equipment, four of which are high-tech sectors (Table 6 and Figure 7). By 1987 the distribution of jobs within the sector shifted dramatically. The middle categories dropped in share significantly, while the higher-end industries expanded employment to almost the same degree (see Figure 8). The trend is most evident in non-electrical machinery, which constituted 15 percent of manufacturing employment in 1987.

Between 1981 and 1987 most manufacturing employment had shifted into higher-paying industries. Jobs in the lower-end industries remain relatively stable, increasing by one percentage point their share of manufacturing employment (Figure 8). Figure 9 shows the dramatic trend toward employment concentration in higher-paying manufacturing industries. In fact, there has been a net decrease in the change in employment in the middle sectors.

Looking at the industries classified as high tech (Glasmeier, 1986), we see that, as a group, they comprised 57 percent of all manufacturing jobs in both 1981 and 1987. The share of total employment was 14 percent of all jobs in 1981, but dropped to 11 percent of all jobs in 1987. Most of the decrease occurred in instruments, non-electrical machinery, and chemicals. Although four of the high-tech industries fall within the middle-paying category, most are becoming higher-paid. In particular, non-electrical machinery and electronic equipment are becoming significantly more higher-paying industries.

Conclusions

In conclusion, sectoral analysis of Bay Area industries in the 1981-1987 period shows a slight but pervasive trend toward a bifurcated economic structure. Expanding sectors are growing unevenly in terms of average payroll per employee. The services sector became the sole "mid-range" sector since F.I.R.E. has moved into a higher-paying industry sector. The gap between mid-range and low-paying industries (such as retail and agriculture) has increased, although the overall difference between the highest- and lowest-paying sectors remains about the same (\$20,000 per year).

Analysis of both service and manufacturing industries replicates this trend. Most of the manufacturing job growth has occurred in the highest-paying industries. In fact, this sector shows an actual net loss of jobs in the middle-paying industries. In the service sector, employment is concentrated in the middle-and lower-paying industry groups, with the fastest growth in the high- and low-end industries.

Industry average payroll is a very rough measure of actual incomes, however. A certain amount of accuracy is lost in the process of aggregating payrolls for several industry groups. Since

TABLE 6: TOTAL EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
 MANUFACTURING - HIGH, MIDDLE, LOW PAYING INDUSTRY GROUPS
 BAY AREA 1981 AND 1987

CATEGORY	SIC CODE	SHARE OF MANUFAC.	AVG PAYROLL (1988 \$)
<u>1981</u>			
MANUFACTURING EMPLOYMENT	19		30,730
<u>HIGHER PAYING SECTORS:</u>			
Petroleum and Coal Products	2900	1.1%	41,077
Transportation Equipment	3700	<u>8.6%</u> 9.7%	39,200
<u>MIDDLE PAYING SECTORS:</u>			
Machinery Except Electrical	3500	17.3%	32,914
All Other Manufacturing	19R	20.3%	31,623
Intruments and Related Products	3800	7.5%	31,227
Chemicals and Allied Products	2800	2.9%	30,385
Fabricated Metal Products	3400	5.2%	30,370
Electric and Electronic Equipment	3600	<u>21.1%</u> 74.2%	28,551
<u>LOWER PAYING SECTORS:</u>			
Food and Kindred Products	2000	7.3%	28,302
Printing and Publishing	2700	6.0%	26,214
Apparel; other textile Products	2300	<u>2.8%</u> 16.1%	12,756
<u>1987</u>			
MANUFACTURING EMPLOYMENT	19		34,099
<u>HIGHER PAYING SECTORS:</u>			
Petroleum and Coal Products	2900	1.1%	39,912
Transportation Equipment	3700	9.3%	39,887
Machinery Except Electrical	3500	<u>15.0%</u> 25.3%	38,977
<u>MIDDLE PAYING SECTORS:</u>			
All Other Manufacturing	19R	19.3%	36,259
Intruments and Related Products	3800	6.9%	35,424
Electric and Electronic Equipment	3600	23.6%	34,181
Chemicals and Allied Products	2800	2.5%	33,509
Fabricated Metal Products	3400	<u>5.2%</u> 57.4%	30,273
<u>LOWER PAYING SECTORS:</u>			
Food and Kindred Products	2000	6.8%	27,223
Printing and Publishing	2700	7.3%	27,153
Apparel; other textile Products	2300	<u>3.2%</u> 17.3%	13,009

SOURCE: County Business Patterns, 1981, 1987

Figure 8

CHG IN EMPLOYMENT SHARE BY AVG PAYROLL
MANUFACTURING SECTOR
Bay Area - 1981-1987

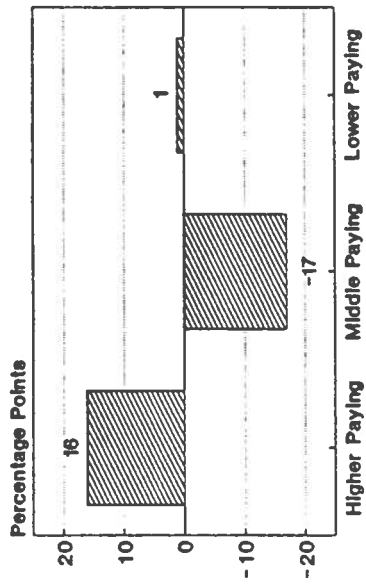
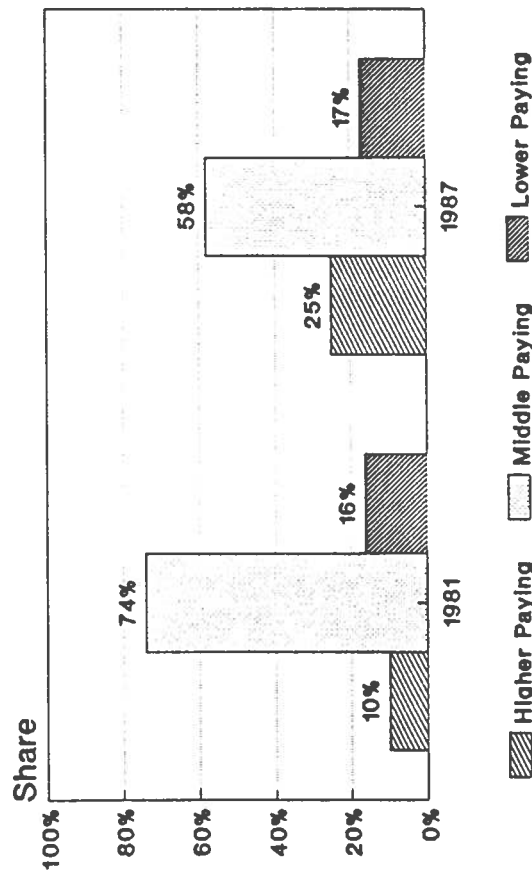


Figure 7

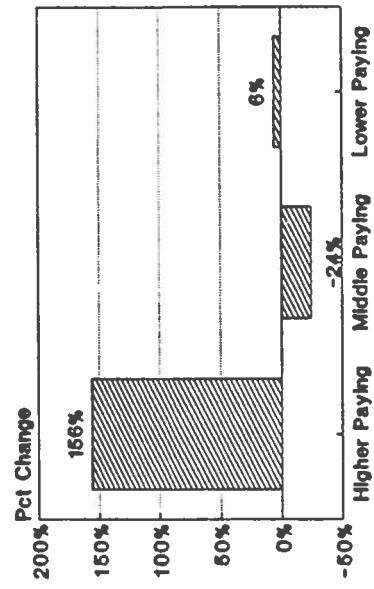
SHARE OF EMPLOYMENT BY AVERAGE PAYROLL
MANUFACTURING SECTOR
Bay Area - 1981-1987



Source: County Business Patterns

Figure 9

CHANGE IN EMPLOYMENT BY AVERAGE PAYROLL
MANUFACTURING SECTOR
Bay Area - 1981-1987



it is an average, a few very highly paid executives and professionals in an industry can pull the comparative average payroll figure up. As such, average payroll is a rough measure of relative industry incomes and provides only a clue to what might be happening to individual workers. To find out, we must probe more deeply into occupational structure and observe how wage levels change as the occupational mix within industries changes.

C. Occupational Mix Analysis

During the 1970s, there was a national trend away from production and related jobs in manufacturing. This occurred in the Bay Area (Table 7) as well. Production and related occupations had the smallest percent increase among the six categories during the decade from 1970 to 1980. The typically "blue-collar" occupations of operators, fabricators, and laborers, in particular, became a much smaller share of the total workforce. To what extent did these trends continue into the 1980s?

In this section, we assess changes in the occupational mix of the manufacturing, service, and retail sectors during the years of 1981 to 1987 and relate them to wage levels. The number of people in each occupational wage category for the Bay Area is estimated from state-level data obtained from the California Employment Development Department. Appendix B describes the methods used to estimate Bay Area employment by occupational wage level and contains the resulting matrix.

Based on national weekly wage data (Appendix Table A-5), the six standard occupational can be divided into high-, middle-, and low-wage groups. For the purposes of this analysis, managers and administrators (\$604/week) and professionals and technicians (\$552) are classified as high-wage; production- and sales- related positions (\$408 and \$401, respectively) are middle-wage occupations; and clerical/administrative (\$350) and service positions (\$268) are low-wage occupations.

All Industrial Sectors

The national trend of bifurcated job growth (with the exception of agriculture) is also repeated in the Bay Area. Between 1981 and 1987, jobs in the highest- and lowest-paid occupations grew the fastest. As shown in Figures 10 and 11, professional/technical positions increased 1.5 percentage points and service positions increased 1.3 percentage points. Decreases occurred in production and related jobs, which lost 3.3 percentage points of their share of employment. If we look at the actual percent change (see Figure 12), we can see the explanations for the change in shares. Production and related jobs did not decrease in actual terms, but grew at the same rate as the other occupational sectors. The change in share indicates, however, that without growth in total employment, there would have been a net loss of production jobs.

TABLE 7: OCCUPATIONS OF EMPLOYED RESIDENTS
BAY AREA 1970 and 1980

Category	1970		1980		CHANGE 1970-1980	
	Employed	% of Total	Employed	% of Total	Absolute Number	Pct Change
Executive, Administrative & Managerial	170,307	9.3%	328,884	13.1%	158,577	93.1%
Professional Specialty, Health & Nonhealth tech.	351,058	19.3%	470,784	18.7%	119,726	34.1%
Sales Workers	146,235	8.0%	274,518	10.9%	128,283	87.7%
Administrative Support, incl. clerical	391,495	21.5%	501,141	19.9%	109,646	28.0%
Service	230,868	12.7%	306,997	12.2%	76,129	33.0%
Farming, Forestry and Fishing	15,859	0.9%	35,157	1.4%	19,298	121.7%
Production and related	517,534	28.4%	599,830	23.8%	82,296	15.9%
Precision Production, Craft & Repair	229,715	12.6%	290,483	11.5%	60,768	26.5%
Operators, Fabricators & Laborers	287,819	15.8%	309,347	12.3%	21,528	7.5%
TOTAL	1,823,356		2,517,311		693,955	38.1%

SOURCE: Census of Population, 1970, 1980; U.S. Dept. of Commerce, Bureau of the Census

Figure 11
CHANGE IN SHARE BY OCCUPATION
 All Industrial Sectors
 Bay Area 1981 - 1987

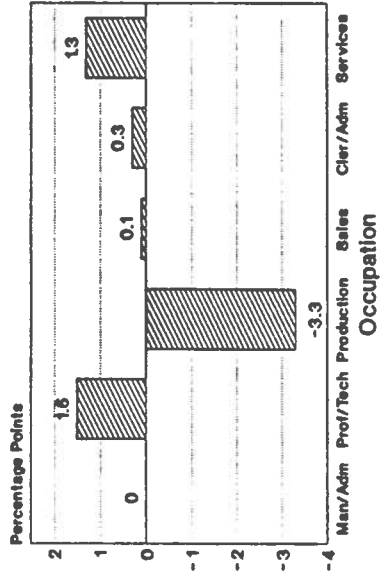


Figure 10
SHARE OF EMPLOYMENT BY OCCUPATION
 All Industrial Sectors
 Bay Area 1987

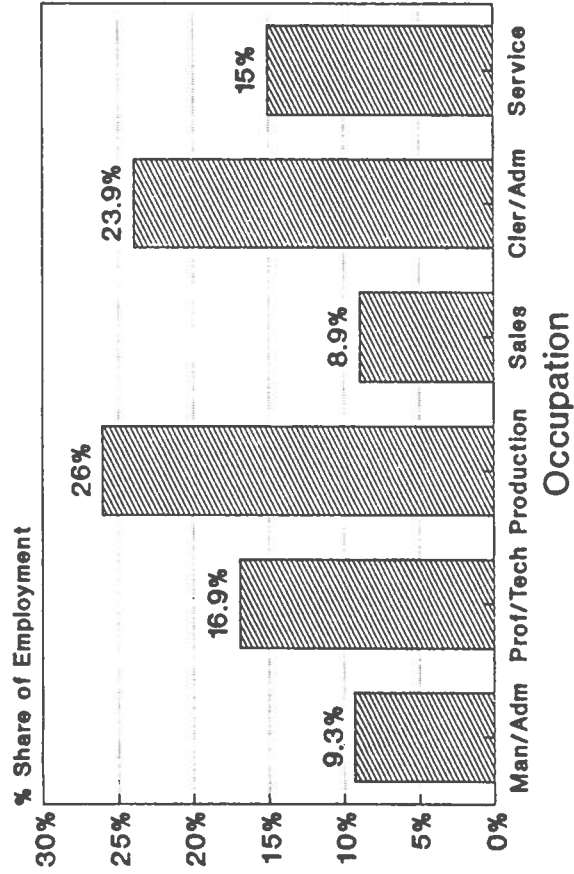
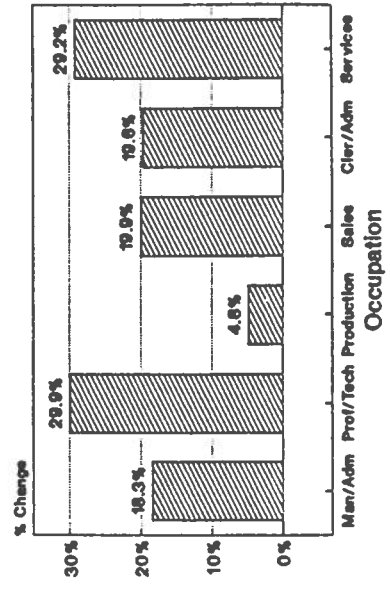


Figure 12
% CHANGE OF EMPLOYMENT BY OCCUPATION
 All Industrial Sectors
 Bay Area 1981 - 1987



Structural shifts in job growth had economic implications for job-holders. High-wage and low-wage occupations grew equally, but middle-wage positions declined by 3.2 percentage points (see Figure 13). All of the loss came from the declining share of production and related jobs. Looking at the occupational share of all the new jobs that were created, we can speculate that this trend will continue. Figure 14 graphically portrays the share each occupational wage level had of overall job growth. Most growth is occurring in the high-wage and low-wage categories, reinforcing the overall bifurcated pattern.

Three factors have contributed to bifurcated job growth in the Bay Area. First, manufacturing employment has shifted away from middle-wage production and related jobs to higher-paying professional/technical jobs. Second, the services sector, which has had the largest job growth, shows even growth among all the occupations. However, its occupational structure is already extremely polarized between high- and low-paying occupations. Finally, retail trades, also one of the fastest-growing sectors, experienced a shift to the low-wage occupations which already provide the bulk of employment in this sector. The following sections will examine in more detail what is occurring within these three sectors.

Manufacturing Sector

Through most of the 1980s, the number of manufacturing jobs declined for the country as a whole (Plunkert, 1990). The change is not because manufacturing has declined in economic importance, but is due to a shift to production technologies requiring different workforce skills.

In the Bay Area, manufacturing employment has been shrinking as a proportion of the regional economy. It accounted for 20 percent of all employment in 1987, down almost 2 percent during the years 1981-1986 (see Table 5). Production and related jobs suffered a decline of 4.7 percent. However, professional and technical occupations within manufacturing have increased by 6.3 percent (see Figure 15). High-wage workers increased their share of manufacturing employment by 1.2 percentage points, at the expense of the middle-wage production workers (see Figures 16 and 17).

The traditional "blue-collar" jobs that once constituted the core of manufacturing employment are giving way to jobs in the professional and technical occupations. Many of these are linked to research and development, but not directly to production. These jobs generally require educational levels and skills absent in those workers being laid off. As manufacturing firms restructure their production activities and lay off production workers, both managers/administrators and service workers are less needed. Thus, the decrease in these occupations in manufacturing industries in the Bay Area is probably a reflection of the large decrease in production workers. The strong increase

Figure 13
CHANGE IN SHARE BY OCCUPAT. WAGE LEVEL
 All Industrial Sectors
 Bay Area 1981 - 1987

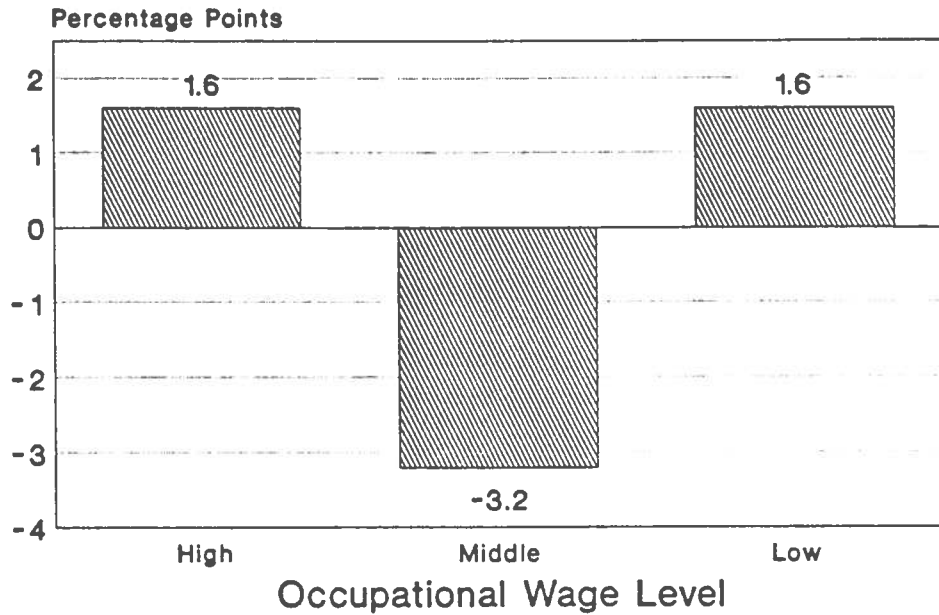


Figure 14
SHARE OF GROWTH BY OCCUPAT. WAGE LEVEL
 All Industrial Sectors
 Bay Area 1981 - 1987

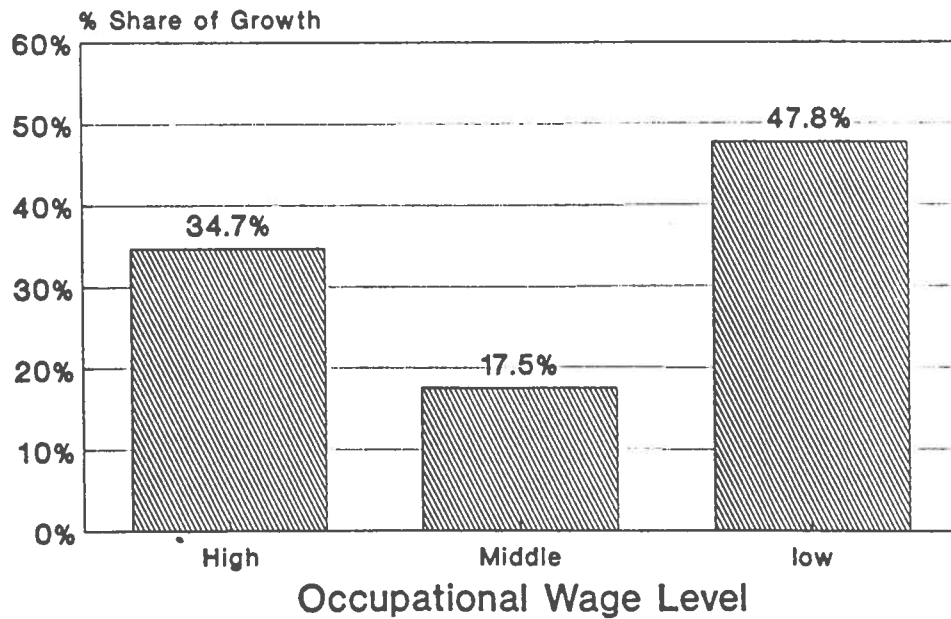


Figure 16
CHANGE IN SHARE BY OCCUPAT. WAGE LEVEL
 Manufacturing Sector
 Bay Area 1981 - 1987

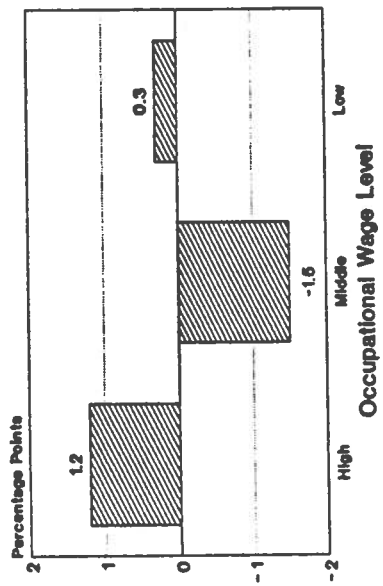


Figure 15
% CHANGE OF EMPLOYMENT BY OCCUPATION
 Manufacturing Sector
 Bay Area 1981 - 1987

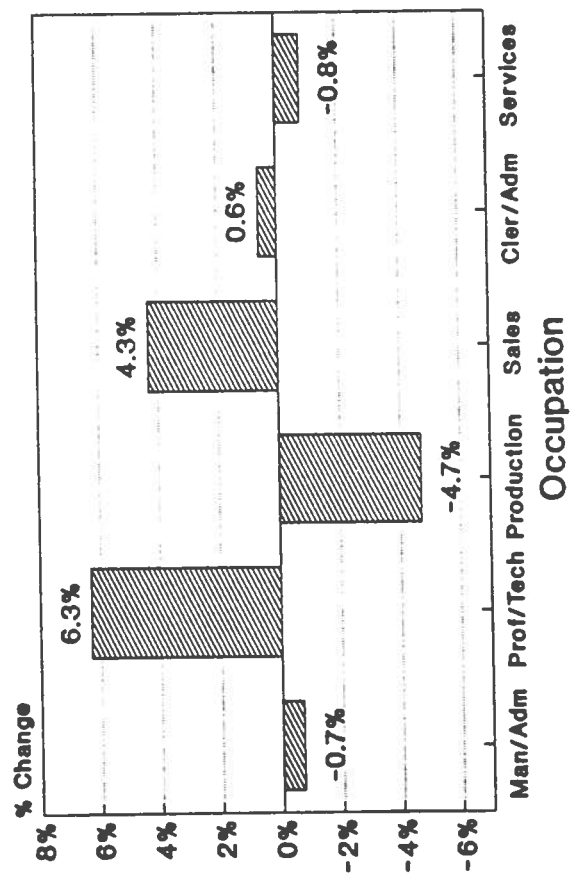
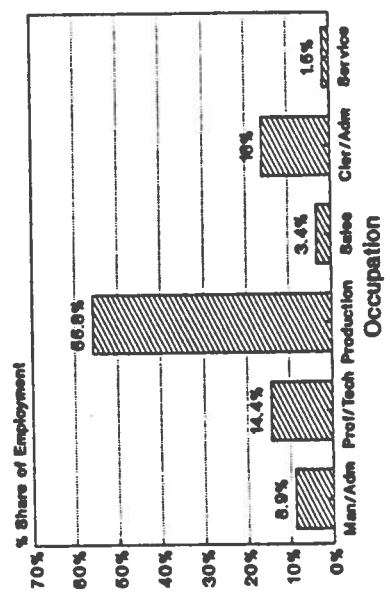


Figure 17
SHARE OF EMPLOYMENT BY OCCUPATION
 Manufacturing Sector
 Bay Area 1987



Source: Appendix B.

in sales occupations, however, also suggests that manufacturing output has not decreased as a result of the structural changes.

High-Tech Manufacturing

The high-tech industry has had the greatest impact on trends in manufacturing because it is the source of most, if not all, of the net job growth in that sector. By definition, high-tech industries employ greater numbers of professional and technical workers than other industries (see Figure 18).

Production jobs in manufacturing lost 3.3 percentage points in share between 1981 and 1987. In high-tech manufacturing, production and related occupations lost 4.4 percentage points in share (see Figure 19). Professional and technical positions expanded in manufacturing. In the high-tech industries, they gained twice as much—3 percentage points as compared to 1.5. If we compare Figure 20, which looks at the percent change of employment by occupation for high-technology industries, with Figure 15, which does the same for manufacturing, we can see that the share of managers and administrators in high tech increased dramatically (+21 percent), while declining (-.7 percent) for manufacturing as a whole.

The literature on high-tech development presents a series of explanations for these changes in the occupational structure of this industry. It suggests that a spatial division of labor has occurred in which the more technical aspects of manufacturing (research and development) are separated from the production- and assembly-related functions. The companies seek out labor markets for each of these components which, more often than not, do not share the same geographic space (Glasmeier, 1986; Markusen, 1985; Storper and Walker, 1983).

High-tech occupational trends for the Bay Area appear to support this argument. High-tech manufacturing is the dominant contributor to the regional export base. However, high-tech manufacturing employment actually decreased between 1981 and 1987. In the process of industry shrinkage, there has been a shift in share from production jobs to professional and technical jobs, reflected in increased average payrolls per employee. These are the trends which would be expected by the kind of structural changes described above. If data on the change of establishment size is added to this, this trend is reinforced. The share of establishments with more than 100 employees and with more than 500 employees declined by 13 percent during the study period, suggesting that there are fewer large-scale production plants in the Bay Area than before.

Figure 18
SHARE OF EMPLOYMENT BY OCCUPATION
 High-Tech Industries
 Bay Area 1987

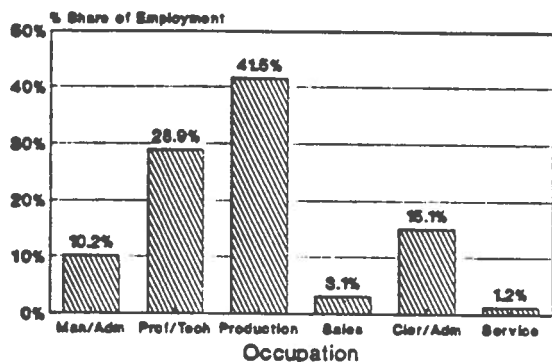


Figure 19
CHANGE IN SHARE BY OCCUPATION
 High-Tech Industries
 Bay Area 1981 - 1987

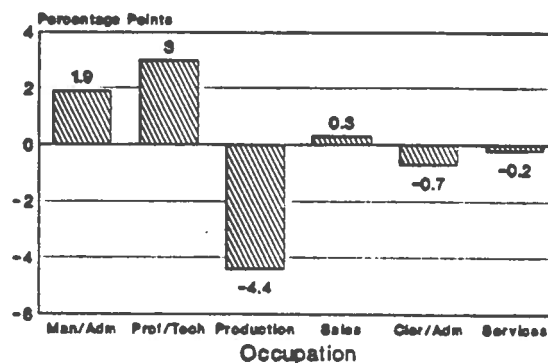
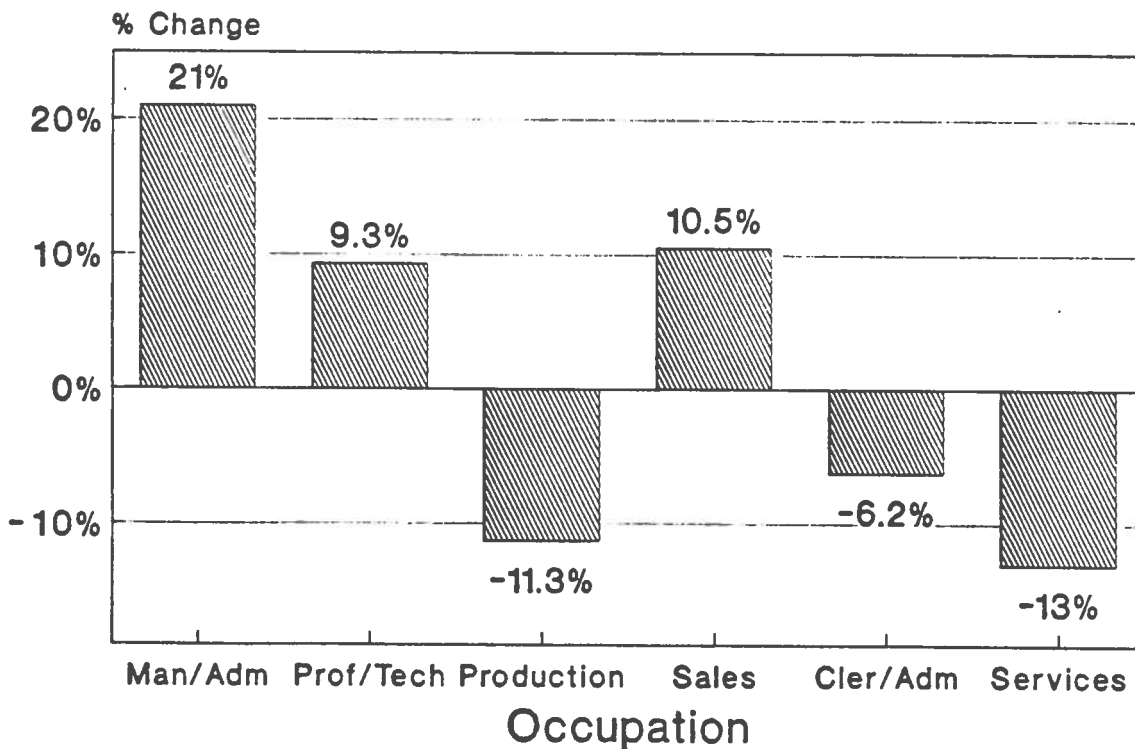


Figure 20
% CHANGE OF EMPLOYMENT BY OCCUPATION
 High-Tech Industries
 Bay Area 1981 - 1987



Source: Appendix

Services

Services are by far the fastest growing industrial sector excluding agriculture. As indicated previously, during the years between 1981 and 1987 its employment grew by 40 percent, and its already large share of total employment went from 25 percent in 1981 to 30 percent in 1987.

The occupational structure of the service industries is already polarized. Almost 50 percent consists of low-wage occupations. Most of the employment lies in the professional/technical (32.2 percent of all employment), clerical/administrative (23.4 percent), and service positions (23.7 percent) (see Figures 21 and 22). Higher-wage occupations have very slightly increased their share. Since growth in all of the occupational wage level groupings was relatively even, the existing pattern of bifurcated occupational structure is being reinforced (see Figures 23, 24, and 25).

Changes in business services are responsible for the slight growth in high-wage positions. This industry grew by an amazing 57 percent and now encompasses almost 9 percent of the Bay Area's total employment base (see Table 3). Although business services have fewer high-wage positions than the sector overall, these positions are expanding more rapidly than either low or mid-level jobs (see Figures 26 and 27). High-wage occupations increased by 84 percent during the study period. In contrast, the low-wage sector, which made up 48 percent of the employment, only grew by 46 percent. This caused the high-paying occupations to gain 4.4 percentage points of the share of employment while the low-paying jobs lost 3.8 percentage points. The "up-scaling" of the business services industry can also be seen in the 17 percent rise in average payrolls per employee shown in Table 3.

Explanations for service sector growth at the national level follow two different models. One relates it to changing consumption patterns and the other explains it in terms of changing from an industrial economy to a post-industrial one. However, by looking at changes occurring in the Bay Area's services sector, the analysis presented by Harrison, Bluestone, and Walker is more convincing. They argue that the expansion in services is a direct result of the restructuring which is occurring in the manufacturing sectors. As the production process becomes more complex due to the global restructuring process, there is a much greater need for services to support these changes. In other words, we are not moving towards a post-industrial society but to a more complex industrial society (Harrison and Bluestone, 1988; Storper and Walker, 1983). This would account for the greater increase in business services in the Bay Area as compared to personal services, which are related more to consumption.

Figure 21
SHARE OF EMPLOYMENT BY OCCUPATION
Service Sector
Bay Area 1987

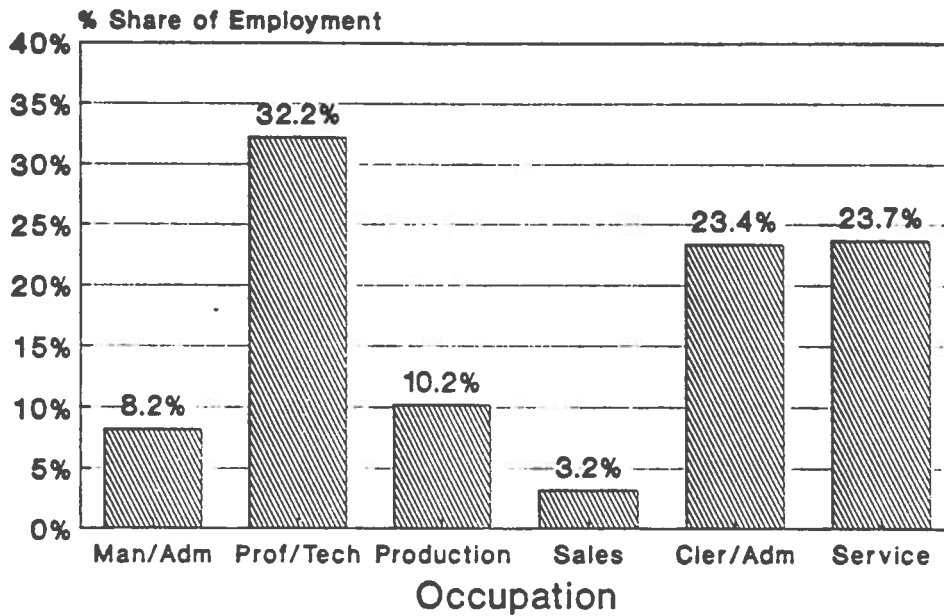
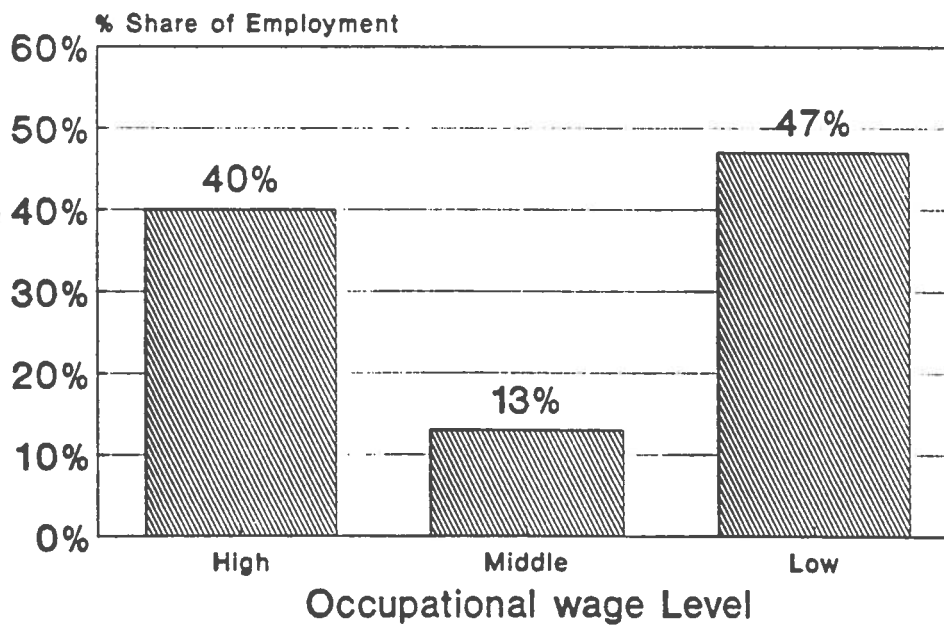


Figure 22
SHARE OF EMP BY OCCUPATIONAL WAGE LEVEL
Service Sector
Bay Area 1987



Source: Appendix

Figure 24
CHANGE IN SHARE BY OCCUPAT. WAGE LEVEL
 Service Sector
 Bay Area 1981 - 1987

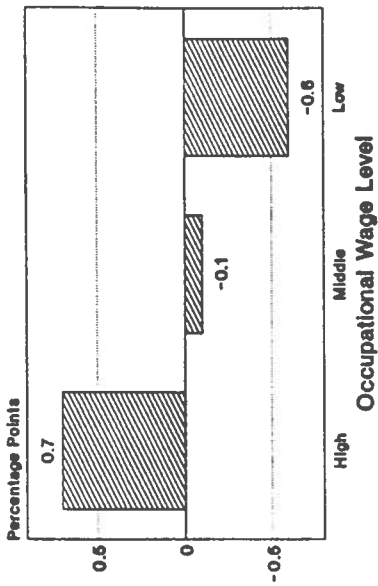


Figure 23
SHARE OF GROWTH BY OCCUPAT. WAGE LEVEL
 Service Sector
 Bay Area 1981 - 1987

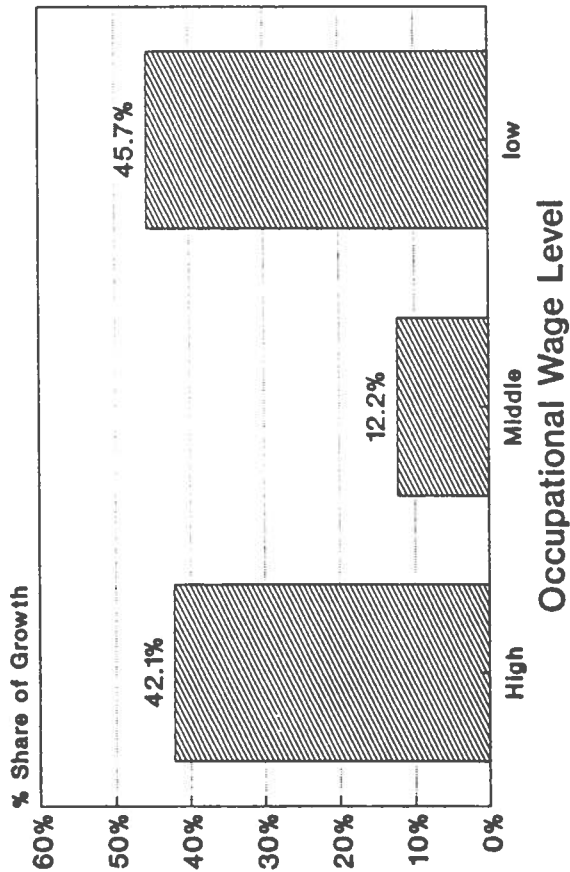


Figure 25
% CHANGE BY OCCUPATIONAL WAGE LEVEL
 Service Sector
 Bay Area 1981 - 1987

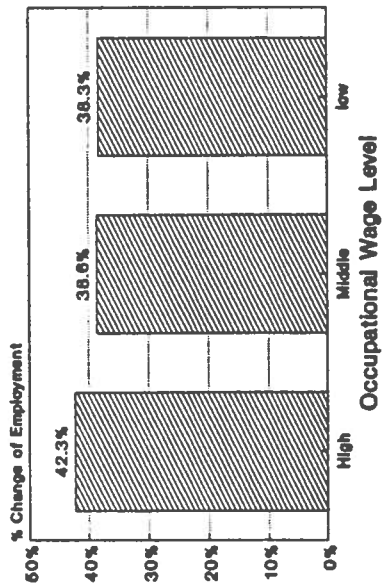


Figure 26
SHARE OF EMP BY OCCUPATIONAL WAGE LEVEL
Business Services
Bay Area 1987

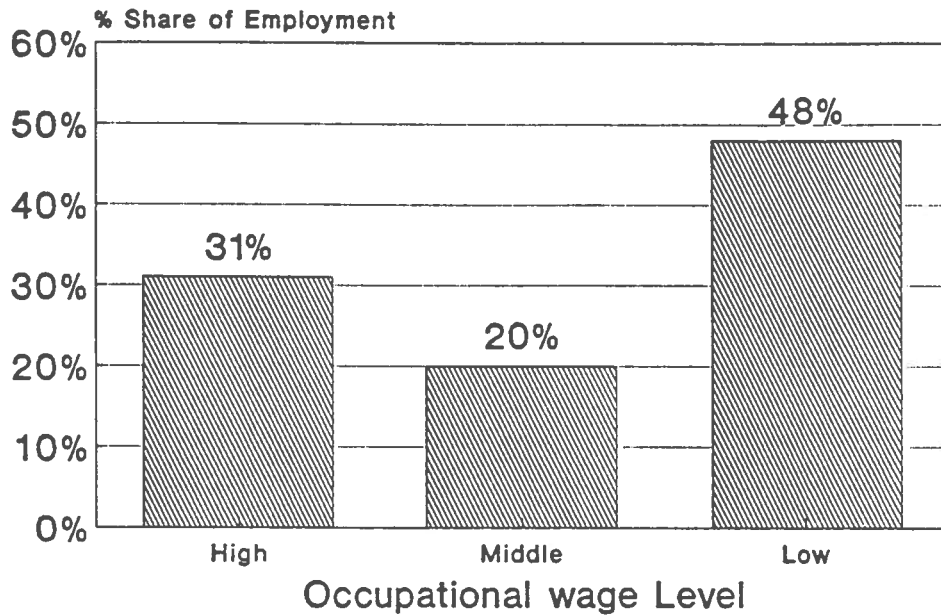
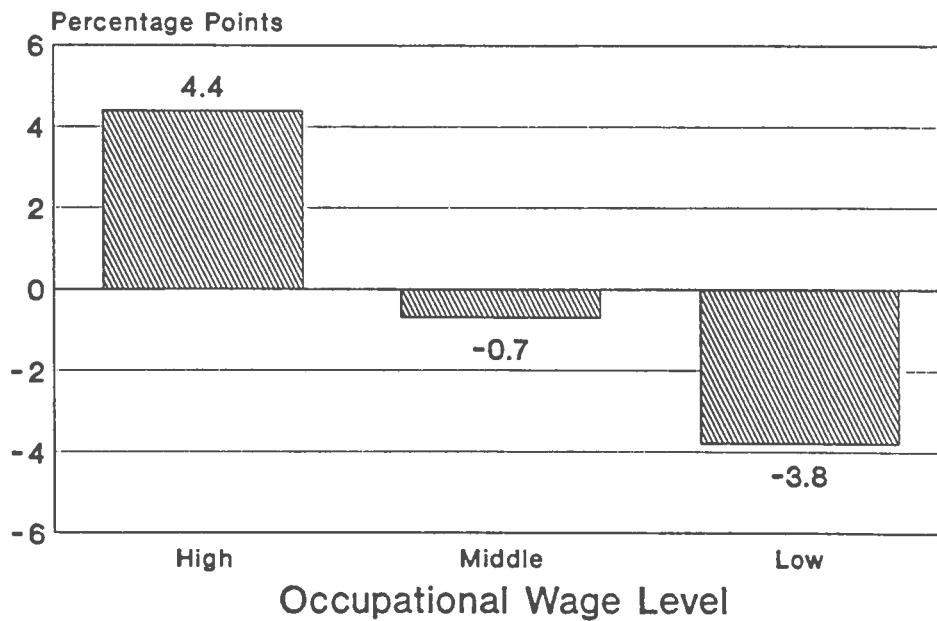


Figure 27
CHANGE IN SHARE BY OCCUPAT. WAGE LEVEL
Business Services
Bay Area 1981 - 1987



Retail Trades

The retail trades sector also greatly affects the occupational makeup of the Bay Area. It accounted for 19 percent of the region's employment in 1987 and grew by 20 percent from 1981 to 1987 (see Table 1). As Figures 28 and 29 indicate, the majority of the retail jobs (51 percent) are in the low-end occupations. It is also interesting to note that over 30 percent of retail jobs are service positions as compared to sales and related occupations, which only account for about 25 percent of retail jobs.

Unfortunately, the future trend in this sector does not look very positive. Retail trades are growing primarily in the low-wage occupations (see Figures 30 and 31) at the expense of mid-wage occupations. The low-end occupations also had the majority of all new jobs created in the retail trades (57 percent). Average payroll per employee dropped by almost 6 percent, from \$14,868 in 1981 to \$14,054 in 1987 (see Table 1).

Conclusions

The changing structure of the Bay Area economy does seem to be causing job growth to occur in a bifurcated manner. From the previous chapter, we see that the trend is projected to continue through 1995. Production jobs are expected to decline and professional, technical, and service occupations are projected to increase. These changes have potentially dire implications for the social environment that Bay Area residents will be facing in the future. These implications are examined in more detail later in this report.

D. Firm-Size Analysis

To further explore the nature of job development in the Bay Area, we conducted a firm-size analysis, using establishment data contained in County Business Patterns. We based our assumptions on the recent literature defining the difference in the quality of jobs in both large and small firms. These assumptions include: (1) large employers offer much higher wages than small employers, (2) large employers offer much better benefits than do smaller firms, (3) the jobs produced by large firms offer greater job security, and, finally, (4) working conditions tend on the whole to be better in large firms (Brown, Hamilton, and Medoff, 1990). In our analysis we used the cutoffs for large and small firms typically used in the literature: under 100 employees for small firms, and at least 500 employees for large.

Figure 28
SHARE OF EMPLOYMENT BY OCCUPATION
 Retail Trades
 Bay Area 1987

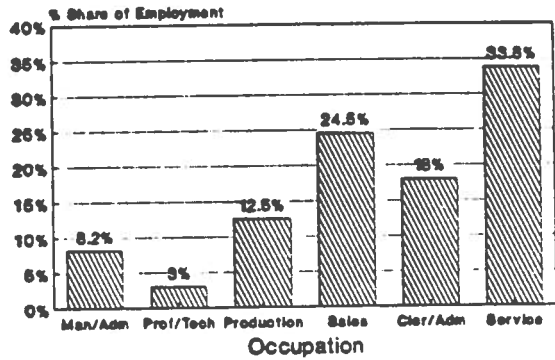


Figure 29
SHARE OF EMP BY OCCUPATIONAL WAGE LEVEL
 Retail Trades
 Bay Area 1987

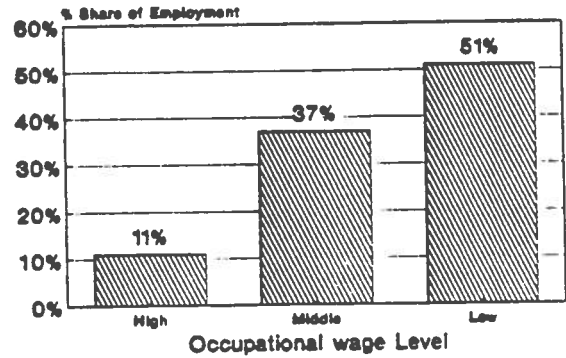


Figure 30
CHANGE IN SHARE BY OCCUPAT. WAGE LEVEL
 Retail Trades
 Bay Area 1981 - 1987

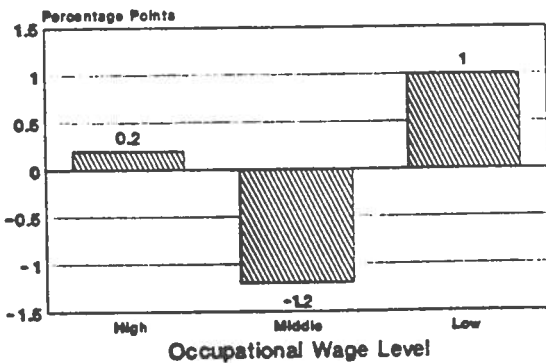
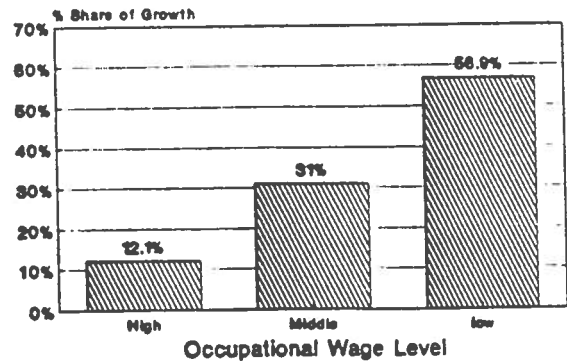


Figure 31
SHARE OF GROWTH BY OCCUPAT. WAGE LEVEL
 Retail Trades
 Bay Area 1981 - 1987



Source: Appendix

Do large employers offer higher wages than small employers? Table 8 shows that the higher-paid industries of manufacturing, transportation/public utilities, and wholesale trade tend to have the greater share of larger firms, particularly when looking only at firm size of greater than 100 employees. Although this comparison does not absolutely confirm the argument, there is some slight correlation between higher-paid industries and number of larger firms in the Bay Area. This is particularly true of manufacturing, with the greatest share (7 percent) of firms employing more than 100 employees.

Have large firms or small firms accounted for a greater share of new employment? To answer this, we analyzed the change in the share of large and small firms for both the 100-employee and 500-employee categories for the period from 1981 to 1987. Comparing shares would account for the effect caused by the higher number of small-firm startups as compared to those of large firms. Table 9 indicates that the employment share of large firms has decreased for all the industrial sectors. This change is due primarily to manufacturing, in which companies of more than 100 employees lost 1.5 percentage points of their share, and those of 500 and more lost .4 of a percentage point.

Based on the assumptions laid out above, we can infer that economic restructuring and the resulting workforce bifurcation have a negative effect on the quality of many Bay Area jobs. If employment is increasing and the share, or in some cases the actual number, of large firms is decreasing, then fewer employees are enjoying the benefits, pay, and job security historically provided by larger firms.

E. Implications of Structural Change

Introduction

We have documented major structural changes occurring in the Bay Area's economy. Middle-income jobs are being replaced by both jobs in the high- and low-paying sectors. Certain industries, such as manufacturing, are becoming higher-paying while the numbers employed in other lower-paying sectors, such as services and retail trade, are swelling. Finally, the number of large firms is decreasing in proportion to smaller ones, resulting in jobs which are less stable and provide fewer benefits. These changes in the economy raise a number of serious implications for the Bay Area's long-term economic viability and its social structure.

Economic Viability

As mentioned previously, much of the underlying cause for the changing employment structure is related to industrial restructuring, which is occurring at the national level and even globally. Companies are searching for different geographic labor markets, often for various segments of production.

TABLE 8: AVERAGE PAYROLL AND ESTABLISHMENT DATA, BAY AREA 1987

INDUSTRIAL SECTOR	SIC CODE	EMP SHARE	AVG PAYROLL (1988\$)	TOTAL FIRMS	PCT OF TOTAL FIRM FIRM SIZE	
					100+	500+
Total			25,963	164,725	2.06%	0.25%
All Manufacturing Industries	19	19.8%	34,099	10,863	7.01%	1.28%
Transportation and Public Utilities	40	7.1%	32,050	5,499	4.35%	0.69%
Wholesale Trade	50	7.5%	31,702	12,370	2.08%	0.19%
Contract Construction	15	5.7%	31,402	13,851	0.99%	0.07%
Finance, Insurance, and Real Estate Services	60	9.3%	29,286	17,933	1.89%	0.22%
Agricultural Services, Forestry, Fisheries	70	30.1%	23,314	60,110	1.83%	0.22%
Retail Trade	7	0.6%	15,910	2,155	0.32%	0.05%
	52	19.3%	14,054	36,426	1.47%	0.06%

SOURCE: County Business Patterns, 1981, 1987, U.S. Dept. of Commerce, Bureau of the Census

TABLE 9: CHANGE IN NUMBER OF ESTABLISHMENTS BY SIZE BAY AREA 1981 - 1987

Industry	CHANGE IN SHARE		% CHANGE OF ESTABLISHMENTS		% CHANGE TOT EST
	100+	500+	100+	500+	
Total	-0.182%	-0.028%	23.08%	20.18%	33.99%
Agricultural Services, Forestry, Fisheries	-0.106%	0.046%	16.67%	100.00%	54.59%
Contract Construction	-0.411%	-0.073%	9.60%	-23.08%	55.11%
All Manufacturing Industries	-1.544%	-0.387%	0.93%	-5.44%	23.15%
High-Tech manufacturing	-1.594%	-0.938%	6.18%	-13.00%	23.70%
Transportation and Public Utilities	-2.942%	-0.045%	-22.15%	22.58%	30.56%
Wholesale Trade	0.334%	0.089%	58.64%	155.56%	33.15%
Retail trade	0.150%	0.013%	39.32%	61.54%	25.09%
Finance, Insurance, and Real Estate Services	0.101%	-0.050%	40.66%	8.33%	33.14%
	-0.036%	0.007%	44.37%	51.72%	47.23%

Source: County Business Patterns, 1981, 1987, U.S. Department of the Census

While this has caused a tremendous amount of inequality with respect to labor markets and wages, this has not necessarily been detrimental for business. In fact, during the years of 1982 through 1986, American companies experienced a 92 percent increase in profits (Harrison and Bluestone, 1986).

Workforce bifurcation may, however, be damaging to the region in the long run. A polarized labor force limits the flexibility of the region's industries. It may reduce the Bay Area comparative advantages over other regions, if it ends up attracting and maintaining primarily businesses requiring either low-skilled service workers or high-skilled (and costly) professional and technical employees. Eventually, this could lead to declining economic diversity, making the economy more vulnerable to business cycle downturns in specific industrial sectors. In addition, if a genuinely diverse and broadly skilled labor pool is required to compete within the world economy, the Bay Area and indeed the country will be at a disadvantage.

The continuing loss of middle-income jobs also means a loss of middle-income households, traditionally the mainstay of the tax base in the Bay Area. The fiscal problems of local governments, which are already experiencing a strain on their finances due to Proposition 13, could be exacerbated as the middle-income tax base declines and as lower-income households, who may require additional public assistance, increase. With greater demand and declining revenues, local jurisdictions may be forced to forego maintenance and replacement of aging infrastructure. This could further endanger the future economic competitiveness of the region as business firms look for locations with fewer fiscal problems.

Social Structure

The most important impacts of these changes are on the residents of the region. One of our primary concerns should be on how a bifurcated workforce will affect the predominantly middle-class nature of our society, which has been a healthy and stabilizing economic factor.

Since wages are the main determinant of household income, we can assume that underlying gaps in the distribution of wages will strongly influence inequality in household income. As these widen, bifurcated job growth could lead to an economically polarized society in which skilled professionals and technicians will be earning the major portion of the region's income, while a significant number of families and individuals will be living at near- and below-poverty levels.

These structural changes not only have an impact on wages but also on the type and quality of the jobs opening up in the Bay Area. The trend in employment growth characterized by high-paying jobs requiring specially trained and highly educated workers and low-paying, low-skilled

service and retail jobs can create an inflexible employment structure. The continued loss of the traditional mid-level employment sectors, where workers have an opportunity for upward mobility, can lead to a permanent underclass of workers. Without the training and education required for the higher-paying jobs, Bay Area residents concentrated in low-end jobs have little chance of improving their socio-economic status and keeping up with the high cost of living in the Bay Area.

Declining opportunities for on-the-job mobility is evident in the occupational data and can also be inferred from the firm-size data explored earlier. The loss of employment in larger firms means that fewer employees are enjoying the pay, benefits, and job security found in larger, more stable firms.

Bifurcated job growth has greater impact on some ethnic groups more than others. As the recent 1990 census data has pointed out, the Bay Area is one of the most ethnically diverse regions in the country. While this should only have a positive effect on the general well-being of the area, if the benefits of growth are not evenly distributed among many diverse groups in the region, racial polarization and tensions will ensue. If we compare the changes in shares of occupation to the share each occupation has of the employment of each ethnic group, we can see that the changes are affecting certain minority groups, especially African-Americans and Latinos, in a disproportionate manner.

As Table 10 shows, African-Americans and Latinos historically have been most dependent on production and related occupations, the only occupational category which has been shrinking. As a result, members of these ethnic groups may be losing opportunities for middle-wage jobs. The fact that there is a relative absence of African-Americans and Latinos from the managerial/administrative and professional/technical occupations allows us to assume that these groups are not benefiting from the growth in these higher-paying occupational sectors.

The consequences of these changes are potentially catastrophic for some communities. Certain parts of the Bay Area have been traditional residential communities for mid-level, "blue-collar" workers. As more and more production and related jobs are replaced by low-end service occupations, some communities which have been primarily blue-collar are losing their entire economic base and experiencing increasing levels of poverty and destitution. Cities including Oakland and Richmond are disproportionately affected since they have more of these "pockets of poverty."

Changes in the regional economy have differential consequences for individual counties. The next sections explore the social consequences of a bifurcated workforce through an analysis of changing income distribution and levels of poverty.

TABLE 10: SHARE OF OCCUPATION BY ETHNICITY FOR CALIFORNIA 1980

OCCUPATION	WHITE	BLACK	LATINO	ASIAN	OTHER
MANAGERIAL AND ADMINISTRATIVE	13.91%	7.57%	5.59%	11.20%	8.10%
PROFESSIONAL AND TECHNICAL	18.61%	12.96%	7.05%	21.23%	11.79%
SALES AND RELATED	12.58%	7.16%	6.73%	8.92%	7.48%
PRODUCTION AND RELATED	24.58%	27.90%	48.26%	24.00%	33.37%
CLERICAL AND ADMINISTRATIVE	18.79%	24.55%	15.32%	20.62%	16.30%
SERVICE	11.54%	19.87%	17.04%	14.04%	22.96%
ALL OCCUPATIONS	100%	100%	100%	100%	100%

Source: U.S. Department of Commerce, 1980 Census

III. CHANGES IN INCOME AND SOCIAL WELFARE IN THE BAY AREA

A. Introduction

At the national level, several studies have examined the decline in the middle class. One such study was researched by Katherine Bradbury of the Federal Reserve Bank of Boston. Bradbury compared two years, 1973 and 1984, and looked at the change in the middle income categorized as an income level with the range of \$20,000 to 50,000. The number of Americans in this income category fell from 53 percent to 47.9 percent between 1973 and 1984.

Demographic explanations focus on the change in household composition, specifically the rise in single-parent households. Bradbury tested this particular argument and found no direct link between demographic changes and the decline of the middle class. She instead finds that the greatest "decline has been in the Middle Atlantic and Northeastern States . . . lending some credence to the view that the decline in the middle class is related to the decline in traditional manufacturing" (Harrison, 1986: 132).

Both nationally and locally, there is growing concern about the increasing gap between lower- and upper-income groups. The shift away from a manufacturing-based society towards a service and "information"-oriented industrial base raises questions about the effects on income distribution at the regional level. This is especially important given the importance of the high-tech and services sectors in the Bay Area economy. Bay Area industries already show a bifurcated income distribution based on growth among upper-and lower-income occupations.

High-tech industry and the "information economy" have contributed to the consistent growth of upper-income wage-earners; managerial, professional, and scientific occupations now make up one quarter of the labor force. Not all of the remaining three-quarters of the labor force, however, have kept pace with the upper-income groups. The effects of income inequality in the region are reflected in differences among both ethnic and county populations. In the Bay Area, this may lead to increased political differences within and between counties related to growth and the direction of the economy (Brady & Yang, 1988).

The effects of economic restructuring in the Bay Area can be observed in the patterns of income distribution and poverty levels across the nine counties. The first part of this section relies on income tax data to assess changes in income distribution. The second part discusses poverty rates and their implications. Finally, we consider the political and social implications of growing inequality for the region.

B. Trends in Income Distribution

By nearly all aggregate measures, Bay Area residents and Californians in general have significantly higher incomes than the rest of the nation (Table 11). California's income advantage over the nation is consistently 14 percent to 18 percent higher for all categories of median, mean, and per capita personal income (CCSCE, 1990). The Bay Area has an even higher advantage than the state as a whole. (Definitions of the types of income measures can be found in the Appendix.)

Median household income provides a crude measure of income distribution, with half of all households falling below the median figure. Median household income can be calculated on three different bases: money income, money income adjusted for underreporting, and total personal income (see Table 12). In all three cases, the median household income for the Bay Area is higher than the State of California. Average income levels are also higher for the Bay Area than for California as a whole in all three categories *inclusive of* ethnic minorities and all age groups.

However, there are distinct differences among ethnic groups and across age groups, as Table 12 shows. In the Bay Area, median household incomes for four ethnic groups show Latinos and African-Americans to have significantly lower median household incomes throughout both the Bay Area and the state. Incomes also drop off sharply after \$54,000. These differences suggest that income and wealth are not equally distributed among Bay Area households (see Figure 32).

Per capita, median, and total personal income reflect broad income trends. However, they do not provide a very precise understanding of the income structure among households. In between census years, income distribution data is hard to come by and income tax data provides the best available picture of income distribution. The Association of Bay Area Government's (ABAG) report "Trends In Income: An Analysis of Income Tax Returns For San Francisco Bay Area Counties, 1978 and 1985" shows the following overall trends:⁴

- Growth in the number of people in the upper- and the lower-income categories
- Stagnation in the middle-income categories
- The highest growth in the lowest-income group having income levels between \$0 to \$23,999

Bay Area households show the highest growth in the lower- and upper-income groups and stagnation in the middle-income groups during the last decade. Both total and joint income tax

⁴The authors (Brady & Yang, 1988) note that the time period examined covers three economic cycles: rapid inflation from 1978 to 1981, strong growth from 1982 to 1983, and relative stagnation from 1984 to 1985. The San Francisco-Oakland Area Consumer Price Index was used to adjust income measures to 1985 constant dollars.

**TABLE 11: BAY AREA VERSUS CALIFORNIA
COMPARISON OF INCOME LEVELS**

	Measure of Income		
	Median Money Income Per Household	Mean Personal Income Per Household	Per Capita Personal Income
Bay Area	\$37,370	\$42,962	\$50,132
California	\$31,690	\$51,572	\$17,756
United States	\$27,223	\$43,785	\$16,489

Source: Center for the Continuing Study of the California Economy, April 1990 Repo

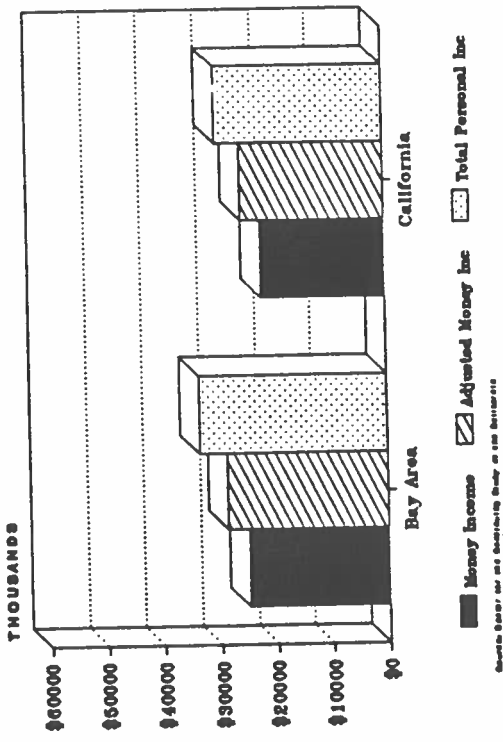
**TABLE 12: BAY AREA VS CALIFORNIA
HOUSEHOLD INCOME BY AGE & ETHNICITY, 1989**

Age Group	Measure of Income					
	Money Income Census Definition		Adjusted Money Income		Total Personal Income Per HH	
	Bay Area	California	Bay Area	California	Bay Area	California
15 to 24	\$22,612	\$20,195	\$26,047	\$23,262	\$30,394	\$27,145
25 to 34	37,545	33,532	43,248	38,625	50,466	45,071
35 to 44	48,742	43,532	56,146	50,144	65,516	58,513
45 to 54	52,325	46,731	60,272	53,829	70,332	62,814
55 to 64	38,402	34,297	44,235	39,506	51,618	46,100
65 +	\$20,005	\$17,867	\$23,044	\$20,580	\$26,890	\$24,015
Ethnicity						
Latino	\$27,370	\$24,445	\$31,528	\$28,157	\$36,789	\$32,857
Non-Latino White	41,381	36,957	47,666	42,571	55,621	49,676
African-American	24,924	22,260	28,710	25,641	33,502	29,921
Asian & Other	40,950	36,573	47,170	42,128	55,043	49,159
Total Households	\$37,297	\$33,310	\$42,962	\$38,369	\$50,132	\$44,773

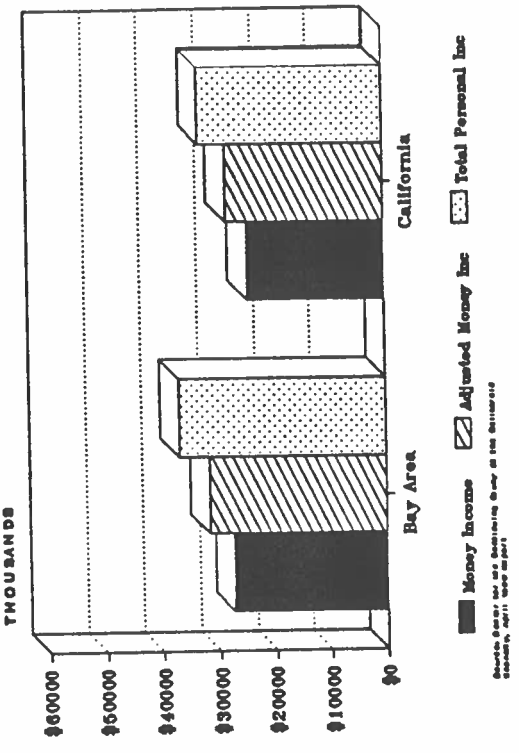
Source: Center for the Continuing Study of the California Economy, April 1990 Report

Figure 32

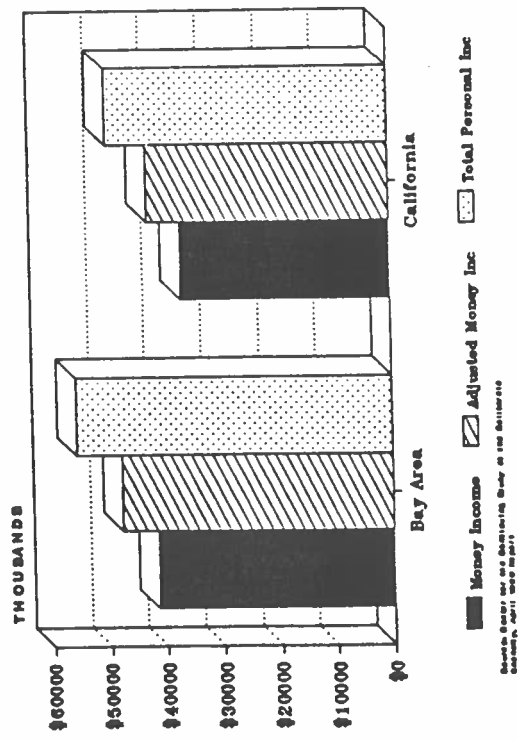
COMPARISON OF MEDIAN HOUSEHOLD INCOME MEASURES FOR AFRICAN-AMERICANS



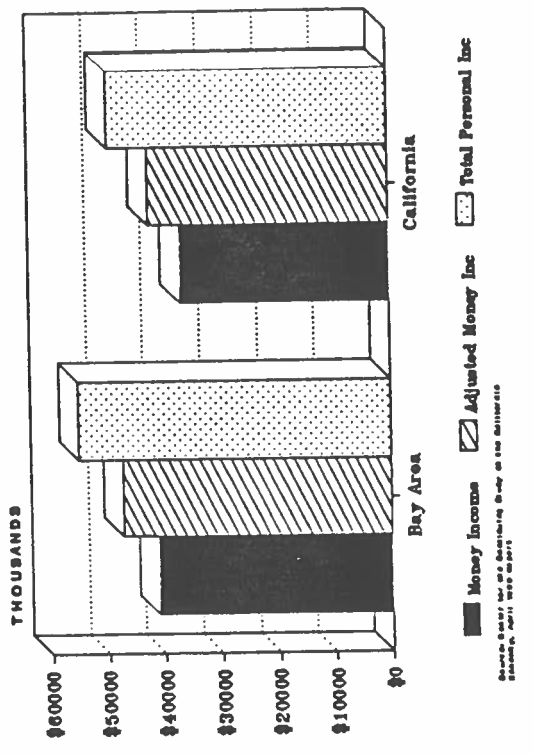
COMPARISON OF MEDIAN HOUSEHOLD INCOMES THREE INCOME MEASURE - FOR LATINOS



COMPARISON OF MEDIAN HOUSEHOLD INCOMES THREE INCOME MEASURE - NON-LATINOS WHITES



COMPARISON OF MEDIAN HOUSEHOLD INCOMES THREE INCOME MEASURES - ASIAN & OTHER



returns were analyzed using six income categories. Figures 33 and 34 show that there has been a bifurcated growth in incomes, with growth in the upper- and lower-income categories, and stagnation in the middle-income categories. Table 13 illustrates the rate of change in the total number of income tax returns. The middle-income categories (the \$24,000 to \$49,999 group) grew 15.4 percent and 5.2 percent ; the lower-income categories (\$0 to 23,999) grew 28.9 percent and 21.9 percent; and the higher-income categories (\$50,000 and above) grew by 15.5 percent and 25.1 percent.

Joint returns provide an even more dramatic illustration of these trends (see Table 14 and Figure 34). Joint returns are filed by married couples and so include many two-income households. Joint returns in the \$24,000 to \$35,999 per year range increased only 1.9 percent, and the number of joint returns in the \$35,000 to \$49,999 range actually declined by 4.5 percent. For the same period, the \$0 to \$14,000 category grew the most, increasing 36.7 percent in the 7-year period.

Income Distribution by Counties

How do these regional trends appear at the county level? To compare income distributions at the county level, income groups were collapsed into three income ranges:

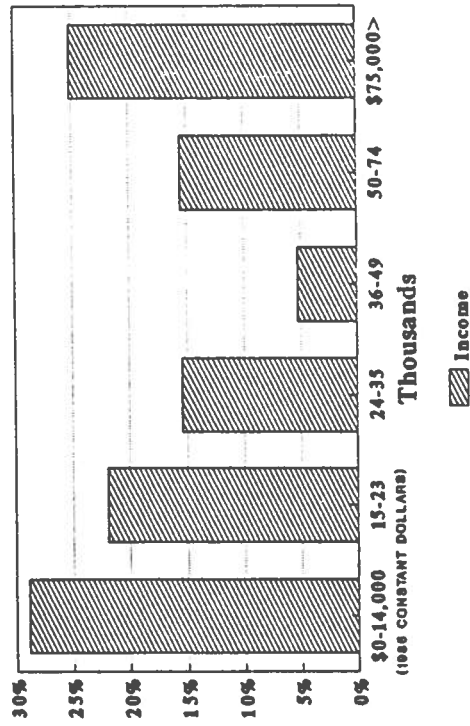
1. Lower-income: tax returns from \$0-\$23,999
2. Middle-income: tax returns between \$24,000 and \$49,000
3. High-income: tax returns at \$50,000 and above.

Figures 35 and 36 show the counties ranked by the highest percentage change in the lowest-income category. For the total number of taxable returns between 1978 and 1985, Solano, Sonoma, Contra Costa, Napa, and Alameda had the highest percentage change in the lower-income category. Solano and Sonoma also had the highest rate of change in the upper-income category. Marin has the highest percentage of persons in the highest-income category in the \$75,000-and-over category at 22 percent of its total population for the 1978 year and 21 percent for the 1985 year. Marin County also has the greatest difference between average and median adjusted gross income (complete tables showing the total number of tax returns for all returns and joint returns is provided in Tables A7 and A8 in the Appendix) (Brady & Yang, 1988).

Some growth in the higher-income group occurred in Contra Costa during this period because of an influx of managerial and professional residents into the central part of the county, especially Orinda, Lafayette, Walnut Creek, Danville, and San Ramon. Santa Clara showed the most even distribution in income, relative to the counties; however, there was still a gap in the middle class. (Brady & Yang, 1988: 3).

Figure 33

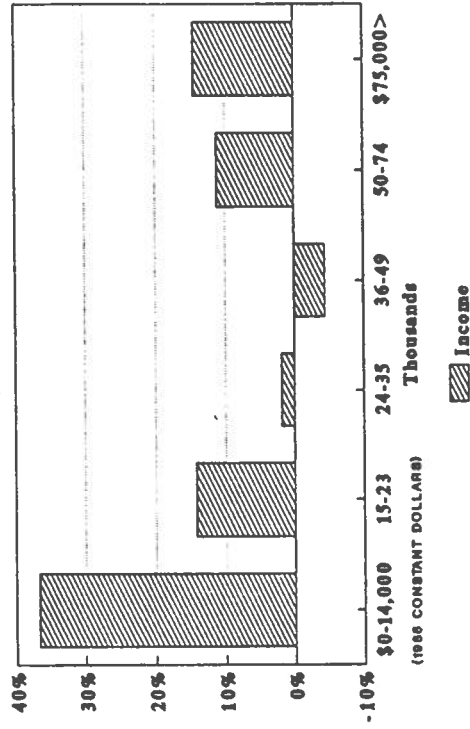
**TOTAL NUMBER OF ALL INCOME TAX RETURNS
BY INCOME RANGE, % CHANGE 1978-1985,
BAY AREA**



Source: ABAG, Trends in Income, 1988

Figure 34

**TOTAL NUMBER OF JOINT INCOME TAX RETURNS
PERCENTAGE CHANGE BETWEEN 1978-85
BAY AREA**



Source: ABAG, Trends in Income, 1988

**TABLE 13: THE BAY AREA
TOTAL NUMBER OF TAX RETURNS FOR 1978 AND 1985**

Income Class (Constant 1985\$)	1978	1985	% Change
\$0-14,000	672,967	867,715	28.9%
\$14,000-24,000	409,992	499,744	21.9%
\$24,000-36,000	372,720	430,128	15.4%
\$36,000-50,000	300,246	315,758	5.2%
\$50,000-75,000	215,349	248,629	15.5%
\$75,000>	99,392	124,314	25.1%
Total	2,070,666	2,486,288	20.1%

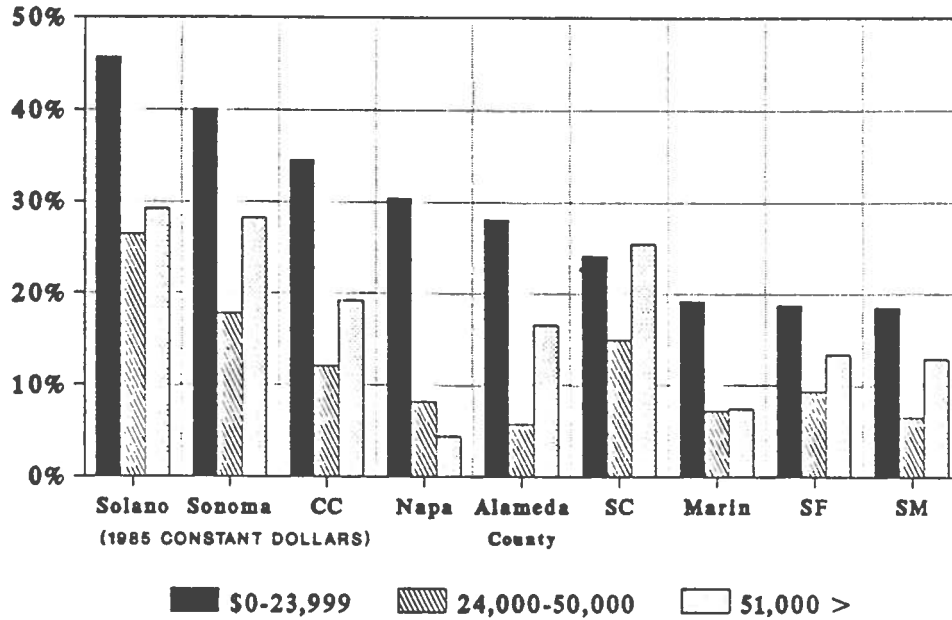
Source: Association of Bay Area Governments, "Trends In Income: An Analysis of Income Tax Returns For San Francisco Bay Area Counties 1978-1985

**TABLE 14: TOTAL NUMBER OF JOINT TAX RETURNS
THE BAY AREA
1978 AND 1985**

Income Class (Constant 1985\$)	1978	1985	% Change
\$0-14,000	98114	134149	36.7%
\$14,000-24,000	121771	138885	14.1%
\$24,000-36,000	196134	199627	1.8%
\$36,000-50,000	240997	230102	-4.5%
\$50,000-75,000	196322	218056	11.1%
\$75,000>	44769	51168	14.3%
Total	942498	1029540	9.2%

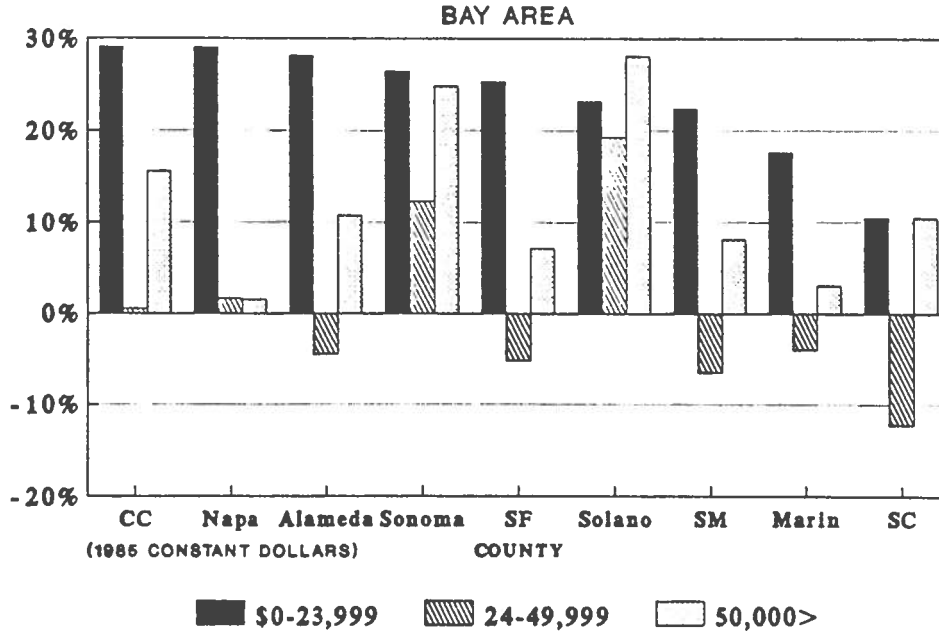
Source: Association of Bay Area Governments, "Trends In Income: An Analysis of Income Tax Returns For San Francisco Bay Area Counties 1978-1985

Figure 35
TOTAL NUMBER OF TAX RETURNS BY COUNTY
PERCENTAGE CHANGE BETWEEN 1978-1985
BAY AREA



Source: ABAG, Income Trends, 1988

Figure 36
TOTAL NUMBER OF JOINT INCOME TAX
PERCENTAGE CHANGE BETWEEN 1978-1985
BAY AREA



Source: ABAG, Income Trends, 1988

Figures 37 and 38 show income category shares for each county. The counties are ranked by the proportion of incomes in the lower-income category of \$0 to \$23,999 for both 1978 and 1985. Although the rate of change varied from 1978 to 1985 for the nine counties, the counties maintained the same ranking. San Francisco had the highest number of people reporting incomes in the lower bracket, with 63 percent in 1978 and 64 percent in 1985. Sonoma ranked second for both years at 56 percent in 1978 and 59 percent in 1985. Napa, Alameda, and Solano came in third, fourth, and fifth, respectively, for both years. In 1985 Santa Clara, San Mateo, and Marin had the same percent of their total population in the lower-income category. They were also the counties with the highest percentage of their populations in the middle- and upper-income levels.

C. Trends in Poverty Levels

With the Bay Area's increased economic dependence on high-technology and related service industries, sharp changes in income distribution have increased the number of people who live near or below poverty levels. The term "poverty" refers to a complicated web of physical, social, economic, cultural, and psychological conditions. For the purposes of this report, the statistical indicator for poverty will only reflect the Bureau of Census definition of economic poverty based on the receipt of money before taxes.

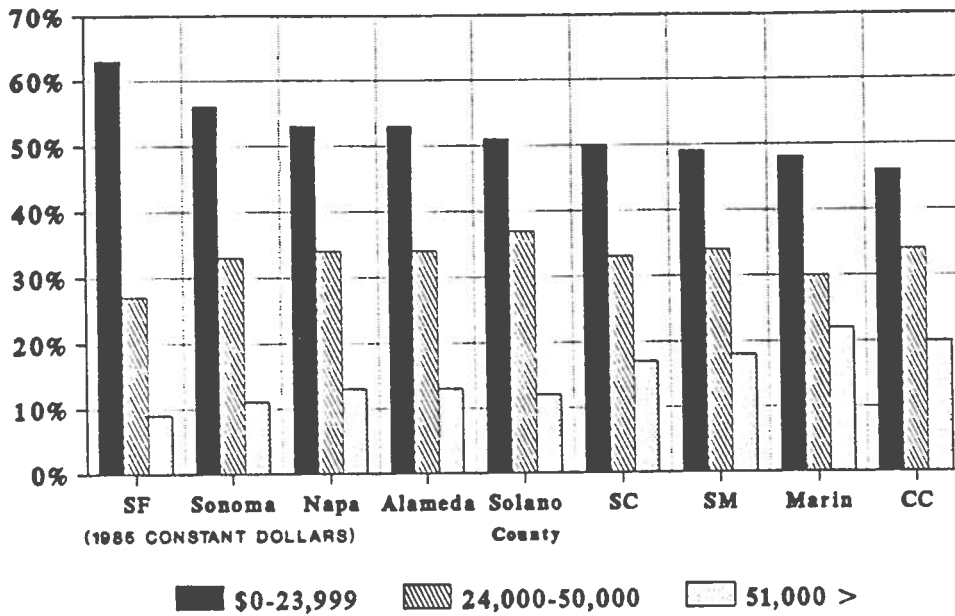
The original definition for poverty was established in 1961 by the U.S. Department of Agriculture. It was determined by a survey revealing that families of three or more persons spent one-third of their income on food. The poverty threshold was subsequently set at three times the cost of a basic economy food plan (Bureau of the Census, 1980). The national average poverty threshold for a family of four persons was \$7,412 in 1980 and \$12,675 in 1990⁵

Unfortunately, unlike other demographic data, poverty statistics that allow for regional analysis are extremely difficult to obtain between census years. A recent study by the National Economic Development and Law Center attempting to document low-income communities in the Bay Area found nothing useable beyond the 1980 census data. Since the 1990 data on incomes were not available at this writing, this analysis must also rely on historical figures to gauge what has been happening in the past decade to the region's most vulnerable and economically marginal residents.

⁵Persons who are excluded from poverty indicators are:

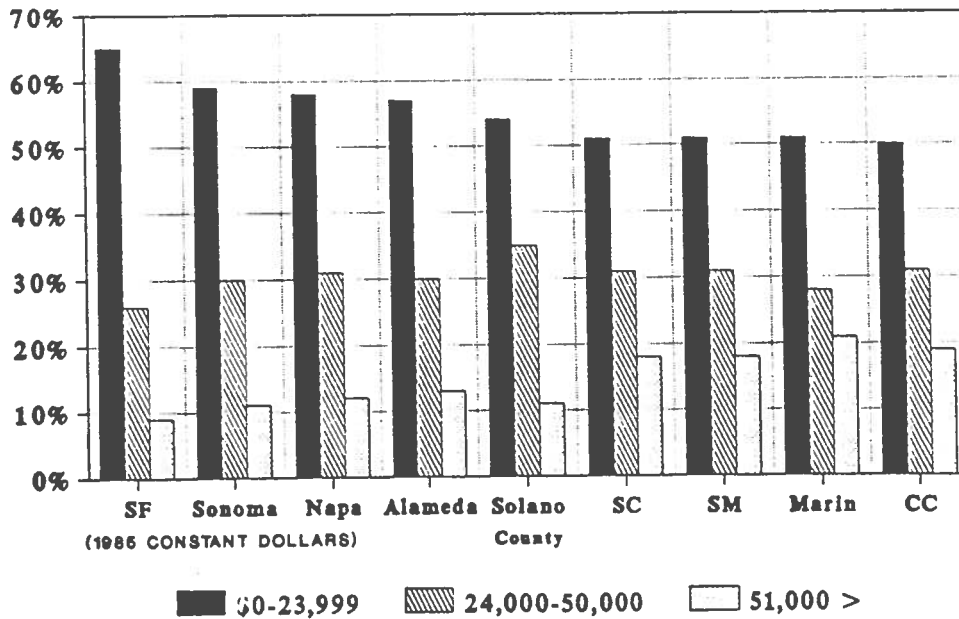
1. Inmates of institutions
2. Persons in military group quarters
3. Persons in college dormitories
4. Unrelated individuals under 15 years old

Figure 37
TOTAL NUMBER OF TAX RETURNS
PERCENT INCOME DISTRIBUTION, 1978
BAY AREA COUNTIES



Source: ABAG, Income Trends, 1988

Figure 38
TOTAL NUMBER OF TAX RETURNS
PERCENT INCOME DISTRIBUTION, 1985
BAY AREA COUNTIES



Source: ABAG, Income Trends, 1988

By and large, the Bay Area poverty rate has not changed substantially over the past 20 years. In 1980, the Bay Area regional average poverty rate was 8.9 percent, a slight decrease of less than 1 percent between 1969 and 1979. Most counties experienced only a slight change in levels of poverty during this time (see Figures 39 and 40).

Small declines in the poverty rate mask overall increases in the number of people in need, however. For example, Marin County's slight .4 percent increase in poverty from 6.6 percent of all persons in poverty in 1970 to 7 percent in 1980 hides an actual 15 percent increase in the number of persons in poverty. This increase from 13,090 to 15,002 is not accounted for by an 8 percent population increase, as Table 15 shows.

Santa Clara County registered a decrease in the percent of persons in poverty, from 7.6 percent in 1970 to 7.1 percent in 1980. However, this .5 percent decline fails to recognize the 14 percent increase of people in need in this county, as shown in Figure 41. In 1970, 79,170 Santa Clara residents were living in poverty; by 1980 the census counted 90,321 persons. Although Santa Clara County experienced a significant 21 percent population increase, the poverty rate decline is clearly a poor indicator of community need. Sonoma, Solano, Napa, Santa Clara, and Alameda counties all registered a decline in poverty rate and an increase in actual numbers of persons in poverty.

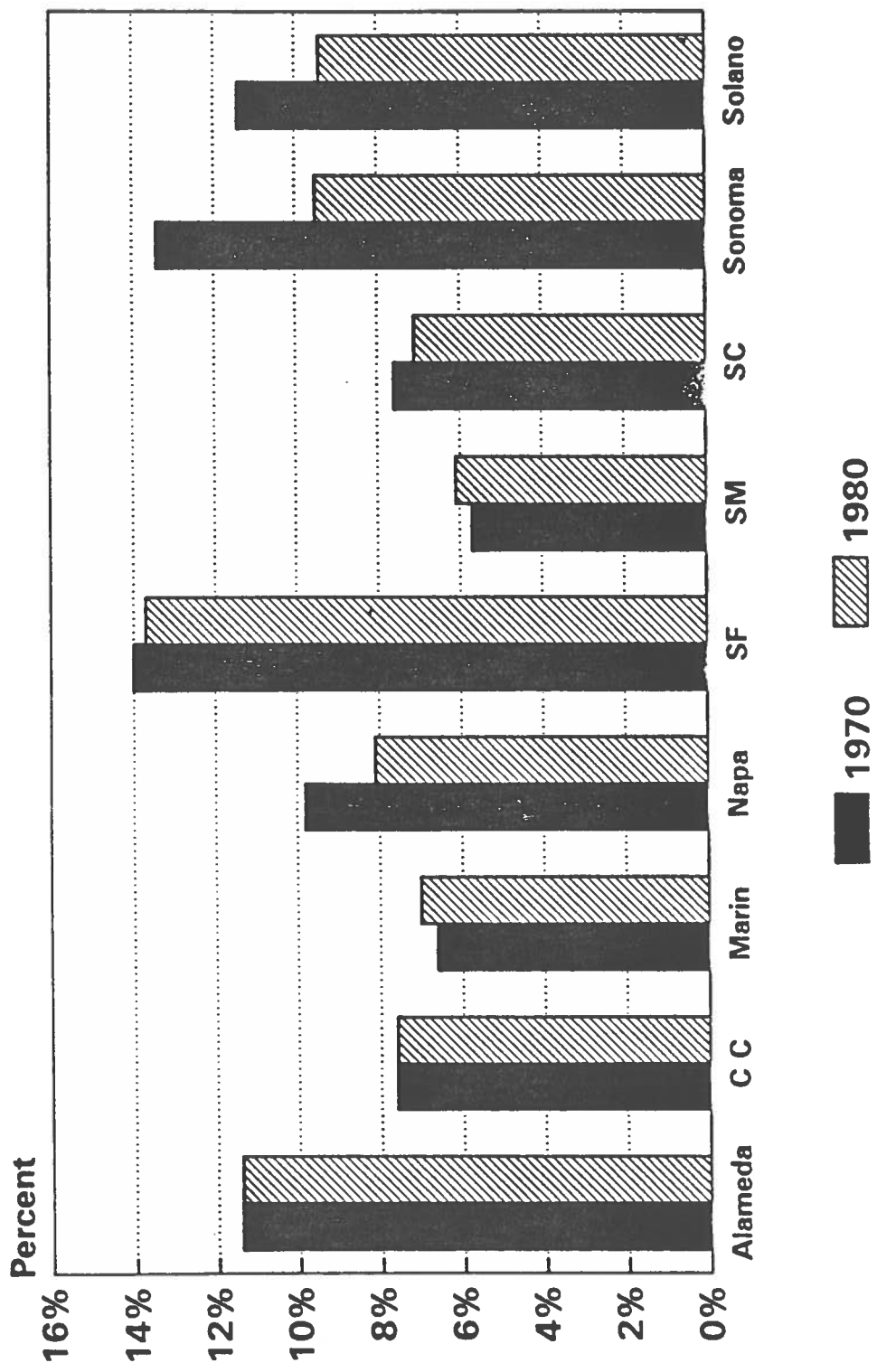
Contra Costa County's poverty rate remained at 7.6 percent between 1970 and 1980, but the county actually had a 17 percent increase in the number of persons in poverty. As Figure 41 demonstrates, only San Francisco, the county with the highest percent of all persons in poverty in the Bay Area, demonstrated a decrease in percent of persons in poverty and a corresponding decrease in actual number of persons in poverty. This anomaly may be partially explained by its unique status of being the only Bay Area county to experience a population decrease, as shown in Table 15.

Although the Bay Area poverty rate has been consistently below the state and national average, optimistic comparisons may be premature. Poverty thresholds are by definition national averages, adjusted each year for inflation by using the Consumer Price Index. They fail to take cost-of-living variations into consideration by region, city size, and consumer characteristics. As Table 16 indicates, differences among regions and city size can create as much as a 50 percent increase in expenses for a family of four. Cost-of-living in the Bay Area is among the highest in the nation.

To employ poverty statistics more practically (in order to recognize cost of living variations), many researchers use alternate income levels ranging between 125 percent to 200 percent of poverty. These levels are established by multiplying the income cutoffs at the poverty threshold by the

Figure 39

POVERTY FOR ALL PERSONS, BAY AREA % OF PERSONS BELOW THE POVERTY LEVEL 1970 & 1980

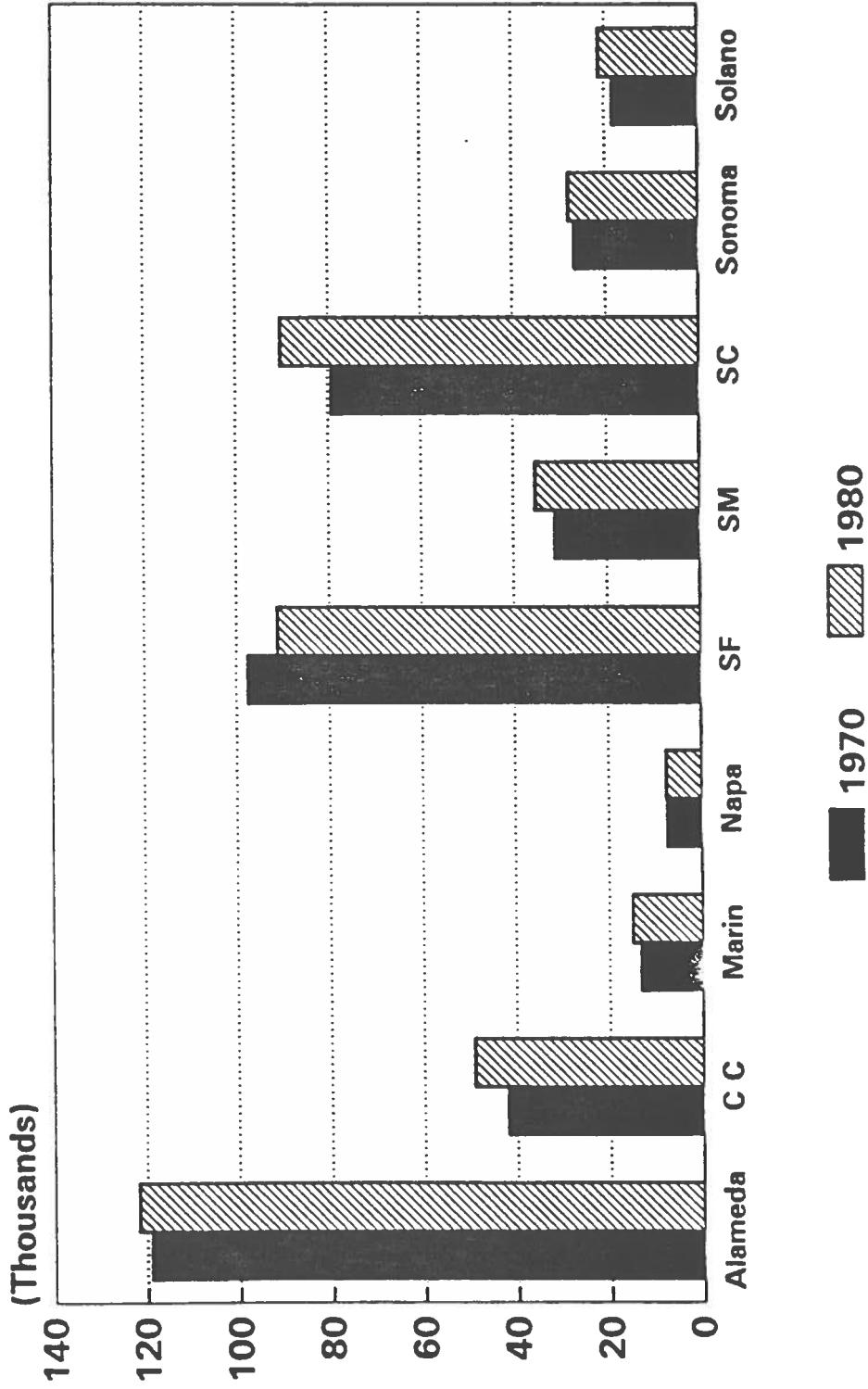


Source: Bureau of the Census

Figure 40

POVERTY FOR ALL PERSONS, BAY AREA # OF PERSONS BELOW THE POVERTY LEVEL

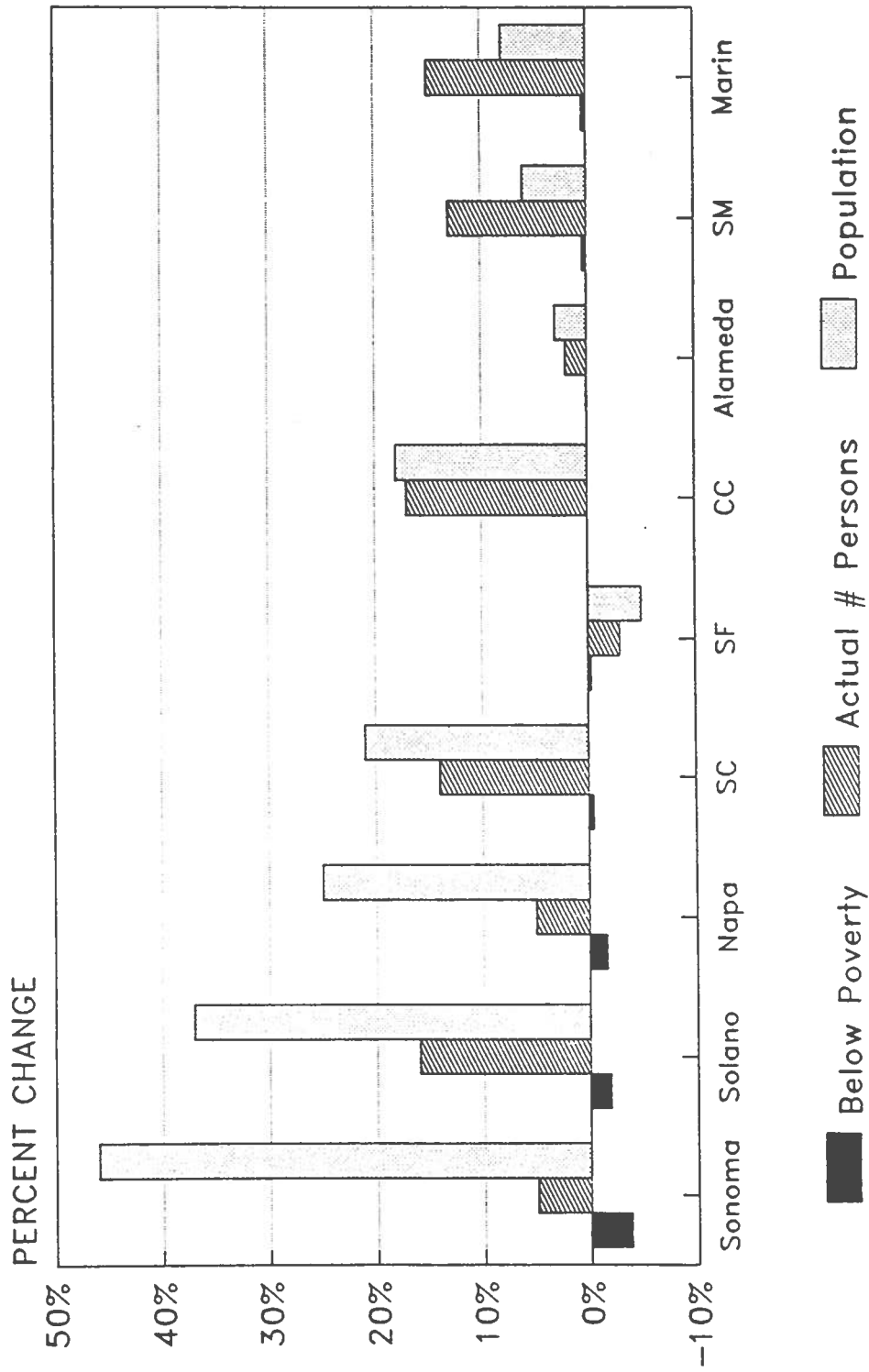
1970 & 1980



Source: Bureau of the Census

Figure 41

PERCENTAGE CHANGE IN POVERTY FOR ALL PERSONS IN BAY AREA, 1970 & 1980



Source: Bureau of the Census

TABLE 15: POPULATION OF BAY AREA COUNTIES*

COUNTY	1970	1980	CHANGE 1970-1980	
			NO.	% CHG
Alameda	1,073,000	1,109,400	36400	3.4%
Contra Costa	557,500	658,700	101200	18.2%
Marin	207,000	223,000	16000	7.7%
Napa	79,400	99,300	19900	25.1%
San Francisco	713,200	680,900	-32300	-4.5%
San Mateo	557,100	587,900	30800	5.5%
Santa Clara	1,072,600	1,299,700	227100	21.2%
Solano	172,500	237,400	64900	37.6%
Sonoma	206,500	301,400	94900	46.0%

*Total population as of July 1.

SOURCE: State of California, Department of Finance,
Demographic Research Unit

TABLE 16: REGIONAL COST OF LIVING
 (Geographic difference in the annual income
 a family of four needs to "get along," 1989)

	Average		Index**
	Weekly	Yearly*	
NATIONAL AVERAGE	\$419	\$21,800	100
REGION			
New England	\$471	\$24,500	112
Mid Atlantic	427	22,200	102
East Central	396	20,600	95
West Central	385	20,000	92
Southeast	426	22,200	102
Southwest	380	19,800	91
Rocky Mountains	381	19,800	91
Pacific Coast	469	24,400	112
CITY POPULATION			
1 million and over	\$495	\$25,700	118
500,000-999,999	381	19,800	91
50,000-499,999	440	22,900	105
2,500-49,999	343	17,800	82
Under 2,500/rural	338	17,600	81
METROPOLITAN AREA	\$449	\$23,200	107
Central cities	449	23,300	107
Suburbs	449	23,300	107
NONMETROPOLITAN AREA	\$337	\$17,500	80
NORTHEAST	\$460	\$23,900	110
Metropolitan	483	25,100	116
Nonmetropolitan	359	18,700	86
MIDWEST	\$392	\$20,400	94
Metropolitan	436	22,700	104
Nonmetropolitan	324	16,800	78
SOUTH	\$404	\$21,000	96
Metropolitan	430	22,400	103
Nonmetropolitan	344	17,900	82
WEST	\$440	\$22,900	105
Metropolitan	455	23,700	109
Nonmetropolitan	326	17,000	78

SOURCE: American Demographics, May 1989.

*Rounded to the nearest \$100.

**Relative to national average, based on weekly average.

appropriate factor. For example, in 1979 the average income cutoff at 125 percent of poverty was \$9,265 ($\$7,412 \times 1.25$) for a family of four persons.

The expanded income figures reflect a population "at-risk": economically disadvantaged persons who constitute both the poor and near-poor. Many households at 200 percent of poverty are at risk of falling below the poverty threshold. Unexpected expenses, job loss, or medical costs are typical stress catalysts which can rapidly shift working individuals and their families into economic poverty (see Figure 42).

In 1980, the Bay Area regional average poverty rate was 8.9 percent. The average income cutoff at 200 percent of poverty was \$7,372 ($\$3,686 \times 2.00$) for individuals. At 200 percent of poverty, 23.3 percent of the population lived at the economic margin. San Francisco, Alameda, Solano, and Sonoma had the greatest numbers of persons with incomes below \$7,372, with between one-third and one-quarter of their population at risk (see Figure 43). San Mateo and Marin had the fewest numbers of poor and near-poor, with less than 20 percent of their residents at risk.

The level of income needed to maintain a decent standard of living has risen in the 1980s, and the number of people under the critical threshold has increased. According to a recent article,

the average American family needs \$419 a week to meet expenses. This translates into a yearly income of \$21,800, which was 56 percent of the median income of a four-person family in 1988 (\$39,051). According to Census Bureau data from 1986, a family would need a pre-tax income of approximately \$26,675 to have \$21,800 left after taxes. More than one-third of American families had incomes below \$26,675 in 1988 (American Demographics, 1990).

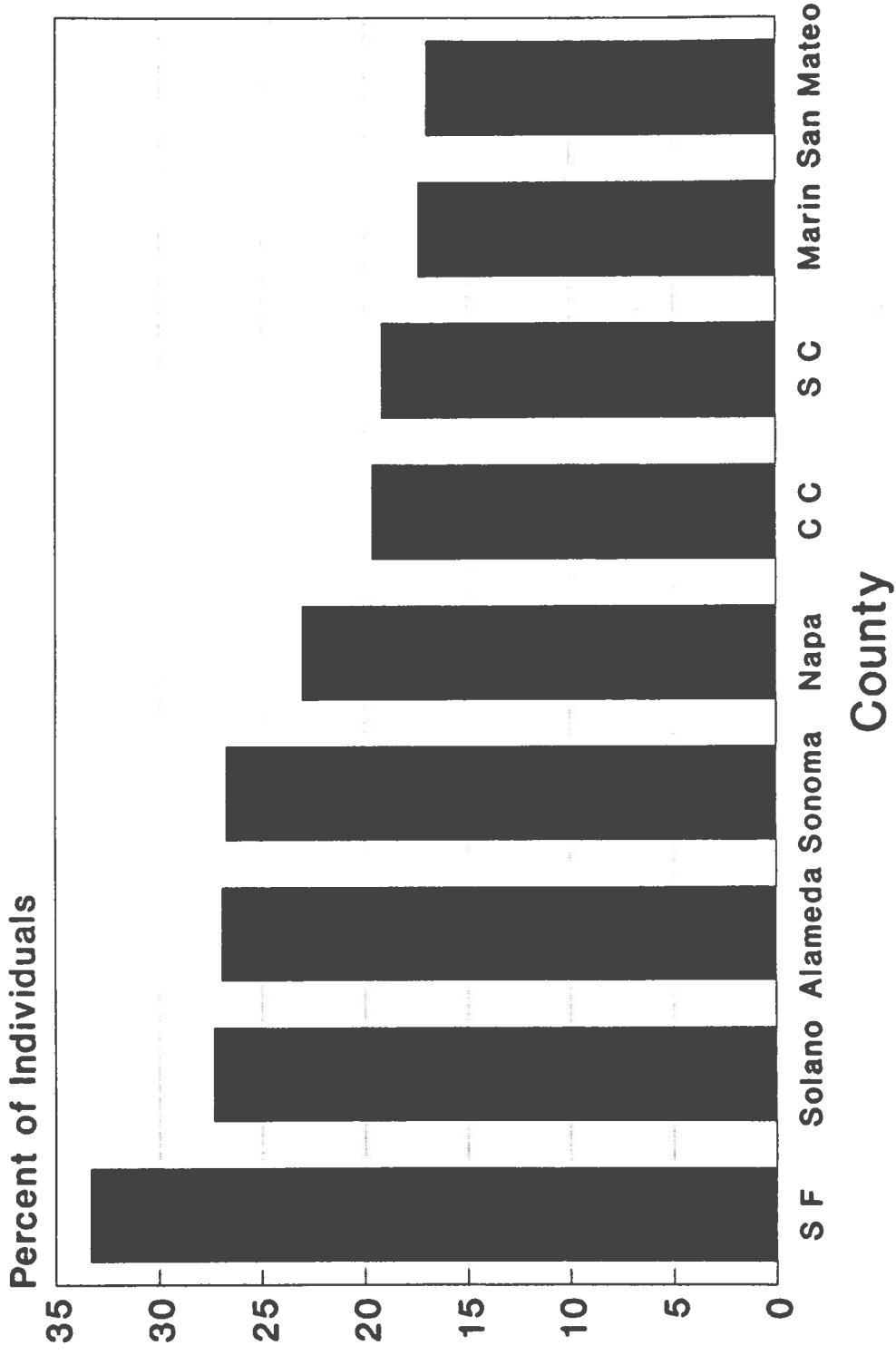
In the Bay Area, households making under \$25,000 were the fastest-growing segment of the population between 1978 and 1987.

It is not appropriate to congratulate ourselves in the Bay Area for "achieving" a slight decrease in poverty rates, when the numbers of persons economically in need and at risk are increasing throughout the region. Incremental shifts in rates do not reflect the social consequences of economic marginality or the shifts in the characteristics of poor people.

Many people are only on public assistance for a nine-month period; those who are transitionally poor are exceptionally vulnerable here in the Bay Area, because the cost of living (especially the cost of housing) and child care are very high. Many analysts believe that if the poverty index accurately reflected reality, the poverty rates would at least double in this country (Schacht, 1991).

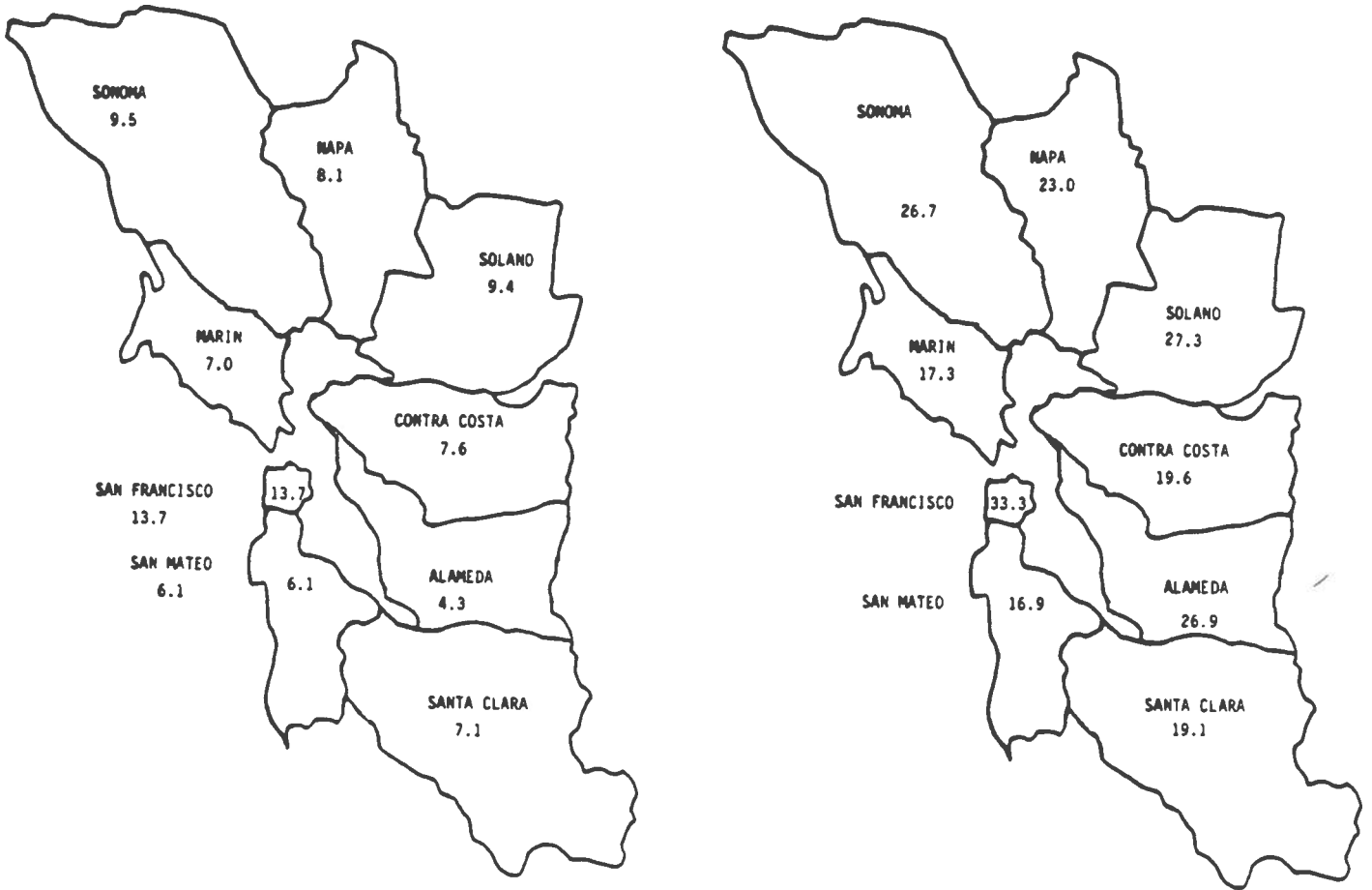
Figure 42

Population At Risk



Source: 1980 Census.
• \$3686 x 2.00 = \$7,372/year.

Figure 43



**PERCENT OF ALL PERSONS
BELOW POVERTY**

**PERCENT OF ALL PERSONS
AT 200% OF POVERTY**

BAY AREA, 1980

Both women and woman-headed families are a major portion of the population in poverty. Figures 44 and 45 clearly demonstrates a pattern of both indexes remaining significantly higher for men or families in poverty. Two-thirds of single mothers in California between the ages of 14-25 years are living in poverty. Where do these women come from? A review of social indicators suggest some possible relationships. In California, four out of five young women who become pregnant in high school drop out. Fourteen percent of the California high school class of 1983 dropped out due to pregnancy. The next two most-cited reasons for leaving high school are due to overage and employment.

The decision to prematurely terminate one's education is costly (*Facing the Challenge: A Profile of Poverty in California*, 1988). Employment opportunities are minimal and unemployment is a constant shadow, increasing economic vulnerability and increasing the potential for eventual reliance on public assistance. In the long run, high school dropouts and an undereducated labor force are clear harbingers of a growing body of social indicators that affect our quality of life in the Bay Area and demand our focused attention.

Concern regarding projected increases in poverty among ethnic minorities has also escalated in recent years. In the 1980 census, Hispanics ranked second behind whites in the absolute number of people in poverty by ethnicity (see Figure 46). According to statewide survey results from 1986, Hispanics led California with the highest percentage of people in poverty, constituting 42.2 percent of California's poor. In addition, Hispanics have the highest poverty incidence by ethnicity; one out of every four Hispanics lives in poverty in California.

IV. IMPLICATIONS AND CONCLUSIONS

Like the tip of an iceberg, slight shifts in poverty rates fail to capture the underlying scale of increasing human need in the population. This is not a matter of individual charity and good will; this is a matter of economic and community sustainability. A number of economists and political economists have argued the importance of this issue at the national level (Phillips, 1989; URPE, 1988). Several chapters in Robert Reich's book, *The Work of Nations*, are devoted to examining the implications of social inequality in America, which may be described as an emerging third world economy in a first world society (Reich, 1991).

The underlying levels of need have direct implications for local governments. The geographic expansion of the poor and near-poor in the Bay Area will require communities to offer a more extensive network of public aid programs than many counties, excluding San Francisco, are accustomed to providing. If Bay Area counties cannot adequately respond to need for health care, child care, job training, and housing subsidy, even more people are likely to fall below the poverty

Figure 44

Percent of Female-Headed Families in Poverty vs. Percent of Families in Poverty

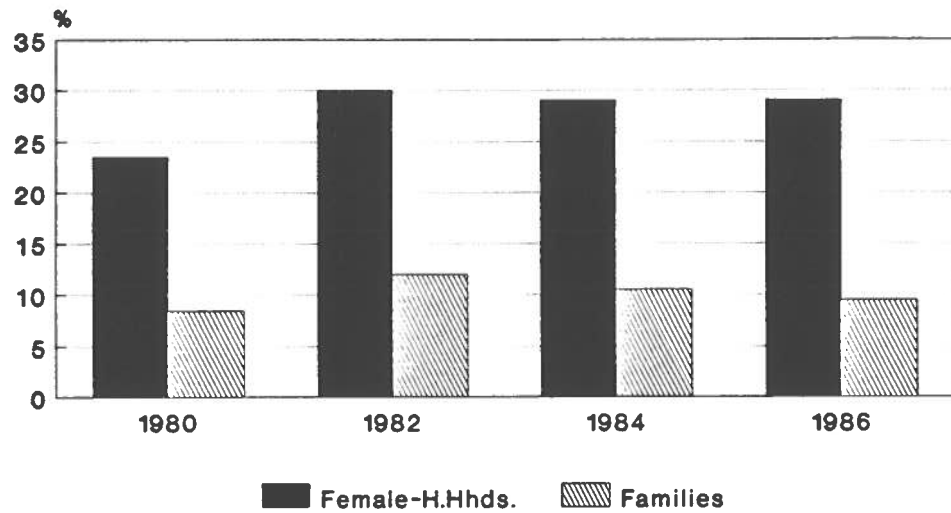
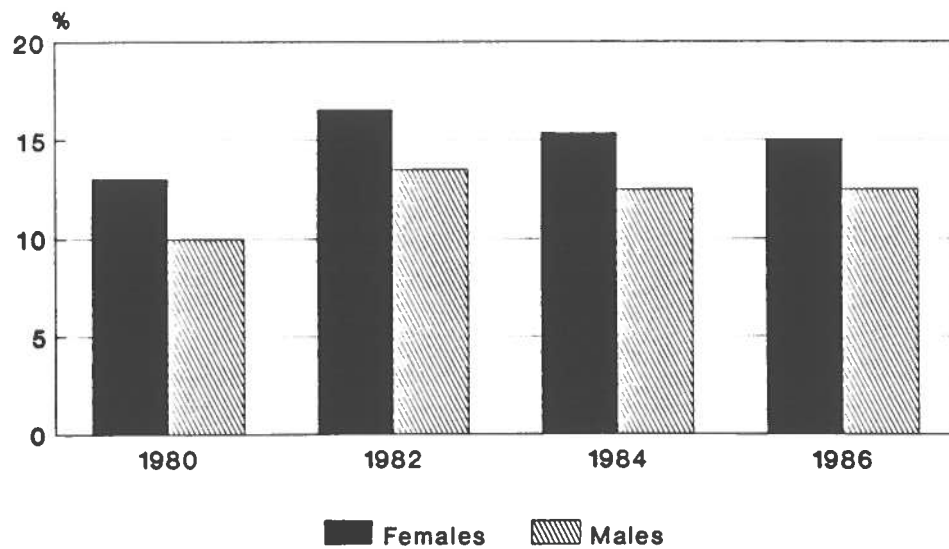


Figure 45

Percent of Females in Poverty vs. Percent of Males in Poverty



Source: California Current Population Survey

Figure 46

Californians Living in Poverty by Race & Ethnicity

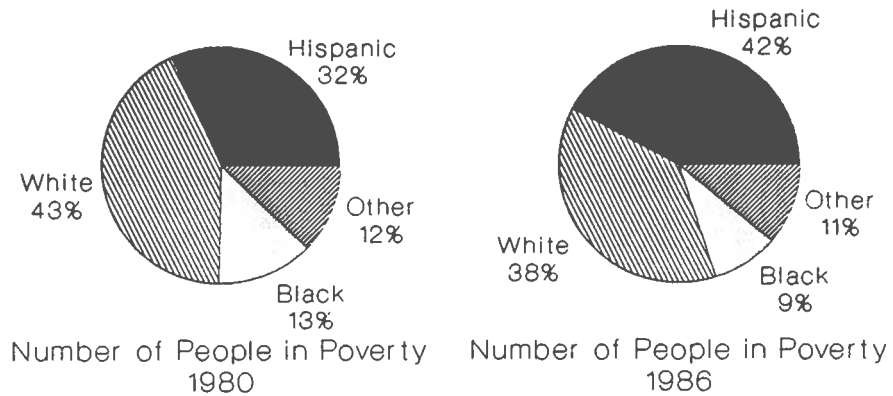
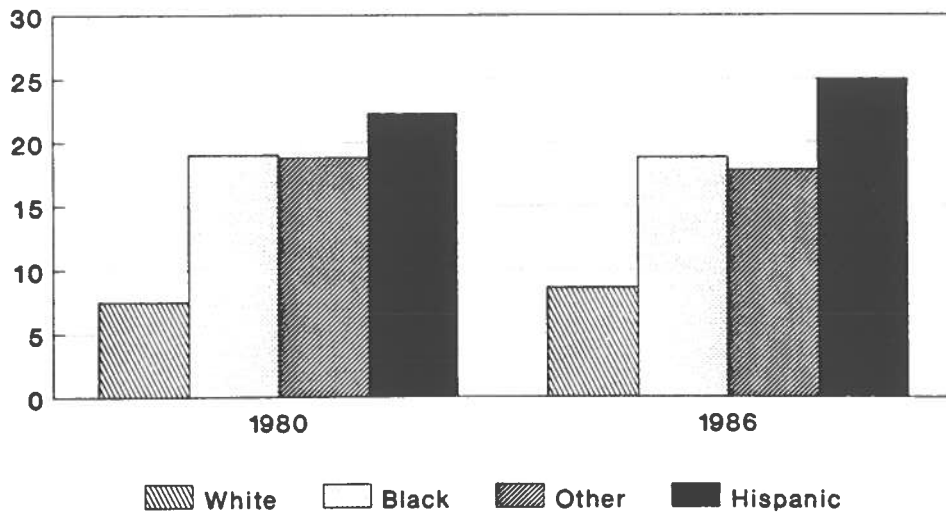


Figure 47

Percent of Persons in Poverty by Ethnicity



Source: California Current Population Survey, 1986.

threshold. The quality of life in the Bay Area cannot be sustained in the face of an intensive demand for services without addressing the very practical issue of financing the necessary programs to reinvest in our long-term future.

General Purpose Revenues (GPR) are a reflection of county fiscal capacity to meet public service/assistance needs with available resources. GPRs consists of property and sales taxes and general state subventions. Local Purpose Revenues (LPR) are resources left over after state-required programs are funded. When the LPR begins to decline, it indicates that counties are experiencing a declining growth in county revenues compared to increasing costs of state-required programs.

The 1988 statewide average for county expenditure of GPR on state-required programs was 55 percent. Research by the California Legislative Analyst's Office indicates that for the 1989-1990 fiscal year, 20 of the state's 58 counties already exceed the statewide average for the percent of GPR spent on state-required programs. Solano County topped the state list for highest percent of GPR on state-required programs with 71 percent. Alameda's ratio was 70 percent, Santa Clara's was 62 percent, and Contra Costa's was 59 percent. These figures reflect the increasing fiscal stress faced by a growing number of California counties, regardless of urban or rural environment.

Many counties have had their GPR cut substantially by annexation and increased redevelopment activities. At the same time as counties have lost revenues, the state has moved to increase county liability for state-mandated programs. The areas that consume the majority of GPR funds are Welfare, Health, and Safety and Justice system administration and enforcement.

An example of the increasing financial burdens laid upon the counties is the transfer of the Medical Indigent Services Program (MISP). The state transferred authority to administer MISP in 1982, with only 70 percent of the previous year's budget allocated to carry out the program. Counties were left to generate the necessary supplemental monies or slash the program directly.

With the emergence of a bifurcated labor force and increasing needs in the population, the federal and state requirements that local governments pick up the more costly public assistance programs may prove to be an overwhelming task for many counties. Disparity in the provision of county services may further exacerbate inequalities among Bay Area residents.

For better or worse, the Bay Area counties have evolved into an association that is recognized as a region. Structural and economic patterns of transportation, housing, and job interdependence provide an adhesion among communities and counties in the Bay Area region. However, post-Proposition 13 (1978) political tension between cities and counties has escalated. If counties are to join together in the political process of identifying as a region, then discussions must address the

growing inequalities accompanying economic growth therein. Such discussions require that counties work together to develop strategies for coping with the fiscal distress of the most pressed counties.

The implications of a bifurcated economy involve more than an academic discussion of social inequality. We must recognize and address the weakened and weakening underpinnings of our social and physical infrastructure in order to sustain a viable social and economic community. ABAG and other groups have argued that continued economic growth in the Bay Area will require development of its "human capital," including an improved educational system, the retraining and upgrading of skills in the existing labor force, and more affordable housing. These investments are key to sustaining the Bay Area's economy in the 21st century.

APPENDIX

Occupational Matrix

Because occupational data is available only for the State of California, we had to estimate numbers for the Bay Area. We did this by superimposing an occupational matrix (derived from an EDD survey) for the state to employment in each industrial sector for the Bay Area (see Table A3). However, using only one matrix would assume that the ratios for each of the occupations for any given sector would remain the same over time. Since we were in part looking for structural change in each of the industries, we created separate matrices for each of the years studied.

We then grouped the six major occupational categories into high-, medium-, and low-wage occupations. We chose only three for purposes of consistency with previous analyses and to make the matrix simpler. Using average weekly earnings data from the U.S. Department of Labor, Bureau of Labor Statistics' Employment and Earnings (see Table A5), occupations were classified as follows: Managers/Administrators and Professional/Technical are high-wage, Sales-related and Production-related are mid-wage, and Clerical/Administrative and Service positions are low-wage occupations, on average.

TABLE A1
TOTAL EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
BAY AREA 1981

Industry	SIC CODE	EMPLOY	% DIST	AVG PAYROLL (Current \$)	AVG PAYROLL (1988 \$)
Total Employment		2,101,165		18,269	24,656
Agricultural Services, Forestry, Fisheries	7	9,356	0.45%	12,249	16,531
Contract Construction	15	139,564	6.64%	25,666	34,638
All Manufacturing Industries	19	498,761	23.74%	22,770	30,730
Food and Kindred Products	2000	36,167	1.72%	20,970	28,302
Apparel and other textile Products	2300	13,930	0.66%	9,452	12,756
Printing and Publishing	2700	30,046	1.43%	19,424	26,214
Chemicals and Allied Products	2800	14,520	0.69%	22,514	30,385
Petroleum and Coal Products	2900	5,676	0.27%	30,436	41,077
Fabricated Metal Products	3400	26,111	1.24%	22,503	30,370
Machinery Except Electrical	3500	86,166	4.10%	24,388	32,914
Electric and Electronic Equipment	3600	105,144	5.00%	21,155	28,551
Transportation Equipment	3700	42,730	2.03%	29,046	39,200
Instruments and Related Products	3800	37,214	1.77%	23,138	31,227
All Other Manufacturing	19R	101,057	4.81%	23,431	31,623
Transportation and Public Utilities	40	170,776	8.13%	24,392	32,919
Wholesale Trade	50	137,869	6.56%	22,090	29,813
Retail trade	52	396,020	18.85%	11,016	14,868
Finance, Insurance, and Real Estate	60	191,930	9.13%	17,520	23,645
Services	70	533,232	25.38%	14,977	20,213
Hotels and other Lodging Places	7000	27,500	1.31%	9,834	13,273
Personal Services	7200	25,171	1.20%	8,799	11,875
Business Services	7300	138,166	6.58%	15,141	20,434
Auto Repair, Services, and Garages	7500	18,391	0.88%	15,232	20,557
Miscellaneous Repair Services	7600	8,368	0.40%	16,509	22,280
Motion Pictures	7800	6,280	0.30%	10,943	14,769
Amusement and Recreation Services	7900	17,880	0.85%	11,584	15,633
Health Services	8000	129,490	6.16%	16,818	22,697
Legal Services	8100	19,901	0.95%	22,378	30,202
Educational Services	8200	37,550	1.79%	11,709	15,802
Social Services	8300	29,025	1.38%	8,657	11,684
Membership Organizations	8600	30,374	1.45%	10,690	14,427
Miscellaneous Services	8900	37,485	1.78%	24,520	33,092
Other Services	70R	7,651	0.36%	19,649	26,518

SOURCE: County Business Patterns, 1981, U.S. Dept. of Commerce, Bureau of the Census

TABLE A 2
TOTAL EMPLOYMENT AND AVERAGE PAYROLL PER EMPLOYEE
BAY AREA 1987

Industry	SIC CODE	EMPLOYMENT	% DIST	AVG PAYROLL (Current \$)	AVG PAYROLL (1988 \$)
Total Employment		2,472,910		25,124	25,963
Agricultural Services, Forestry, Fisheries	7	14,070	0.6%	15,396	15,910
Contract Construction	15	141,309	5.7%	30,387	31,402
					0
All Manufacturing Industries	19	489,612	19.8%	32,997	34,099
Food and Kindred Products	2000	33,398	1.4%	26,343	27,223
Apparel and other textile Products	2300	15,521	0.6%	12,588	13,009
Printing and Publishing	2700	35,655	1.4%	26,275	27,153
Chemicals and Allied Products	2800	12,103	0.5%	32,426	33,509
Petroleum and Coal Products	2900	5,247	0.2%	38,622	39,912
Fabricated Metal Products	3400	25,284	1.0%	29,294	30,273
Machinery Except Electrical	3500	73,320	3.0%	37,717	38,977
Electric and Electronic Equipment	3600	115,494	4.7%	33,077	34,181
Transportation Equipment	3700	45,329	1.8%	38,598	39,887
Intruments and Related Products	3800	33,915	1.4%	34,279	35,424
All Other Manufacturing	19R	94,346	3.8%	35,087	36,259
					0
Transportation and Public Utilities	40	174,410	7.1%	31,014	32,050
Wholesale Trade	50	185,343	7.5%	30,678	31,702
Retail trade	52	477,783	19.3%	13,600	14,054
Finance, Insurance, and Real Estate	60	230,874	9.3%	28,339	29,286
					0
Services	70	745,051	30.1%	22,561	23,314
Hotels and other Lodging Places	7000	35,742	1.4%	14,272	14,749
Personal Services	7200	31,465	1.3%	11,051	11,420
Business Services	7300	216,316	8.7%	23,075	23,846
Auto Repair, Services, and Garages	7500	24,853	1.0%	19,060	19,697
Miscellaneous Repair Services	7600	9,249	0.4%	23,599	24,387
Motion Pictures	7800	5,945	0.2%	16,114	16,652
Amusement and Recreation Services	7900	23,385	0.9%	16,269	16,812
Health Services	8000	158,753	6.4%	25,553	26,406
Legal Services	8100	31,822	1.3%	38,804	40,100
Educational Services	8200	49,562	2.0%	16,383	16,930
Social Services	8300	42,608	1.7%	14,461	14,944
Membership Organizations	8600	42,025	1.7%	13,894	14,358
Miscellaneous Services	8900	60,369	2.4%	34,059	35,196
Other Services	70R	12,957	0.5%	33,313	34,426

SOURCE: County Business Patterns, 1987, U.S. Dept. of Commerce, Bureau of the Census

TABLE A3: EMPLOYMENT AND SHARES IN EACH OCCUPATION BY INDUSTRY, BAY AREA 1987

INDUSTRY	SHARE OF EMPLOYMENT IN EACH INDUSTRY BY OCCUPATION										EMPLOYMENT IN EACH INDUSTRY BY OCCUPATION									
	TOTAL EMPLOY	Managers		Prof Tech'l	Sales Related & Admi'l'y		Service	Product'n Related		Managers Admin's're	Prof Tech'l	Sales Related & Admi'l'y		Service	Product'n Related					
		Admin's're	Admin's're		Admin's're	Admin's're		Admin's're	Admin's're			Admin's're	Admin's're							
Total	2472810	9.3%	16.9%	8.9%	23.9%	15.0%	26.0%	227322	411904	218891	585308	367125	635832							
Contract Construction	141309	8.5%	7.9%	1.4%	8.4%	0.6%	72.2%	13424	11163	1978	11870	848	102025							
All Manufacturing Industries	489812	8.9%	14.4%	3.4%	16.0%	1.5%	55.8%	43575	70504	16947	78336	7344	273203							
Food and Kindred Products	33398	6.0%	4.9%	5.9%	11.1%	4.1%	64.6%	2004	1637	1970	3707	1369	21575							
Apparel and other textile Products	15488	3.9%	1.8%	2.8%	10.9%	1.1%	79.8%	604	279	403	1688	170	12359							
Printing and Publishing	35655	8.2%	12.6%	14.9%	22.2%	1.0%	41.0%	2924	4493	5313	7915	357	14619							
Chemicals and Allied Products	12103	10.4%	18.5%	8.9%	17.8%	1.9%	42.3%	1259	2239	1077	2154	230	5120							
Petroleum and Coal Products	5247	6.5%	27.7%	4.0%	12.3%	1.9%	47.8%	341	1453	210	645	100	2508							
Fabricated Metal Products	25284	8.0%	5.6%	2.8%	12.3%	1.6%	69.8%	2023	1416	708	3110	405	17848							
Machinery Except Electrical	73320	11.2%	23.5%	4.4%	15.5%	0.9%	44.5%	8212	17230	3226	11365	690	32627							
Electric and Electronic Equipment	115494	10.9%	34.0%	1.8%	14.9%	1.1%	37.4%	12589	39268	2079	17209	1270	43195							
Transportation Equipment	45340	6.8%	32.0%	1.0%	13.5%	1.8%	44.9%	3083	14509	453	6121	818	20358							
Instruments and Related Products	33915	9.9%	23.1%	5.1%	16.5%	1.3%	44.1%	3358	7834	1730	5596	441	14857							
High-Tech manufacturing	280172	10.2%	28.9%	3.1%	15.1%	1.2%	41.5%	28500	81080	8565	42444	3417	116256							
Transportation and Public Utilities	174410	8.7%	14.2%	1.5%	31.9%	4.2%	39.5%	15174	24768	2616	55637	7325	68892							
Wholesale Trade	185343	10.3%	10.7%	21.2%	30.0%	1.7%	26.1%	19090	19832	39283	55603	3151	48375							
Retail trade	477783	8.2%	13.6%	9.6%	18.0%	33.8%	12.5%	39178	14333	117057	80001	161491	59723							
Finance, Insurance, and Real Estate Services	230874	15.5%	32.2%	2.3%	23.4%	4.5%	10.2%	35785	31399	22164	123518	10389	7619							
Hotels and other Lodging Places	35742	6.4%	2.8%	4.2%	15.7%	62.3%	7.6%	61094	239908	17138	174342	176577	75695							
Personal Services	31485	5.5%	14.4%	9.4%	12.8%	29.4%	28.3%	1731	4531	2958	4028	9251	2716							
Business Services	216316	8.7%	22.0%	7.6%	30.6%	17.1%	13.9%	18819	47590	16440	66193	36960	30068							
Auto Repair, Services, and Garages	24853	7.3%	0.8%	11.8%	10.2%	2.4%	67.5%	1814	199	2933	2535	598	18776							
Miscellaneous Repair Services	9249	8.3%	3.7%	7.5%	16.0%	1.3%	63.2%	768	342	684	1480	120	5845							
Motion Pictures	5945	13.8%	28.2%	6.5%	24.1%	18.6%	8.9%	809	1676	386	1433	1106	529							
Amusement and Recreation Service	23385	6.3%	19.6%	10.1%	8.5%	42.1%	7.5%	1473	4583	2362	1988	9845	1754							
Health Services	158753	4.1%	37.7%	0.5%	25.7%	29.8%	2.3%	6509	59850	794	40800	47308	3651							
Legal Services	31822	4.3%	40.4%	54.9%	54.9%	0.3%	0.0%	1368	12856	17470	17470	95	0							
Educational Services	49562	4.5%	61.5%	0.3%	19.1%	9.5%	4.1%	2230	30481	149	9466	4708	2032							
Social Services	42608	10.0%	40.0%	2.1%	19.2%	18.5%	9.3%	4261	17043	895	8181	7882	3963							
Membership Organizations	42025	10.5%	38.4%	2.5%	26.7%	17.1%	2.7%	4413	16138	1051	11221	7186	1135							
Miscellaneous Services	60369	9.7%	53.3%	1.2%	29.4%	0.5%	5.8%	5856	32177	724	17748	302	3501							

Source: County Business Patterns and Employment and Development Department

TABLE A4: C CHANGE IN SHARES AND PERCENT CHANGE IN EMPLOYMENT IN EACH OCCUPATION INDUSTRY, BAY AREA 1981 - 1987

Industry	CHANGE IN SHARE OF EMPLOYMENT					PERCENT CHANGE IN EMPLOYMENT BY OCCUPATION					
	Managers Admin's	Prof Tech'l	Sales Related	Clerical & Adm'l	Product'n Related	Managers Admin's	Prof Tech'l	Sales Related	Clerical & Adm'l	Service	Product'n Related
Total	0.00	1.50	0.10	0.30	-3.30	18.25%	29.87%	19.86%	19.59%	29.23%	4.84%
Contract Construction	0.10	0.10	0.00	0.40	-0.60	-2.32%	2.55%	1.25%	6.31%	1.25%	0.42%
All Manufacturing Industries	0.10	1.10	0.20	0.40	-1.70	-0.72%	6.28%	4.30%	0.88%	-7.97%	-4.74%
Food and Kindred Products	1.43	1.18	1.49	1.45	-8.72	21.34%	21.68%	23.56%	6.26%	34.67%	-18.64%
Apparel and other textile Products	0.11	-1.10	-0.33	-1.02	2.16	14.42%	-30.96%	-1.18%	1.85%	49.89%	14.28%
Printing and Publishing	2.79	1.19	4.92	-0.88	-8.08	79.89%	31.06%	77.16%	15.13%	-2.59%	-0.86%
Chemicals and Allied Products	2.23	2.63	-0.28	-0.46	-4.19	6.06%	-2.83%	-19.05%	-18.76%	-17.79%	-24.18%
Petroleum and Coal Products	0.04	-2.65	1.60	-2.25	3.21	-6.97%	-15.63%	54.35%	-21.87%	6.66%	-0.90%
Fabricated Metal Products	2.08	-1.97	0.02	2.48	-2.97	30.81%	-28.37%	-2.48%	21.10%	40.22%	-7.12%
Machinery Except Electrical	2.21	2.29	1.18	-0.64	-5.03	5.99%	-5.71%	16.41%	-18.27%	-15.48%	-23.55%
Electric and Electronic Equipment	2.57	4.81	-0.08	-0.27	-6.71	43.79%	27.92%	6.08%	7.89%	-8.50%	-6.88%
Transportation Equipment	0.01	-0.23	0.17	-0.72	1.01	6.34%	5.37%	27.42%	0.74%	-6.40%	8.58%
Instruments and Related Products	1.91	-1.45	1.51	-1.43	-0.18	12.97%	-14.28%	29.53%	-16.16%	-27.35%	-9.23%
High-Tech manufacturing	1.90	3.00	0.30	-0.70	-4.40	20.98%	9.30%	10.47%	-6.22%	-13.00%	-11.29%
Transportation and Public Utilities	-0.20	1.70	-1.70	-0.40	-0.70	-0.17%	16.02%	-52.13%	0.86%	-8.74%	0.35%
Wholesale Trade	-0.10	0.30	-0.10	-0.40	0.30	33.14%	38.31%	33.80%	32.87%	42.84%	36.00%
Retail trade	0.20	0.00	-0.60	0.00	-0.60	23.66%	20.65%	17.76%	20.65%	24.70%	15.12%
Finance, Insurance, and Real Estate	0.00	0.60	0.70	-1.30	-0.10	20.29%	25.84%	29.75%	17.44%	20.29%	16.75%
Services	-0.10	0.80	0.10	-0.40	-0.20	38.04%	43.29%	46.07%	37.38%	39.14%	37.04%
Hotels and other Lodging Places	0.80	-0.11	-0.03	2.90	1.61	48.58%	24.93%	28.96%	59.45%	20.15%	64.93%
Personal Services	2.88	1.58	-2.04	0.31	1.99	162.61%	40.37%	2.72%	28.11%	8.31%	34.48%
Business Services	1.41	3.12	1.74	0.53	-2.33	86.73%	82.48%	103.03%	59.32%	26.10%	34.11%
Auto Repair, Services, and Garages	4.14	-0.25	-1.23	-0.25	-3.05	212.59%	3.24%	22.34%	31.86%	88.36%	29.30%
Miscellaneous Repair Services	5.17	0.03	-2.75	-1.28	-1.75	192.74%	11.40%	-19.11%	2.33%	129.25%	7.54%
Miscellaneous Repair Services	4.14	-0.33	-2.59	9.59	-6.28	38.28%	-27.73%	-31.19%	59.73%	26.95%	-43.53%
Motion Pictures	1.22	-2.14	2.50	-0.04	-1.08	62.26%	17.90%	73.86%	30.12%	30.29%	14.21%
Amusement and Recreation Services	0.80	0.29	-0.27	0.93	-1.23	52.49%	23.57%	-20.42%	27.18%	21.91%	-20.18%
Health Services	2.85	-1.81	54.90	-0.28	-0.53	373.71%	53.04%		59.09%	-42.30%	-100.00%
Legal Services	-0.00	0.02	0.04	-0.03	-0.01	31.91%	32.04%	53.41%	31.81%	32.69%	31.68%
Educational Services	2.83	3.09	0.07	-0.89	-0.83	104.63%	59.11%	51.57%	40.26%	18.82%	34.72%
Social Services	1.34	2.50	-0.31	-3.66	-0.37	58.66%	47.98%	23.07%	21.68%	41.85%	21.65%
Membership Organizations	2.60	-8.99	-0.13	4.31	2.69	120.02%	37.81%	45.56%	88.73%	-23.31%	200.03%
Miscellaneous Services											

Source: County Business Patterns and California Employment Development Department

TABLE A5: WAGE AND WAGE LEVEL BY OCCUPATION

OCCUPATION	1990 NATIONAL WAGE Median weekly earnings	WAGE LEVEL
Managers and Administrators	\$604	High
Professional and Technical	\$552	High
Production and Related	\$408	Middle
Sales and Related	\$401	Middle
Clerical and Administrative	\$350	Low
Service	\$268	Low

Source: U.S. Department of Labor, BLS 1991

TABLE A6: EMPLOYMENT AND CHANGE FOR EACH OCCUPATIONAL WAGE LEVEL BY INDUSTRY, BAY AREA 1981 - 1987

Industry	TOTAL NUMBER OF JOBS 1987			SHARE OF JOBS 1987			CHANGE OF SHARE			PERCENT CHANGE		
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
	Wage	Wage	Wage	Wage	Wage	Wage	Wage	Wage	Wage	Wage	Wage	Wage
Total	639226	852723	952433	26.15%	34.89%	38.96%	1.55%	-3.15%	1.60%	25.48%	8.29%	23.13%
Contract Construction	24588	104003	12718	17.40%	73.60%	9.00%	0.20%	-0.60%	0.40%	2.43%	0.43%	5.96%
All Manufacturing Industries	114080	289850	85682	23.30%	59.20%	17.50%	1.20%	-1.50%	0.30%	3.50%	-4.26%	-0.12%
Food and Kindred Products	3640	23546	5076	11.28%	72.98%	15.73%	2.87%	-5.98%	3.08%	21.49%	-18.25%	12.87%
Apparel and other textile Products	883	12782	1859	5.69%	82.32%	11.99%	-0.99%	1.75%	-0.75%	-5.25%	13.72%	4.74%
Printing and Publishing	7416	19931	8272	20.82%	55.96%	23.22%	4.00%	-3.12%	-0.88%	46.77%	12.32%	14.23%
Chemicals and Allied Products	3468	6197	2384	28.96%	51.30%	19.74%	4.89%	-4.42%	-0.47%	0.19%	-23.32%	-18.67%
Petroleum and Coal Products	1794	2718	745	34.13%	51.70%	14.17%	-2.68%	4.71%	-2.03%	-14.11%	1.92%	-18.97%
Fabricated Metal Products	3439	18356	3514	13.59%	72.53%	13.89%	0.09%	-3.04%	2.94%	-2.39%	-6.95%	23.03%
Machinery Except Electrical	25442	35853	12024	34.70%	48.90%	16.40%	4.50%	-3.85%	-0.65%	-2.23%	-21.12%	-18.13%
Electric and Electronic Equipment	51857	45274	18479	44.86%	39.16%	15.98%	7.33%	-8.82%	-0.51%	31.45%	-6.35%	6.58%
Transportation Equipment	17592	20811	6937	38.80%	45.90%	15.30%	-0.22%	1.18%	-0.96%	5.54%	8.91%	-0.15%
Instruments and Related Products	11192	16686	6037	33.00%	49.20%	17.80%	0.45%	1.32%	-1.77%	-7.57%	-6.32%	-17.09%
High-Tech manufacturing	109580	124821	45662	39.10%	44.54%	16.38%	4.89%	-4.04%	-0.85%	12.11%	-10.07%	-6.76%
Transportation and Public Utilities	39940	71508	62962	22.90%	41.00%	36.10%	1.88%	-1.63%	-0.25%	9.29%	-3.52%	-0.36%
Wholesale Trade	38922	87667	58754	21.00%	47.30%	31.70%	0.18%	0.15%	-0.33%	35.73%	35.00%	33.17%
Retail trade	53512	176780	247492	11.20%	37.00%	51.80%	0.19%	-1.24%	1.05%	22.84%	16.86%	23.20%
Finance, Insurance, and Real Estate Services	67184	29783	133907	29.10%	12.90%	58.00%	0.93%	0.61%	-1.24%	22.82%	26.16%	17.65%
Hotels and other Lodging Places	3288	4218	27879	40.40%	12.50%	47.10%	0.66%	-0.11%	-0.55%	42.19%	38.61%	38.26%
Personal Services	6262	11882	13278	9.29%	11.92%	78.79%	0.69%	1.59%	-2.27%	40.49%	50.03%	26.42%
Business Services	69409	46508	103183	19.94%	37.78%	42.28%	4.44%	-0.12%	-4.32%	61.09%	24.85%	13.84%
Auto Repair, Services, and Garages	2013	19708	3131	8.10%	79.30%	12.60%	3.90%	-4.32%	0.42%	160.43%	28.21%	39.87%
Miscellaneous Repair Services	1110	6539	1800	12.00%	70.70%	17.30%	5.19%	-4.57%	-0.62%	94.91%	3.91%	6.77%
Motion Pictures	2485	816	2539	41.84%	15.42%	42.74%	-5.22%	-8.87%	14.09%	-14.44%	-38.90%	43.58%
Amusement and Recreation Services	6057	4116	11833	27.52%	18.70%	53.77%	-1.07%	1.45%	-0.38%	26.30%	42.21%	30.26%
Health Services	66359	4445	88108	41.76%	2.80%	55.44%	0.95%	-1.52%	0.56%	25.91%	-20.23%	24.29%
Legal Services	14224	17470	17568	28.88%	35.47%	35.66%	-14.88%	35.35%	-20.47%	63.71%	78.50%	57.59%
Educational Services	32711	2181	14175	66.67%	4.44%	28.89%	-0.03%	0.03%	0.00%	32.03%	32.94%	32.10%
Social Services	21304	4857	18063	50.45%	11.50%	38.04%	9.02%	-0.76%	-5.25%	66.52%	37.54%	28.86%
Membership Organizations	20550	2185	18407	49.95%	5.31%	44.74%	3.96%	-0.69%	-3.27%	50.15%	22.33%	28.84%
Miscellaneous Services	38032	4226	18050	63.06%	7.01%	29.93%	-6.35%	2.56%	3.78%	46.22%	153.85%	84.23%

Source: County Business Patterns and California Employment Development Department

TABLE A7: BAY AREA
STATE TAXABLE INCOME FOR 1978 AND 1985
TOTAL NUMBER OF JOINT RETURNS

ALAMEDA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	44,699	23 %	57,286	27 %	28.2 %
\$24,000-49,999	95,868	49 %	91,583	44 %	-4.5 %
\$50,000 >	53,966	28 %	59,769	29 %	10.8 %
Total	194,533	100 %	208,638	100 %	

CONTRA COSTA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	25,425	19 %	32,830	22 %	29.1 %
\$24,000-49,999	59,987	46 %	60,308	41 %	0.5 %
\$50,000 >	46,267	35 %	53,490	36 %	15.6 %
Total	131,678	100 %	146,627	100 %	

MARIN COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	7,701	19 %	9,066	22 %	17.7 %
\$24,000-49,999	15,398	38 %	14,787	35 %	-4.0 %
\$50,000 >	17,733	43 %	18,275	43 %	3.1 %
Total	40,832	100 %	42,128	100 %	

NAPA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	5,318	29 %	6,859	34 %	29.0 %
\$24,000-49,999	8,959	48 %	9,113	45 %	1.7 %
\$50,000 >	4,242	23 %	4,308	21 %	1.5 %
Total	18,520	100 %	20,280	100 %	

SAN FRANCISCO COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	32,617	34 %	40,861	40 %	25.3 %
\$24,000-49,999	39,994	42 %	37,921	37 %	-5.2 %
\$50,000 >	22,396	24 %	24,013	23 %	7.2 %
Total	95,007	100 %	102,796	100 %	

SAN MATEO COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	22,181	19%	27,153	23%	22.4%
\$24,000-49,999	53,024	46%	49,585	41%	-6.5%
\$50,000 >	40,430	35%	43,730	36%	8.2%
Total	115,635	100%	120,468	100%	

SANTA CLARA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	50,882	21%	56,220	23%	10.5%
\$24,000-49,999	114,243	46%	100,281	41%	-12.2%
\$50,000 >	81,994	33%	90,643	37%	10.5%
Total	247,119	100%	247,144	100%	

SONOMA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	17,701	31%	22,386	33%	26.5%
\$24,000-49,999	27,571	49%	30,993	46%	12.4%
\$50,000 >	11,064	20%	13,813	21%	24.8%
Total	56,336	100%	67,193	100%	

SOLANO COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	12,581	29%	15,505	29%	23.2%
\$24,000-49,999	22,063	51%	26,329	50%	19.3%
\$50,000 >	8,461	20%	10,839	21%	28.1%
Total	43,104	100%	52,673	100%	

Source: Association of Bay Area Governments, "Trends In Income: An Analysis of Income Tax Returns For San Francisco Bay Area Counties 1978-1985"

**TABLE A8: BAY AREA
TOTAL NUMBER OF RETURNS BY INCOME RANGE, 1978 & 1985
BY COUNTY**

ALAMEDA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	233,765	53%	299,519	57%	28.1%
24,000-49,999	147,320	34%	155,712	30%	5.7%
\$50,000 >	57,499	13%	67,004	13%	16.5%
Total	438,584	100%	522,235	100%	19.1%

CONTRA COSTA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	111,711	46%	150,201	50%	34.5%
24,000-49,999	84,545	34%	94,653	31%	12.0%
\$50,000 >	48,816	20%	58,174	19%	19.2%
Total	245,072	100%	303,028	100%	23.6%

MARIN COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	44,743	48%	53,271	51%	19.1%
24,000-49,999	27,563	30%	29,547	28%	7.2%
\$50,000 >	20,406	22%	21,925	21%	7.4%
total	92,712	100%	104,743	100%	13.0%

NAPA COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	18,023	53%	23,505	58%	30.4%
24,000-49,999	11,488	34%	12,429	31%	8.19%
\$50,000 >	4,539	13%	4,739	12%	4.4%
Total	34,050	100%	40,673	100%	19.5%

SAN FRANCISCO COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	201,754	63%	239,579	65%	18.7%
24,000-49,999	86,711	27%	94,793	26%	9.32%
\$50,000 >	29,508	9%	34,041	9%	13.3%
Total	317,973	100%	368,413	100%	15.9%

SAN MATEO COUNTY

Income Class	1978	% Total	1985	% Total	% Change
(Constant 1985\$)					
\$0-23,999	119,352	49%	141,297	51%	18.4%
24,000-49,999	82,361	34%	87,676	31%	6.5%
\$50,000 >	44,068	18%	49,720	18%	12.8%
total	245,781	100%	278,693	100%	13.4%

SANTA CLARA COUNTY

<u>Income Class</u>	<u>1978</u>	<u>% Total</u>	<u>1985</u>	<u>% Total</u>	<u>% Change</u>
(Constant 1985\$)					
\$0-23,999	257,279	50%	319,385	51%	24.1%
24,000-49,999	169,272	33%	194,447	31%	14.9%
\$50,000 >	88,048	17%	110,374	18%	25.4%
Total	514,599	100%	624,206	100%	21.3%

SONOMA COUNTY

<u>Income Class</u>	<u>1978</u>	<u>% Total</u>	<u>1985</u>	<u>% Total</u>	<u>% Change</u>
(Constant 1985\$)					
\$0-23,999	60,311	56%	84,485	59%	40.1%
24,000-49,999	35,174	33%	42,776	30%	17.8%
\$50,000 >	11,860	11%	15,199	11%	28.2%
Total	107,345	100%	142,460	100%	32.7%

SOLANO COUNTY

<u>Income Class</u>	<u>1978</u>	<u>% Total</u>	<u>1985</u>	<u>% Total</u>	<u>% Change</u>
(Constant 1985\$)					
\$0-23,999	37,838	51%	55,146	54%	45.7%
24,000-49,999	27,890	37%	35,283	35%	26.5%
\$50,000 >	8,844	12%	11,429	11%	29.2%
Total	74,572	100%	101,858	100%	36.6%

Source: Association of Bay Area Governments, "Trends In Income: An Analysis of Income Tax Returns For San Francisco Bay Area Counties 1978-1985

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