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The Chicano/Latino Policy Project is an affiliated research program of the Institute for the Study of Social Change at the University of California at Berkeley. The Policy Project coordinates and develops research on public policy issues related to Latinos in the United States and serves as a component unit of a multi-campus Latino policy studies program in the University of California at Berkeley. The Policy Project current priority research areas are education, health care, political participation and labor mobility with an emphasis on the impact of urban and working poverty and immigration.

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Contents

List of Tables and Illustrations

Figures

Tables

Appendices

EXECUTIVE SUMMARY

Introduction

The current debate concerning job competition between immigrant and nonimmigrant groups has intensified because of the large increase in immigration and the simultaneous growth of urban poverty rates for African Americans and other ethnic minority groups during the 1970s. The debate focuses on the possible wage and displacement effects that an increase in immigration would cause for the U.S.-born population. Empirical research on the displacement effects of increased immigration focuses on aggregate, national samples, industrial and occupational sectoral studies, and analyses of labor market outcomes across regions or SMSAs that contain a large number of immigrants. This research rarely considers regional differences and never considers industrial change (i.e., growth or decline) and institutional barriers, such as high-skilled and low-skilled labor markets.

Data and Method

Using 1970 and 1980 census data (PUS and PUMS files, respectively) for Los Angeles, by specific types of labor markets (industries and occupations), and according to race and ethnicity (white, black, Mexican, Latino, and Asian) and nativity (foreign-born and U.S.-born), I argue that immigrants do not simply function as either competitive or complementary sources of labor. Instead, I hypothesize that job competition between groups of workers depends in part on whether U.S.-born workers belong to protected or unprotected labor markets and whether they are employed in growing or declining industries.

To test my hypothesis, I employ shift-share method on three industrial and occupational typologies. The shift-share model results allow me to assess the labor market incorporation and subsequent job competition (displacement or complementarity) effects of increased immigrant labor. I first employ shift-share on 46 industrial categories divided first between core and peripheral sectors and then by growing and declining industries. The second test is on occupations aggregated into 15 broad categories and by growth and decline. The third and last test is on occupations aggregated according to four segments: (1) independent primary, (2) craft, (3) subordinate primary, and (4) secondary.

Findings

The main findings of this study show:

- U.S.-born workers are, in general, insulated from job competition with immigrants due to the latter's concentration in labor markets where immigrants are employed in fewer numbers.
- In fact, overall, immigrant location in either the core or periphery made little difference in the number of industries that experienced patterns of displacement or complementarity.
- In addition, immigrant concentration in primary or secondary occupations overall made little difference in displacement or complementary patterns.
- Lastly, occupations categorized according to 15 broad groups and analyzed by growth and decline experienced mixed patterns of job competition (displacement or complementarity).

Analysis

Based on the results of this study, I conclude that the segmentation/queuing theory best describes the labor market processes between immigrant and native-born labor in Los Angeles during 1970 and 1980. Overall, the data in this study show that immigrants are not displacing native-born labor in disproportionate

numbers, especially in industries. Instances are found, however, of isolated job displacement between immigrants and native-born whites and/or Mexicans in occupations. The data also show that complementarity is more frequent than displacement and that decreases in white labor are not the result of immigrant employment growth. These two findings taken together suggest a process of job queuing whereby whites vacate jobs that are then taken by immigrant and/or minority labor. For these reasons, I assert that immigration is not a major contributor to a black and Latino underclass in Los Angeles.

Policy Conclusion

The recent immigration debate in California and other high immigrant receiving states has focused mostly on the immigrant impact on labor supply, rather than structural problems in the U.S. economy and labor market. As a result, short-sighted public policies denying immigrants a public education, a driver's license, or even citizenship status for their children have been proposed to curb their flows. These misguided policies, rather than stymying the movement of immigrants into this country, will instead have the unintended effect of further marginalizing a major portion of the American population; the net effect of not providing education and health care to thousands of school-age children and adults will be an uneducated, unhealthy, and unemployed populace that will, in the long run, cost dearly. Public policies should instead focus on structural solutions, such as maintaining and expanding our industrial job base and increasing employment and training programs. Additionally, policy analysts and social scientists need to analyze further the magnitude of and relationship between immigrant and native labor markets to corroborate or refute studies such as mine, which reveal minimal negative effects on labor markets as a result of increased immigration.

I. INTRODUCTION

"Man, I can't find no work," complains 20-year-old Mark Lane, a black American who once packed lettuce for $250 a week. "Now the Haitians have got all the jobs. They're willing to do anything for $20 a day. Now all I do is stand on the corner." ***A worker from Belle Glade, Florida, cited in the Champaign-Urbana News Gazette, 29 November 1989***

Currently, the notion of job displacement of U.S.-born workers by foreigners is one of the most emotionally polarized debates surrounding issues of immigration to the United States. This fear fluctuates with national and regional economic cycles, particularly those of high immigrant-receiving states such as California and New York. Since 1965 the large wave of immigration to this country has been blamed for increases in American urban poverty, particularly to the growth of its urban underclass and the high jobless rate of African Americans.[1] Indeed, the contemporary interest in immigration stems from its perceived contribution to the increasing rates of poverty during the past two decades and its effect on the composition[2] and location[3] of the poor.

As research on poverty and the underclass[4] has expanded, studies and especially policies on immigration also have multiplied. This increased attention is due, for the most part, to the large influx of both legal and illegal immigrants during the past two decades.[5] Students of immigration are interested in understanding the causes and consequences of international migration, the assimilation and integration of immigrants into society generally and labor markets in particular, and the possible economic impact that

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[1]Job competition is one of several "costs" currently being argued in the immigration debate in California; the question has taken somewhat of a back seat to other equally volatile immigration issues such as border patrol enforcement and undocumented immigration, federal reimbursement to state coffers for federal policies, and medical and health benefits to legal and undocumented immigrants.

[2]During the late 1980s, poverty rates were much higher than in the 1970s, especially for African Americans and Hispanics. For Hispanics, the poverty rate increased from 28% to 39% between 1972 and 1987; for whites, it was 9.9% in 1970, 10.2 % in 1980, and 10.5 % in 1987; and for African Americans, the percentages were 33.5, 32.5, and 33.1, respectively. While the poverty rate for the population as a whole has been stable around 13% since the early 1980s, young families have experienced a steadily increasing chance of being poor. Whereas one-quarter of those aged sixty-five or older had an income below the poverty line in 1970, only one-eighth did in 1987 (United States Census Bureau).

[3]According to the U.S. Bureau of the Census (1972, 1989), poverty has shifted from the rural areas to the inner cities, particularly in New York, Chicago, Boston, Detroit, and Los Angeles. In 1960, 28% of rural households were poor compared to 13.7% in the central cities and 10% in the suburbs. By 1987 the rate had decreased to 14% in rural areas and 6.5% in the suburbs but had climbed to 15.4% in the central cities.

[4]The term "underclass," has been used sporadically during the last three decades and was first introduced in this country by Gunnar Myrdal (1962, 1964), the Swedish scholar. For a thorough historical summary of its origins and varied definitions, see Aponte (1990).

[5]The rate of legal immigration to the United States in the 1980s is ranked among the highest in its history, surpassed only by the flows of the first two decades of this century. Immigration during the first eight years of the 1980s averaged 575,000 admissions per year; the 1980 decennial census, in an estimate by Passel and Woodward (1984), enumerated nearly 2 million undocumented immigrants.

immigrants may have on earnings, employment, and welfare expenditures. These issues are at the forefront of U.S. immigration research because of two other important factors, the composition[6] and geographic location of the "new immigration."[7] Because the country-of-origin composition of immigrants has changed from European to Asian and Latin American stock and immigrants continue to concentrate in urban centers, concern over their economic impact has increased. Congruent with this change is speculation that the skills composition of recent immigrants is lower than that of earlier waves and as a result contributes to worsened labor market opportunities and job competition with other low-skilled immigrants and minorities in inner cities.

Given the increase in urban poverty, the underclass, and immigration during the 1970s and 1980s, two questions emerge: Are these phenomena related to each other? And if so, how are they related? More specifically, does the increase of low-skilled immigrants worsen the labor market opportunities for native underclass residents? If opportunities are curtailed and native workers are being displaced by immigrants, is this displacement related to the formation of an urban underclass and if so, how?

This paper analyzes the relationship between the labor market concentration of immigrants (Mexican, Latino, and Asian) and the employment opportunities of U.S.-born workers (whites, blacks, and Mexicans) in Los Angeles during 1970 to 1980. I address the question of whether native workers are adversely affected by the industrial and occupational concentration of immigrants and whether or not this contributes to the emergence of a Latino and black underclass. This study departs from a conventional analysis of immigrant and native-born labor market competition by analyzing shifts in industry concentration of immigrants after controlling for the size of competing labor pools and the growth in each industry in a Standard Metropolitan Statistical Area (SMSA). Past studies assessing the economic well-being of immigrants and their impact on U.S.-born labor are based on national samples that inadequately examine economic integration processes in regional or local areas. Because immigrants tend disproportionately to settle in certain parts of the country, regional and local impacts are significant in understanding labor market changes. This study, by focusing on one region, specific industries and

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[6]In the 1960s nearly two-thirds of the annual legal immigrants to the U.S. entered from Europe and Canada (45% and 12% respectively). In the 1970s this rate was cut in half; fewer than one-third of the new arrivals came from European nations and Canada, 28% and 3%, respectively (Maldonado and Moore 1987). This shift in migrants was labeled the "new immigration" because of the centuries-long monopoly that Europe had on immigration to the United States. Between 1961 and 1981, legal immigrants from South America, Asia, and Africa numbered approximately 733,000 compared to 505,000 from Europe (Wong 1985). Like country-of-origin characteristics, the composition of immigrant skills also has changed during the past two decades. Borjas (1990) using the Public Use Samples of the 1940, 1960, 1970, and 1980 Censuses, shows that the gap between the skills and labor market (i.e., educational attainment, labor force participation and, unemployment rates, hours worked per year, and hourly wage rates for immigrants and natives) is growing over time, suggesting that immigrants of earlier years were more skilled than those of today.

[7]Recent immigrants mostly locate only to a few metropolitan cities. In 1980, 40% of immigrant newcomers lived in either New York or Los Angeles. Likewise, 1980 census data for all the ten metropolitan areas with the largest new immigrant populations reveal that New York City, Los Angeles, and Chicago received the largest numbers of documented and undocumented arrivals from the Third World.

occupations, and particular samples of racial and ethnic groups, will reveal several dimensions of job competition offering new insights into the labor market impacts of immigration.

In addition, this study is also important to the underclass literature for several reasons. Evidence that immigrants curtail the employment opportunities of U.S.-born workers, particularly U.S.-born Mexicans and other minority groups such as African Americans, will address a major issue in the underclass literature: whether job opportunities for African Americans and other minorities have weakened over the course of the decade as a result of immigration. Minority U.S.-born laborers, particularly African American workers, have increasingly experienced worsened labor market opportunities. Black unemployment steadily increased from 9.8% in 1974 to 11.4% in 1979 to 16.4% in 1984. The labor force participation rate of African Americans also has shown a steady decline between these years from 72.9% in 1974 to 71.3% in 1979 and to 70.8%, respectively.[8] If immigrant labor can be substituted for U.S.-born labor, immigrants may be reducing the wages of minority and other native labor, increasing American unemployment, and lowering labor force participation. If, however, evidence suggests that immigrants do not simply function as competitive substitute sources of labor, then other explanations for declining job opportunities for domestic labor will be necessary.

Job Competition: Old Question, New Context

Historically, there has always been a nativist fear over job competition between immigrants and U.S.-born labor; immigrants were blamed for the country's worsened economies during the 1930s, 1950s, and 1970s. Presently, the concern that immigrants are displacing American workers has once again become an extremely volatile topic in California and other immigrant-receiving states and cities. As U.S. economic fortunes continue to deteriorate and jobs become scarce or shift into part-time or poorly paid service occupations, an easily targeted, non-voting population becomes the scapegoat. The overtones of today's debate are strikingly similar to those of the past; the rhetoric is fueled by nativist fear, xenophobia, and emotion. A plethora of actors from California's Governor Pete Wilson, to journalists, advocacy groups such as the Federation for American Immigration Reform (FAIR), and state and city sponsored reports have contributed to this fear.[9] However, the present debate on job competition takes on new overtones because it singles out African Americans and other native-born minority groups as the primary victims of immigration's "negative costs" in the form of reduced services, fewer jobs, and a lower quality of life.

In the following section, I provide a discussion of three theoretical frameworks from which to view

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[8]Figures are taken from the U.S. Department of Labor, *Handbook of Labor Statistics. Employment and Earnings 1985, Bulletin 2217* (Washington, D.C.: Government Printing Office, June 1985).

[9]See Jack Miles, "Blacks Vs. Browns: The Struggle for the Bottom Rung," The Atlantic Monthly, 270, no.4 (October 1992); LaVally, California Together: Defining the State's Role in Immigration (Sacramento, California, Senate Office on Research,) Report no. 717-2, 1993; and Manuel Moreno-Evans, Impact of Undocumented Persons and Other Immigrants on Costs, Revenues and Services in Los Angeles County, a report prepared for the Los Angeles County Board of Supervisors, 1992.

immigrant labor and its labor market impacts. I then summarize the empirical evidence that supports these theories and argue for an alternative method, which I utilize in the third and fourth sections of this study. In the conclusion, I summarize and discuss the theoretical and policy implications of my findings.

II. PARTICIPATION AND ECONOMIC EFFECTS OF IMMIGRATION

Theories on the Impacts of Immigration

The debate over the effects of immigration on the U.S. labor market is over 58 years old, beginning when the U.S. Immigration Commission concluded in 1935 that "immigration was responsible for many of the poor working conditions then evident in the United States" (Greenwood and McDowell, 1988). There are two major theories and an emerging third that describe immigrants' participation in and economic effects on the U.S. labor market, commonly known as the displacement and segmentation hypotheses. Paradoxically, they make opposite assumptions about the labor market and hence reach disparate conclusions about the impact of immigrant labor.

In general, the neoclassical displacement hypothesis argues that immigrants arrive in the U.S. in the face of declining wages. An increased supply of foreign workers, in turn, further pushes domestic wages down by expanding the aggregate labor supply despite a stable demand for labor. Immigrants displace native-born workers because the former are assumed to be perfect substitutes for the latter and skill differences are ignored (Briggs 1975a).

On the other hand, the segmentation theory argues that the U.S. labor market is sufficiently divided between immigrant and nonimmigrant jobs so that domestic workers are insulated from direct displacement effects by migrants (Piore 1979). Proponents of this theory argue that immigrants are hired into a low-wage section of the labor market where few nonimmigrants are employed in part due to differences in skill (Borjas 1987: Stewart and Hyclak 1984). Native workers, likewise, may be employed in unskilled jobs but are nevertheless protected from job competition because their jobs may be covered by union contracts, an institutional barrier that prevents immigrant workers' employment. Under this view, immigrant and domestic labor may complement one another in different sectors of the economy.

Somewhat related to the segmentation hypothesis is an emerging third theory that argues that immigrants take jobs that native workers no longer want; that is, a job ladder, or queue, for immigrant workers exists. Over time, U.S.-born labor moves onto better occupations, vacating "lower-rung" and less desirable jobs that various groups of newcomers then take. Once hired, immigrants employ social networks to recruit other immigrants and, in this way, certain industries become reserved exclusively for immigrants (Waldinger 1987). Likewise, employers also have a queue in which certain groups may be preferred over others. In this instance, immigrants may be valued more than black or other U.S.-born labor, perhaps because the former are perceived as harder-working, cheaper, and more docile than the latter. To the extent that such a queue is developing in secondary occupations or peripheral industries where immigrants and

other disadvantaged groups are concentrated, immigrant labor may work at the expense of black or U.S.-born labor.

At the conclusion of this study, I will return to these three theories and analyze their applicability to Los Angeles during the 1970s. If displacement best describes the labor market incorporation of immigrants, then immigrants may very well be contributing to the emergence of an urban underclass. Alternatively, if segmentation is the better description, native-born labor may actually be buffered from direct displacement effects of immigrant labor so that immigrant labor does not contribute to an urban underclass. Last, if the queuing hypothesis describes how immigrant and native workers relate to each other in labor markets, then displacement will be a minor factor and immigration again will play little, if any, role in the creation of the underclass.

Empirical Evidence

The empirical evidence on the labor market impact of increased immigration on native labor can be divided into three categories: (1) production function models that estimate across national samples of individuals; (2) industrial and occupational sectoral studies which employ large numbers of immigrants; and (3) analyses of labor market outcomes across regions or SMSAs, which contain a large number of immigrants. Here, I will describe each type of study and the findings it has yielded on the labor market impact of immigration.

Production Function Models on National Samples

Production function models determine the relationship between the output of a good (wages or employment) and relevant inputs (factors of production such as immigrant labor). Econometric research based on production function models has attempted to estimate the aggregate effect of immigration on natives' wages. Based on the conclusion of several researchers in this field (Borjas 1990; Papademetriou 1989; Greenwood and McDowell 1988), the aggregate negative effect of increases in the supply of immigrants on the earnings and employment of natives is either small or nonexistent and mostly falls on other recent immigrants.

Borjas (1983, 1984, 1986, 1987) in a series of studies concludes that immigrants have a minimal, if any, adverse impact on the wage rates, earnings, and participation rates of different groups of native workers. For example, in one study he (1984) estimates, via multivariate analysis, that male migration increased the earnings of both young and older black males in 1970. A similar estimate for 1980 also provided no statistically significant evidence that black male earnings were reduced either by recent or past immigration. Here, immigrants appear to be complementing the black labor force.

Rivera-Batiz et al. (1991), using a translog production function model, argue that depending on the amount of skills, education, and experience that a person commands, a "disturbance in the rates of return to these three inputs will result in a change in wages." Thus, an influx of immigrants affects the native-born

by changing the returns to education, experience, and skills. The rates of return are affected not only by the magnitude of the labor flow and the relative endowments of education, experience, and unskilled labor that the immigrants have but also by the degree of complementarity or substitutability between immigrant and native-born labor. The authors provide the following example to make their point: "If, for instance, education and unskilled labor are complements, then an inflow of highly schooled immigrants will tend to raise the rate of return to unskilled labor; if the two inputs are substitutes, however, the rate of return to physical labor will decline."

In another study, Borjas (1987) argues that immigrants tend to be substitutes for low-skilled native labor and complements for high-skilled natives. Based on labor demand elasticities and regression analysis, he asserts that any negative effect immigrants may have on natives, if at all, is negligible and at most may slightly impact earlier immigrants. For example, Borjas (1987) asserts that a 10% increase in immigration appears to decrease the wages of residents born abroad by between 2% and 9%. In a similar study, Stewart and Hyclak (1984), using data for central cities of the largest U.S. SMSAs in 1970, examine the effects of recent immigrants (10 years or less) on the relative earnings of black males in comparison to white males. They find some degree of substitutability between black males and recent immigrants from countries other than Mexico, Cuba, and the West Indies. According to this study, if any competition takes place between immigrants and domestic laborers, it occurs only with other minorities or recent immigrants of similar backgrounds.

Bean, Lowell and Taylor (1986) extend Borjas's work to analyze the effects of illegal immigration on the annual earnings of native workers. They show that the undocumented Mexican population has no depressive effect on the annual earnings of black males or females and that legal Mexican immigrants and native Mexicans actually complement blacks in the labor market.

Borjas (1990, 81) in his summary of the labor market impact of immigration concludes: "The empirical evidence is likely to be controversial: the methodological arsenal of modern econometrics cannot detect a single shred of evidence that immigrants have a sizable adverse impact on the earnings and employment opportunities of natives in the United States."

Industrial/Sectoral Studies

Sectoral studies examine the relationships between immigrant and native workers in particular labor markets, rather than throughout the nation as a whole. A few of these studies focus on the impact of immigration on the employment and earnings of natives. The studies that address this issue rely on census data or are based on specific case studies. It is important to review research on specific industrial and occupational labor markets to see if: (1) these studies corroborate or negate existing aggregate multivariate analysis on immigration impact; and (2) the case studies reveal factors not captured in multivariate studies. This section summarizes the literature in a few selected industries and occupations in which immigrants are concentrated. Based on this review of the literature, I conclude that the effects of immigration on U.S.

workers and more specifically in industries and occupations with a large number of immigrants are varied.

Agriculture is one of the most thoroughly researched industries in sectoral studies of immigration and labor markets, probably due to its historical reliance on cheap labor and its appeal to immigrant labor, both legal and illegal. Most of these studies evaluate immigration effects on particular crops and regions. One study (Mines and Martin 1984) concludes that the loss of immigrant workers leads to an increase in crop prices insofar as native labor is unwilling to perform agricultural labor at immigrant wages.

DeFrietas (1988) and DeFrietas and Marshall (1984) claim that heavy concentrations of immigrant labor affect the wages of less-skilled workers in manufacturing. They conclude that in industries with concentrations of immigrants of over 20%, a 1% increase in immigration results in about a 1.2% decrease in the rate of wage growth. However, this evidence can also be interpreted differently. As immigrants become absorbed or replace workers in the lower-paying occupational sectors, domestic workers move to better-paying industries and occupations. Waldinger (1985), in his study of the garment industry in New York City, argues that "to some extent immigrants may have displaced domestic workers, but [only] to the extent that complementary jobs were available elsewhere." Thomas Bailey's (1987) analysis of New York City's restaurant industry provides convincing evidence that immigrant men do not compete with native black workers but may compete with other immigrants, specifically recently arrived women and teenagers.

Research on the service industry indicates an increasing concentration of immigrants in a variety of service sector occupations (Sassen 1987; Waldinger 1987). Based on interviews with more than 1,000 Hispanic and black unemployed workers seeking positions through two local Los Angeles service centers of the California Employment Development Department, Maram and King (1983) conclude that over 51% of the Hispanics and blacks interviewed would be willing to work for lower wages than those presently being paid in most service sector occupations. Thus, the authors conclude that the downward pressure exerted by immigrants on the wages of current legal workers has caused some job displacement.

Most industry studies on the impact of immigration are largely based on a qualitative approach with some limited quantitative analysis. Those most affected by immigrants seem to be earlier immigrant cohorts or low-skilled native workers employed in occupations and industries with high concentrations of women, teenagers, and minorities. But these sectoral studies lack the explicit connection to other sectors in the economy and cannot be taken as conclusive evidence regarding the impact of immigration on native workers. Native workers may be moving, in some instances to better-paying jobs, as suggested by Waldinger (1985) and Maram and King (1983).

The effects of immigration on specific industries and occupations seem to vary. These effects depend on the size of the firm and its vitality, the type and market area of the industry, and the skills and other characteristics of the immigrants. A large firm that employs many workers in an area with a large surplus of immigrant laborers could easily exert downward wage pressures because immigrants would be willing to work for less pay than native workers. Likewise, a growing industry with strong internal labor markets and a union presence would insulate native-born labor from any wage or employment downswing

as a result of increased immigration.

Regional and Metropolitan Studies

Regional and metropolitan studies focus on the local distribution of immigrants and their aggregate effects on their location patterns, regional labor forces, and "immigrant cities" such as Los Angeles and New York. These studies of immigration and its economic impact fall into two broad categories: (1) regional, which looks at four major U.S. geographical areas (Northeast, North Central, South, and West); and (2) metropolitan, which examines several "immigrant" cities (New York, Los Angeles, Miami, Houston, and Chicago). Examples of large and thorough regional studies of immigration include Muller and Espenshade (1985) on California, Sassen (1987) on New York, and Massey et al. (1987) on both Western Mexico and California.

It is important to review this research because of immigration's uneven regional distribution and differences in economic development. The uneven distribution of immigrants probably means that their regional economic effects will also vary. Moreover, their distribution may be influenced by patterns of regional economic development. For example, it is no coincidence that the growth of immigration to Los Angeles during 1970 and 1980 occurred during a time when the city was experiencing manufacturing growth. In addition, the geographic distribution of the foreign-born is shifting toward the Sunbelt and the West, areas that also have sustained economic growth.[10]

Data about the regional distribution and characteristics of immigration provide a recent, yet preliminary, picture of immigrants in labor markets. Immigrants contribute to regional labor forces differently. For example, 20% of the West's overall labor-force growth between 1970 and 1980 came through immigration. This pattern differs from the Northeast (13%), the South (9%), and the North Central region (4%).[11] Immigrants' labor-force characteristics, such as occupational concentration, human capital characteristics, labor force participation, and earnings, also differ significantly by region. For example, Lowell (1989), using census data for 1970 and 1980 by region, shows how Mexican-origin migrants tend to have lower human capital characteristics (education, skills, job experience) than other foreign-born persons, particularly Asians, in the West. Lowell (1989) also shows that time of arrival is correlated with human capital characteristics and variations in occupational concentration and earnings. For example, half of all immigrants in the West have arrived since 1970, meaning that they, on average, have fewer years in the labor market than the native-born. Immigrants in the West are also younger, less likely to complete high school, and less apt to speak English than the native-born (Bean and Tienda 1987). But what do these

[10]Between 1900 and 1970, more than four-tenths of the foreign-born lived in the Northeast; by 1980 the proportion had dropped to three-tenths. At the same time, the West, which held barely one-twentieth of the foreign-born in 1870, had increased its share to one-third by 1980 (Lowell 1989, 47).

[11]See Lowell (1989, 54) citing figures from U.S. Census Bureau of the Census, 1970 and 1980 Census of Population: Detailed Population Characteristics, U.S. Summary, Section A: United States. (Washington, D.C.: U.S. Government Printing Office).

differences mean in regard to a regional economic impact on native wages and employment?

As I described in the Production Function Models section above, the aggregate negative effect of increases in the supply of immigrants on the earnings and employment of natives is small, or nonexistent, and falls heavily on other recent immigrants. Regional studies report similar results, and some show increases in job creation and demand because immigrants bring wealth with them. Studies show that international migration is frequently associated with inflows of capital (Johnson 1980; Gerking and Mutti 1980; Rivera-Batiz 1983; Sassen 1987), which in turn provide incentives for domestic investment and lead to increases in employment.

Regional job creation as a result of in-migration has been documented via multivariate and other research models (Muth 1971; Greenwood and Hunt 1984). For example, Greenwood and Hunt (1984) conclude that for every employed migrant, 1.29 jobs are created in the Northeast, 1.10 jobs in the North Central, 1.30 in the South, and 1.36 jobs in the West. Lowell (1989), in his review of regional impact as a result of immigration, concludes that small aggregate effects of a positive nature result from increased migration. However, further disaggregation of the data by metropolitan areas may reveal different conclusions.

New York City, the gateway for many of our nation's immigrants, is a rich source of research on the roles of immigrants in metropolitan labor markets. Some of the major works on New York include Waldinger and Lapp (1988), Bailey and Waldinger (1988), Sassen (1987), Waldinger (1986, 1987), and Bailey (1987). They provide an assortment of data that mostly focus on immigrant economic mobility as a result of industrial restructuring rather than on the specific impact of immigrants on native workers' job opportunities. Immigration research on Chicago, as in New York, has mostly addressed the issue of group mobility and industrial restructuring (Lowell 1989). Studies on Miami focus on the Cuban enclave as an example of largely self-contained social and economic environments that provide for successful mobility patterns and labor market integration (Portes and Bach 1985). Research on Los Angeles suggests that immigrants have a negative effect on wages in selected low-skilled industries (Muller and Espenshade 1985; McCarthy and Valdéz 1985; Cornelius et al. 1982; Maram and King 1983). This effect is primarily concentrated on Hispanic recent arrivals with similar education, skills, age, sex, and ethnic-origin characteristics (Muller and Espenshade 1985).

Morales (1983) and Gill and Long (1988) show that there is a great disparity between legal and illegal workers' gross income, but this disparity diminishes after controlling for human capital and job characteristics. As a result, Lowell (1989) suggests that if there is a relationship between immigrant competition and declining wages for low-skilled jobs, it may be the result of differences in the characteristics of competing sets of workers. Lastly, research in specific industries in Los Angeles such as agriculture (Martin 1988) and electronics (Gran 1988) shows an increasing reliance on female immigrants and other minority workers because of their cheaper than average labor rates.

Two broad conclusions emerge from regional and metropolitan studies: (1) the economic effects of

immigration on natives, regionally, are small; and (2) metropolitan studies suggest that some level of displacement occurs in several low-skilled occupations and between earlier and later immigrant groups that share similar human capital and job qualifications.

Despite the recent upsurge of empirical studies, conclusive evidence regarding the economic effects of immigration is generally scarce. In fact, Greenwood and McDowell (1986) claim that "little direct evidence is available on immigration's impact on the employment opportunities and wages of domestic workers." However, most labor market analysts will agree that, indeed, some form of labor market competition and complementarity exists, but they are more tentative and divided regarding the magnitude and regional concentration of these effects.

When analyzed separately or as a whole, production function models, sectoral, and regional and metropolitan studies provide us with some answers as to the overall economic impact immigrants have on native earnings and employment. The impact generally is not adverse, though immigration may result in slight wage depression and displacement for some groups of workers (Borjas and Tienda 1987). Immigrants also expand employment opportunities for complementary workers (Greenwood and McDowell 1988).

The displacement and segmentation hypotheses propose an either/or situation that does not correspond to available empirical evidence. The issue then becomes under what circumstances does displacement occur and under what circumstances does it not? The key to further specifying immigrant impact on natives is to document in greater detail which groups of workers and industries and occupations are affected. A more thorough analysis of the economic impacts of increased immigration depends on numerous factors, including: the size and composition of the domestic labor supply; the education, experience, and other human capital characteristics of immigrants; the growth or decline of the firm or industrial segment where immigrants are employed; the race, ethnicity, and gender of immigrants; the regional and metropolitan location of the industrial segment; and the protected or unprotected nature of the labor markets in which immigrants work.

The impact of immigrants on the domestic labor force is largely mediated by regional, occupational, and industrial change. A more complete examination must incorporate the changing occupational and industrial structure into labor market analysis. The next section describes an alternative research paradigm designed to do just that.

III. RESEARCH METHOD AND DATA

Method

To undertake this study I have compiled an assortment of data on Los Angeles that is mostly descriptive, showing the extent of immigrant and native concentration in industrial and occupational labor markets. To test for actual competition between groups of workers, Waldinger's (1987) shift-share model has been adapted and applied to industries and occupations categorized according to three different

typologies or tests which are explained below. Using shift share allows me to test factors contributing to industrial and occupational employment changes between two time periods.

Waldinger (1987) first applied this method to measure employment differentials between several racial and ethnic immigrant and U.S.-born groups in New York during 1970 and 1980. He found that the composition of the workforce is a crucial factor in the occupational position of nonwhites, and changes in the size of the white population set the stage for an upward realignment of nonwhite workers. New York's economic shift from goods to services was primarily responsible for the decline in the availability of white workers who left for better-paying jobs in outlying areas which in turn created a replacement demand for nonwhite workers (Waldinger 1987, 397). That is, a process of job succession or "musical ladders" whereby immigrants replace departing white labor took place in New York during the 1970s. Waldinger concludes by suggesting that the impact of compositional change was blunted by a trend toward ethnic competition, as reflected in a declining employment total and share for U.S.-born blacks.

Waldinger's study (1987) only analyzed eleven major industrial categories. Such a broad, aggregated study may mask important differences in the employment of immigrant and U.S.-born workers in industries and occupations that are not aggregated or analyzed as one regional economy. Thus, my research expands on Waldinger's by disaggregating industrial categories according to whether they are at the core or periphery and are experiencing growth or decline. In addition, I apply this method to occupations organized according to (1) 15 broad categories, and (2) four occupational segments (e.g., independent primary, craft, subordinate primary, and secondary).[12]

Shift share allows me to analyze for any given region whether immigrants, when compared to other groups in the same labor markets, grew or declined over time in their industrial and occupational concentration as a result of changes in the relative labor supply of different ethnic groups (group size); changes in the size of an industry or occupation (industry/occupation effect); and changes in a group's employment in an industry or occupation net of group size and industry/occupation effect. This last variable reflects the extent to which a group is concentrating or deconcentrating[13] in a specific labor market. Adding

[12]Dividing industries into core and peripheral sectors and occupations into segments is derived from dual labor market theory, which proposes that the economic system is characterized by the existence of two distinct industrial sectors and four occupational segments. In the core sector, firms have oligopoly power in their product markets, employ large numbers of workers, have vast financial resources, are favored by government regulations and contracting, and have workers who are more likely to be in unions. Firms in the periphery are smaller, have less influence over product markets, lack access to financial resources, and are usually dependent on sub contracting or retailing for larger firms. Jobs characterized in this category are low paying, nonunion, and exhibit high levels of turnover. Occupations are similarly categorized into four segments: (1) independent primary, (2) craft, (3) subordinate primary, and (4) secondary. Jobs in the primary market (independent) are characterized by educational credentials or state licensing of the occupation, and offer a clear path for advancement, better pay, and a well-defined occupational structure. Subordinate primary jobs are characterized by the presence of unions and a technical or "machine-paced" system of labor control. Craft falls somewhere in between these two categories. Secondary jobs are described as the worst, employing poorly educated workers, with high turnover, low pay, bad working conditions, and little upward integration.

[13]Deconcentration refers to the departure of a group of workers from a specific segment of the labor market.

together group size and industry/occupation change reveals whether the two factors undercut or reinforce the trends to concentrate or deconcentrate in a particular industry or occupation.

A positive figure in share represents an increasing group share of all industries/occupations in a particular sector. Thus, for example, if a particular immigrant group in an industry or occupation shows a positive group share (total), it is being employed in that sector at rates higher than those at which it is entering other sectors and is thus becoming more concentrated in that sector. A negative share signifies the opposite, that is, a particular group is entering that sector at rates lower than those at which it is entering other sectors and is becoming less concentrated or deconcentrated. For a more technical explanation of shift-share analysis, see Appendix A.

Job Competition

This research is primarily concerned with the displacement of U.S.-born workers in industries and occupations caused by an increase in the supply of immigrant labor. More specifically, the employment shares of three native groups (whites, African Americans, and Mexicans) are assessed to see how they respond to changes in the employment share of three immigrant groups (Mexicans, Latinos,[14] and Asians). After analyzing the results of the shift-share model, five possible job competition patterns have emerged. These patterns distinguish between various job competition scenarios that are not easily identifiable or clear cut when analyzed only as raw shift-share results, that is, absolute figures. As a result, each native group in every industrial and occupational category is analyzed and coded with one of these five possible patterns to correspond to the model results as follows:

1. *Complete Displacement (CD)* takes place when all native groups lose jobs, while all immigrant groups gain.

2. *Displacement (D*)* occurs when some native groups and some immigrant groups lose jobs in the same industry during the same time period. Because both native and immigrant groups are losing jobs, I attribute this pattern to factors other than immigration, such as industrial restructuring.

3. *Partial Displacement (PD)* happens when one or two native groups lose jobs, while one or two immigrant groups gain. In this pattern, particular attention is paid to the native Mexican group because it is a closer substitute for the immigrant groups analyzed here and consequently may be especially vulnerable to displacement.

4. *Complete Complementarity (CC)* occurs when native groups' job gain is simultaneous with all three immigrant groups' gains. The gain in native and immigrant jobs is due not only to increases in immigration but also to industrial growth, a robust economy, and other structural factors.

[14]Latino refers to all of the census-defined Hispanic subgroups (i.e., Puerto Ricans, Cubans, Central and South Americans) in the aggregate with the exception of Mexicans who are analyzed separately and referred to as such.

5. *Native Complementarity (NC)* takes place when native groups gain jobs, while immigrant groups lose.

Three industrial and occupational tests are conducted using shift share and the above coding schema to identify in which labor markets and for which groups displacement or complementarity is occurring. In test 1, I see if institutional structural properties (core and periphery, and decline and growth) make a difference in where negative or positive job competition patterns emerge. Test 2 is on occupations aggregated into 15 broad categories and classified according to those that grew and declined between 1970 and 1980. Here, I also look at a structural factor, growth and decline, which may or may not mediate job competition patterns. The third test is on occupational categories aggregated according to four segmentation classifications (e.g., independent primary, craft, subordinate primary, secondary). The primary purpose of this experiment is to see if structural differences in segmentation between occupations make a difference in where job competition is occurring. Figure 1 provides three flowcharts interpreting these three tests, and it shows how the hypotheses are either rejected or accepted.

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Sample (PUMS) of the 1980 Census. These data sources are large stratified samples of housing units enumerated in the U.S. Census, containing sociodemographic information on housing units (household records) and each person residing within them (individual records). Specifically, I gathered my data from the 1% sample of the PUS from the 1970 Census and the 5% sample of the PUMS from the 1980 Census. The 1990 decennial Census (PUMS) was not available at the start of this study at the disaggregated level needed.[15]

My study group is civilians, by race (white, African American, Asian, Mexican, and Latino), who are employed and received wage or salary income in the previous year. Those respondents who did not indicate occupation or industry were excluded. This definition also excluded the self-employed and unemployed in the labor force to reflect more accurately employment concentration according to industrial and occupational definitions.[16] Within that definition, then, my sample (employed civilians, 16 and over) is thus smaller than the labor force as it is usually defined in published data. The over 450 census-defined industries have been aggregated into 46 classifications while the over 200 occupations have been aggregated into 15 categories and four segments.

I have selected Los Angeles[17] as the geographic location of this study because it is the largest SMSA that received immigrants during the 1970s. Furthermore, Los Angeles experienced a decline in the socioeconomic fortunes of its inner-city residents and has witnessed distinct and dramatic shifts in the restructuring of its economy. Los Angeles provides an excellent framework to better understand some of the structural factors affecting immigrant and native-born labor and their relationship in specific labor markets.

IV. FINDINGS

Industrial Repositioning (Test 1)

As Table 1 shows, between 1970 and 1980 total employment for Los Angeles grew by over 349,960 jobs, a 9% increase. A large portion of this increase came from the growth of the health, education, finance, insurance and real estate, and business industries, which together accounted for over two-thirds of the total growth rate. There was also substantial growth in the restaurant, apparel, high technology, transportation, and public administration industries. However, Los Angeles also experienced major losses in several industries such as personal services, miscellaneous manufacturing, air and ordnance, and specialty retail stores.

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[15] I am also limited to these two data sets because other data (e.g., the Current Population Survey), even though they may be more current, do not have a large enough sample to analyze Latinos or Asians in specific labor markets in single SMSA regions. The decennial census, despite well-known and documented criticisms, is nonetheless unique for the detailed data it provides on ethnic, industrial, and occupational characteristics.

[16] The self-employed are certainly represented across many different industries and occupations but are not analyzed in this study because the specific labor markets in which the employment may be occurring cannot be identified.

[17] Los Angeles in this study refers to the Los Angeles-Long Beach SMSA as defined by the U.S. Census Bureau.

The core and periphery for this region grew at 13% and 2%, respectively. In the periphery, major losses came to the miscellaneous manufacturing, utilities and sanitation, specialty retail, personal services, and domestic service industries. However, these losses were offset by large increases in the business, entertainment and recreation, apparel, and eating and drinking establishments industries. When the total industrial population is divided according to nativity, an interesting trend emerges. Immigrants show no losses in their industrial employment in the periphery and two insignificant losses in the core in tobacco manufacturing and in rail service. Indeed, in those industries that experienced losses, they fell almost exclusively on the U.S.-born laborer.

Table 1

Industrial Change by Core and Periphery, Los Angeles 1970 - 1980

	Total Employment				*Nativity*					
					Immigrants			U.S. Born		
	1970	1980	DIFF	% Diff	1970	1980	DIFF	1970	1980	DIFF
CORE										
MINING	13,700	9,760	-3,940	-0.29	800	1,720	920	12,900	8,040	-4,860
CONSTRUCTION	171,300	195,420	20,120	0.12	21,800	42,180	20,380	149,500	149,240	-260
FOOD MFG	53,200	56,520	3,320	0.06	14,000	23,440	9,440	39,200	33,080	-6,120
TOBACCO MFG	400	120	-280	-0.70	200	40	-160	200	80	-120
PAPER MFG	17,500	19,360	1,860	0.11	3,200	6,040	2,840	14,300	13,320	-980
PRINTING & PUB	62,200	74,520	12,320	0.20	7,900	13,980	6,080	54,300	60,540	6,240
CHEMICAL MFG	25,900	25,740	-160	-0.01	4,100	7,760	3,660	21,800	17,980	-3,820
PETRO/COAL MFG	12,200	12,920	720	0.06	1,300	1,780	480	10,900	11,140	240
RUBR & MISC MFG	30,500	28,320	-2,180	-0.07	5,000	10,980	5,980	25,500	17,340	-8,160
ST/CLY/GLS MFG	26,900	24,740	-2,160	-0.08	5,200	8,800	3,600	21,700	15,940	-5,760
METAL INDUST	97,900	103,920	6,020	0.06	18,400	37,540	19,140	79,500	66,380	-13,120
GEN MACH MFG	68,100	74,960	6,860	0.10	10,900	22,020	11,120	57,200	52,940	-4,260
ELECT MACH MFG	84,000	76,660	-7,340	-0.09	11,500	26,080	14,580	72,500	50,580	-22,320
TRANSP EQ MFG	46,700	49,160	2,460	0.05	6,900	10,460	9,560	39,800	32,700	-7,500
PHT/TIME EQ MF	4,400	5,860	1,460	0.33	1,500	1,420	320	3,300	4,440	1,540
HIGH TECH MFG	85,100	103,340	18,040	0.21	12,900	26,500	13,600	72,400	76,840	4,440
AIR ORDNANCE	193,700	168,460	-25,240	-0.13	16,300	22,240	5,940	177,400	146,220	-31,180
RAIL SRVC	14,300	9,240	-5,060	-0.35	1,700	1,460	-240	12,600	7,780	-4,820
TRK/WARE/POST	80,500	90,880	10,380	0.13	4,700	11,580	6,880	75,800	79,300	3,500
TRANSPORTATION	59,800	82,440	22,640	0.38	7,600	17,020	9,420	52,200	65,420	13,220
COMMUNICATIONS	70,200	69,060	-1,240	-0.02	4,900	7,680	2,780	65,400	61,380	-4,020
WHOL NONDURABLE	67,400	93,880	25,980	0.39	11,600	25,080	13,480	55,800	68,300	12,500
FIRE	241,500	293,960	52,660	0.22	31,700	56,880	25,180	209,800	237,080	27,480
HEALTH SRV	214,000	308,340	94,340	0.44	27,800	66,340	38,540	186,200	242,000	55,800
EDUCATION	259,600	307,620	48,020	0.18	21,600	41,940	20,340	238,000	265,680	27,680
PROF SRVC	177,600	202,180	24,580	0.14	18,800	30,240	11,440	158,800	171,940	13,140
PUBLIC ADMIN	140,700	149,300	8,600	0.06	8,000	16,780	8,780	132,700	132,520	-180
Core Total	2,339,400	2,632,180	312,780	0.13	279,500	543,980	264,480	2,059,900	2,088,200	48,300
PERIPHERY										
AG FOR & FISH	41,200	48,720	7,520	0.18	10,100	19,740	9,440	30,900	28,980	-1,920
TEXTILE MFG	10,800	13,480	2,680	0.25	3,100	7,780	4,680	7,700	5,700	-2,000
APPAREL MFG	77,300	98,260	20,960	0.26	36,400	69,820	33,420	41,300	28,440	-12,860
LEATHER MFG	6,300	10,400	4,100	0.65	2,800	7,740	4,940	3,500	2,660	-840
LOG/LUMBER PROD	7,100	13,540	6,440	0.91	1,600	6,240	4,640	5,500	7,300	1,800
FURN MFG	32,000	41,880	9,880	0.31	8,800	24,200	15,400	23,200	17,680	-5,520
MISC MFG	108,700	66,720	-41,980	-0.39	14,500	30,100	15,600	94,400	36,620	-57,780
UTIL & SANIT	50,700	36,360	-14,340	-0.28	3,300	4,820	1,520	47,400	31,540	-15,860
WHOLE & DURABLE	107,800	104,500	-3,300	-0.03	13,500	21,500	8,000	94,300	83,000	-11,300
BLD/HD/DEPT ST	132,300	123,860	-8,440	-0.06	18,000	19,660	1,660	114,300	104,200	-10,100
FOOD STORE	93,000	103,500	10,500	0.11	10,700	22,860	12,160	82,300	80,640	-1,660
MV ST/SERV STA	75,800	67,000	-8,800	-0.12	8,200	15,860	7,660	67,600	51,140	-16,460
EAT/DRINK ESTAB	164,200	206,960	42,760	0.26	25,600	66,420	40,820	138,600	140,540	1,940
SPEC RETAIL	233,900	213,100	-22,800	-0.10	30,000	45,040	15,040	205,900	168,060	-37,840
BUSINESS SERV	122,000	181,980	59,980	0.49	12,900	29,360	16,460	109,500	152,620	43,120
REPAIR SERV	65,700	69,880	4,180	0.06	11,700	24,660	12,960	54,000	45,220	-8,780
DOMEST SERV	60,600	45,500	-15,100	-0.25	10,200	22,300	12,100	50,400	23,200	-27,200
PERSONAL SERV	140,500	104,400	-36,100	-0.26	25,800	34,040	8,240	114,700	70,360	-44,340
ENTER & REC	97,200	116,640	19,440	0.20	8,800	16,500	7,700	88,400	100,140	11,740
Periphery Total	1,629,500	1,666,680	37,180	0.02	256,000	488,640	232,640	1,373,500	1,178,040	-195,460
TOTAL	3,948,900	4,298,860	349,960	0.09	535,500	1,032,620	497,120	3,413,400	3,266,240	-147,160

Source: 1970 figures are from U.S. Bureau of the Census, Public Use Samples (1/100). 1980 figures are from U.S. Bureau of the Census, Public Use Microdata Samples, (5% "A" Sample)

Table 2
Industrial Change by Race and Ethnicity, Los Angeles , 1970-1980

	WHITES			LATINOS			BLACKS			ASIANS		
Industries	1970	1980	Diff	1970	1980	Diff	1970	1980	Diff.	1970	1980	Diff
MINING	11,800	7,540	-4,260	1,100	1,020	-80	600	540	-60	200	440	240
CONSTRUCTION	128,100	125,900	-2,200	25,300	42,380	17,080	14,900	13,720	-1,180	1,800	5,560	3,760
FOOD MFG	32,000	23,020	-8,980	15,100	23,700	8,600	4,800	4,860	60	900	3,660	2,760
TOBACCO MFG	200	20	-180	100	40	-60	100	40	-60	0	20	20
PAPER MFG	10,500	9,000	-1,500	4,600	7,120	2,520	2,100	2,100	0	200	620	420
PRINTING & PUB	53,000	50,500	-2,500	6,000	14,560	8,560	2,100	4,660	2,560	800	3,820	3,020
CHEMICAL MFG	19,000	13,880	-5,120	4,800	7,580	2,780	1,400	2,240	840	600	1,700	1,100
PETRO/COAL MFG	10,000	8,960	-1,040	1,200	1,840	640	700	1,320	620	300	640	340
RUBB & MISC PLAS	17,600	12,640	-4,960	8,900	11,860	2,960	3,600	2,100	-1,500	100	1,040	940
ST/CLY/GLS MFG	18,100	11,720	-6,380	6,800	9,960	3,160	1,300	2,020	720	400	720	320
METAL INDUST	60,000	46,900	-13,100	27,700	42,320	14,620	8,300	9,020	720	1,500	3,400	1,900
GEN MACH MFG	54,600	45,460	-9,140	9,400	20,820	11,420	2,500	3,880	1,380	1,200	3,440	2,240
ELECT MACH MFG	64,400	39,180	-25,220	12,000	24,360	12,360	5,500	6,180	680	1,600	5,540	3,940
TRANSP EQ MFG	32,000	20,780	-11,220	8,800	17,780	8,980	4,900	7,600	2,700	700	2,000	1,300
PVT/TIME EQ MF	3,500	3,940	440	600	600	0	0	620	620	100	840	740
HIGH TECH MFG	65,900	61,480	-4,420	11,700	23,660	11,960	5,100	8,700	3,600	1,800	7,720	5,920
AIR ORDINANCE	188,200	147,140	-41,060	16,500	22,380	5,880	14,700	19,500	4,800	3,800	7,360	3,560
RAIL SRVC	9,500	5,200	-4,300	2,400	2,220	-180	2,200	1,480	-720	100	180	80
TRK/WARE/POST	53,400	49,660	-3,740	9,600	17,400	7,800	14,400	18,520	4,120	2,400	3,880	1,480
TRANSPORTATION	46,200	52,320	5,620	5,900	9,780	3,880	4,800	13,320	8,520	1,900	5,860	3,960
COMMUNICATIONS	58,200	46,300	-11,900	5,400	9,320	3,920	5,900	9,440	3,540	600	3,020	2,420
WHOL NONDURABLE	47,900	54,660	6,760	11,100	22,680	11,580	5,000	6,760	1,760	3,100	7,580	4,480
FIRE	200,900	199,600	-1,300	22,300	36,820	14,520	13,000	31,800	18,800	4,500	22,020	17,520
HEALTH SRV	159,400	177,100	17,700	16,300	45,700	29,400	30,300	53,400	23,100	7,100	27,660	20,560
EDUCATION	210,400	199,680	-10,720	16,700	41,820	25,120	22,600	45,420	22,820	8,900	17,320	8,420
PROF SRVC	144,400	146,560	2,160	10,300	19,920	9,620	16,600	22,220	5,620	5,600	11,020	5,420
PUBLIC ADMIN	105,000	83,160	-21,840	11,600	20,380	8,780	20,200	34,260	14,060	3,000	9,500	6,500
Subtotal	1,774,700	1,612,300	-162,400	272,200	498,020	225,820	207,600	325,720	148,120	53,400	156,360	102,960
AG FOR & FISH	24,100	20,360	-3,740	9,800	17,340	7,540	2,100	3,040	940	4,900	6,300	1,400
TEXTILE MFG	6,100	3,920	-2,180	3,400	7,200	3,800	1,200	1,080	-120	100	900	800
APPAREL MFG	28,600	20,700	-7,900	33,200	59,180	25,980	10,400	4,960	-5,440	4,900	11,160	6,260
LEATHER MFG	2,800	2,200	-600	3,000	7,380	4,380	400	280	-120	100	220	120
LOG/LUMBER PROD	4,400	5,720	1,320	2,000	6,340	4,340	600	940	340	100	160	60
FURN MFG	18,200	12,360	-5,840	11,800	25,360	13,560	1,500	2,320	820	300	840	540
MISC MFG	70,000	27,080	-42,920	21,300	29,120	7,820	15,600	5,160	-10,440	1,600	3,640	2,040
UTIL & SANIT	36,300	21,240	-15,060	5,300	6,400	1,100	7,900	6,300	-1,600	1,100	2,020	920
WHOLE & DURABLE	85,400	70,840	-14,560	12,600	19,180	6,560	5,300	6,860	1,560	3,400	6,200	2,800
BLD/HD/DEPT ST	100,300	77,720	-22,580	16,800	23,240	6,440	12,300	14,960	2,660	2,500	6,060	3,560
FOOD STORE	72,100	61,860	-10,240	9,500	20,100	10,600	5,600	9,640	4,040	5,000	10,220	5,220
MV ST/SERV STA	69,900	44,180	-16,720	7,600	12,960	5,360	5,600	4,920	-680	2,100	3,920	2,620
EAT/DRINK ESTAB	120,900	116,720	-10,180	20,000	33,720	13,720	8,100	15,540	7,440	8,200	16,900	8,700
SPEC RETAIL	192,400	147,200	-45,200	20,100	34,380	14,280	18,000	16,840	-1,160	4,600	12,080	7,480
BUSINESS SERV	98,700	123,400	24,700	7,900	23,320	15,420	12,600	23,860	11,260	2,400	8,580	6,180
REPAIR SERV	47,600	36,520	-10,580	10,300	22,920	12,620	6,800	5,900	-900	1,400	5,260	3,860
DOMEST SERV	29,200	13,640	-15,560	7,200	19,060	11,860	22,100	9,420	-12,680	1,900	1,900	300
PERSONAL SRVC	96,500	56,340	-40,160	20,800	26,180	5,380	18,400	12,340	-6,060	4,200	7,500	3,300
ENTER & REC	85,000	92,260	7,260	6,400	11,060	4,660	4,300	7,980	3,680	1,300	3,760	2,460
Subtotal	1,185,000	954,260	-230,740	229,000	424,420	195,420	158,600	152,340	-6,260	48,800	105,420	56,620
Total	2,959,700	2,566,560	-393,140	501,200	922,440	421,240	366,200	478,060	111,860	102,200	261,780	159,580

Source: 1970 figures are from U.S. Bureau of the Census, Public Use Samples (1%), 1980 figures are from U.S. Bureau of the Census, Public Use Microdata Samples (5%)

Industrial data divided by race and ethnicity (see Table 2) for 1970 and 1980 reveal that whites were the primary losers in both the core and periphery.[18] Blacks also suffered job losses in several industries in the core and periphery but in much fewer numbers and as a lower percentage of total loss per industry. Latinos and Asians, on the other hand, showed large job gains. Of these general trends the following

[18]This is, of course, true in absolute numbers and proportionally because whites are by far the largest employed group in Los Angeles.

questions may be asked:

1. Do instances of job competition exist between different groups of workers as the above patterns suggest, and if so, in what industrial categories is displacement or complementarity occurring?

2. Does industrial dualism[19] make a difference in the number of industries that have instances of displacement or complementarity? In other words, are industries in the core more or less likely than industries in the periphery to have patterns of job displacement or complementarity as a result of increased immigrant employment share?

3. Do patterns of job displacement or complementarity increase or decrease when the 46 industries in this study are analyzed according to whether they grew or declined between 1970 and 1980?

Table 3 organizes the population according to five racial and ethnic groups and shows the number of industrial jobs per sector held by each group in Los Angeles in 1970 and 1980. Its fourth column shows the number of jobs each group would have gained had its gains been proportional to the growth in the overall Los Angeles economy during this period, when industrial employment grew by 9%, from 3,948,900 jobs in 1970 to 4,298,860 in 1980. Table 3 then indicates how many jobs the group actually gained or lost and the difference between expected and actual employment losses.

TABLE 3

Changes in Industrial Employment For Selected Ethnic Groups, Los Angeles, 1970 - 1980

	EMPLOYMENT		JOB CHANGE			
Groups in Core Industries	1970	1980	Expected	Actual	Actual-Expected	A-E/1970 Emp.
NATIVE-BORN White	2,033,200	1,852,280	209,976	-182,920	-392,896	-23.69%
NATIVE-BORN Blacks	204,400	316,860	20,702	111,460	84,758	41.26%
NATIVE-BORN Mexicans	141,700	200,320	18,421	58,620	40,199	28.37%
FOREIGN-BORN Mexicans	64,500	188,640	8,385	124,140	115,755	179.47%
FOREIGN-BORN Latinos	32,000	71,100	4,160	39,100	34,940	109.19%
FOREIGN-BORN Asians	29,500	103,420	2,535	73,920	71,385	457.36%
Groups in Periphery Industries						
NATIVE-BORN White	1,060,300	840,500	21,210	-220,340	-245,850	-22.78%
NATIVE-BORN Blacks	159,600	147,180	3,132	-9,420	-62,552	-18.02%
NATIVE-BORN Mexicans	99,300	114,660	1,986	45,360	13,374	13.47%
FOREIGN-BORN Mexicans	74,400	210,620	1,488	136,220	134,732	184.09%
FOREIGN-BORN Latinos	30,600	74,640	612	44,040	43,428	141.92%
FOREIGN-BORN Asians	22,200	70,880	444	48,680	48,236	217.28%

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS (1/100) and 1980

This table allows us to glimpse the different dynamics affecting the process of job change in Los Angeles during 1970 and 1980. Here we can see that the biggest losers of jobs were whites, losing close to 400,000 jobs in the core and peripheral industries. However, this loss is offset by the large job gain experienced by nonwhite groups (both native and foreign born) in both sectors, providing Los Angeles with

[19]Dualism refers to the categorization of industries into either the core or periphery so as to correspond to dual labor market theory (Gordon, Edwards, and Reich 1982).

an overall job growth rate of 9%. What accounts for the white job loss and the nonwhite job gain? Is job competition in the form of displacement between immigrants and nonimmigrants or between whites and nonwhites partly to blame for mostly white and some black loss? In the following section I attempt to answer these questions.

To assess the impact of industrial and occupational compositional change, I have used shift-share analysis. Table 4 provides the share result for each industry by racial and ethnic group and nativity.

All 46 industries are classified according to dual labor market theory (see note 12) and are listed following Tolbert, Horan, and Beck's (1980) typology. I extend the authors' matrix and further classify the industries according to those that grew and declined between 1970 and 1980 per sector. In Los Angeles's core sector 18 industries grew and 9 declined, while in its periphery, 11 grew and 8 declined. These two patterns alone show that during the 1970s, Los Angeles's economy, especially in the core sector, was very robust in terms of industrial change.

Table 4 also provides data on the share results of the shift-share model for three major groups of workers; those born in the U.S. (whites, blacks, and Mexicans) and those born abroad (Mexicans, Latinos, and Asians). The data in Column 2 describe the total employment of each industry in the region. The share results of the model are then presented in Columns 3 - 8 for each group and calculated in percentages of total employment to measure the relative change in employment for each group.

Table 4

Industrial Shift-Share Model Results For "Share" For Los Angeles, 1970-1980 (in % of total industry Emp.)

	Total Emp. 1980	*Change Due to SHARE:* U.S. Born Whites	U.S. Born Blacks	U.S. Born Mexicans	*Change Due to SHARE:* Immigrant Mexicans	Immigrant Latinos	Immigrant Asians
CORE (growth)							
CONSTRUCTION	491,420	4.69	-4.77	-1.24	-3.10	0.70	0.74
FOOD MFG	56,520	-6.44	-3.84	0.18	-9.85	-3.01	0.43
PAPER MFG	19,360	-1.12	-5.94	-3.19	-1.95	-4.85	-0.35
PRINTING & PUB	74,520	-0.03	1.64	3.48	0.23	0.43	0.23
PETRO/COAL MFG	12,920	5.89	2.09	-2.85	0.23	1.86	-9.83
METAL INDUST	103,920	-3.23	-3.23	-6.04	-3.83	-0.07	0.89
GEN MACH MFG	74,960	-2.67	0.02	0.03	3.16	0.89	0.22
TRANSP EQ MFG	49,160	-11.50	0.29	-0.15	6.44	-1.38	-1.53
PHT/TIME EQ MF	5,860	4.56	9.90	-3.12	-11.57	-2.77	-0.18
HIGH TECH MFG	100,340	-2.76	0.11	0.65	1.67	-1.89	0.73
TRK/WARE/POST	90,880	0.32	-3.85	1.88	0.65	0.94	-1.50
TRANSPORTATION	82,440	-9.83	5.24	-1.50	1.47	-0.77	-2.00
WHOL NONDURABLE	93,380	-0.47	-2.67	-0.76	-3.25	1.12	-1.38
FIRE	293,960	0.23	3.28	-0.41	-0.47	-0.88	2.80
HEALTH SRV	308,340	-4.51	-1.13	1.48	1.69	0.40	0.93
EDUCATION	307,620	-1.35	2.62	2.63	0.61	0.34	-2.57
PROF SRVC	202,180	6.55	-1.77	0.82	0.21	0.14	-2.02
PUBLIC ADMIN	149,300	-3.51	2.09	0.88	-0.86	0.54	1.30
(Decline)							
MINING	9,780	13.68	-1.79	-2.03	3.48	1.84	-2.34
TOBACCO MFG	120	10.91	-26.05	8.00	16.67	-99.34	0.00
CHEMICAL MFG	25,740	-0.62	1.44	-4.59	6.50	-0.36	-0.74
RUBB & MISC MFG	28,120	0.35	-9.77	-10.24	3.05	-1.68	0.88
ST/CLY/GLS MFG	24,740	-1.61	0.92	-7.24	1.21	-0.43	-6.38
ELECT MACH MFG	76,660	-6.20	-1.76	-1.48	6.31	2.25	2.77
AIR ORDINANCE	168,460	8.61	0.26	0.19	-0.20	-0.78	-0.63
RAIL SRVC	9,240	11.08	-9.19	0.26	-17.28	0.07	-3.22
COMMUNICATIONS	69,060	4.08	-5.35	2.74	0.45	0.28	1.92
Core Total	2,632,180	-0.30	-0.04	-0.03	-0.01	-0.01	0.00
PERIPHERY (Growth)							
AG FOR & FISH	48,720	-5.60	1.45	-2.67	-6.25	1.48	-10.66
TEXTILE MFG	13,480	-15.46	-2.26	-1.06	0.19	-1.39	5.79
APPAREL MFG	98,260	-5.76	-7.39	-6.22	-10.29	-5.64	-2.41
LEATHER MFG	10,400	-21.13	-3.55	-0.70	-12.72	-6.68	1.92
LOG/LUMBER PROD	13,540	-9.15	-1.74	-5.60	10.38	3.01	8.89
FURN MFG	41,880	-16.41	1.04	-5.87	7.35	-2.65	0.44
FOOD STORE	103,500	-2.50	3.44	1.26	2.04	0.50	1.53
EAT/DRINK ESTAB	206,960	-7.39	2.69	0.01	3.89	2.96	-1.02
BUSINESS SERV	481,980	-0.33	2.95	1.52	1.20	0.49	1.09
REPAIR SERV	69,880	-4.89	-1.39	1.10	4.11	-1.77	0.89
ENTER & REC	116,640	6.40	2.67	0.23	0.14	0.37	0.79
(Decline)							
MISC MFG	46,720	-3.93	-4.90	-5.21	1.91	-2.57	3.18
UTIL & SANIT	16,360	8.12	3.27	2.76	-0.63	-0.55	2.01
WHOLE & DURABLE	104,500	5.98	1.88	0.48	-0.37	-1.61	0.00
RLG/HD/DEPT ST	123,860	5.89	3.32	2.65	-2.44	-1.17	0.24
MV ST/SERV STA	67,000	3.32	0.75	1.01	0.91	-0.20	2.61
SPEC RETAIL	213,500	5.70	0.83	1.12	0.19	-1.44	1.45
DOMEST SERV	45,500	-3.41	-12.69	1.02	-2.01	13.45	-4.39
PERSONAL SERV	304,400	4.34	-0.11	-1.03	-6.65	0.91	-0.42
Periphery Total	1,666,680	-0.18	-0.05	-0.02	-0.01	-0.01	0.00
TOTAL	4,298,860	-0.14	-0.05	-0.02	-0.06	-0.02	-0.02

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS and 1980 PUMS files

NOTE: (Industrial classification by core and periphery adapted from Tolbert, Horan, and Beck (1980))

The share results show several combinations of both native and immigrant losses and gains in industrial employment. These gains and losses reflect different instances of displacement and complementarity that, in part, are attributable to immigrant growth and other factors such as industrial restructuring, the general economic climate, and other variables not tested in this model. Analyzed as a whole, Table 4 provides much information about specific ethnic and native-and-foreign born employment

change but very little room for interpreting trends and patterns. To make better sense of the share results and their implication for job competition, I have coded different immigrant employment share patterns that assist in identifying industries in which job competition possibly is occurring between immigrant and native-born workers. Table 5 lists these patterns for each industry; but while it summarizes the share results of the model for each industry, the table provides few recognizable patterns with which to analyze job competition. To ameliorate this problem, I have created two summary tables showing job competition patterns according to industrial dualism (core and periphery) and industrial change (growth and decline) for the three native-born groups at issue in this study.

Table 5

Effects of Job Competition on Native Workers by Immigrants in Industries, Los Angeles, 1970-1980

	EFFECTS OF JOB COMPETITION ON NATIVE WORKERS		
• INDUSTRIES	Whites	Blacks	Mexicans
CORE: Growth Industries			
CONSTRUCTION	NC	PD	D*
FOOD MFG	D*	D*	NC
PAPER MFG	D*	D*	D*
PRINTING & PUB	CD	CC	CC
PETRO/COAL MFG	NC	NC	CD
METAL INDUST	D*	D*	D*
GEN MACH MFG	CD	CC	CC
TRANSP EQ MFG	PD	NC	PD
PHT/TIME EQ MF	NC	NC	D*
HIGH TECH MFG	PD	NC	NC
TRK/WARE/POST	NC	PD	NC
TRANSPORTATION	PD	NC	CD
WHOL NONDURABLE	PD	PD	CD
FIRE	NC	NC	D*
HEALTH SRV	CD	CD	CC
EDUCATION	PD	NC	NC
PROF SRVC	NC	PD	NC
PUBLIC ADMIN	PD	NC	NC
CORE: Decline Industries			
MINING	NC	PD	CD
TOBACCO MFG	PD	PD	CC
CHEMICAL MFG	PD	NC	PD
RUBB & MISC MFG	NC	PD	PD
ST/CLY/GLS MFG	PD	NC	PD
ELECT MACH MFG	CD	CD	CD
AIR ORDINANCE	NC	NC	NC
RAIL SRVC	NC	D*	NC
COMMUNICATIONS	CC	CC	CC
PERIPHERY: Growth Industries			
AG FOR & FISH	PD	NC	PD
TEXTILE MFG	PD	PD	PD
APPAREL MFG	D*	D*	D*
LEATHER MFG	D*	D*	D*
LOG/LUMBER PROD	CD	CD	CD
FURN MFG	PD	NC	PD
FOOD STORE	CD	CC	CC
EAT/DRINK ESTAB	PD	NC	NC
BUSINESS SERV	CD	CC	CC
REPAIR SERV	PD	PD	NC
ENTER & REC	CC	CC	CC
PERIPHERY: Decline Industries			
MISC MFG	PD	PD	PD
UTIL & SANIT	NC	NC	NC
WHOLE & DURABLE	NC	NC	NC
BLD/HD/DEPT ST	NC	NC	NC
MV ST/SERV STA	NC	NC	NC
SPEC RETAIL	NC	NC	NC
DOMEST SERV	PD	PD	PD
PERSONAL SERV	NC	PD	PD

Source: Industrial classification by core and periphery adapted from Tolbert, Horan, and Beck (1980)

NOTE: CD= complete displacement; D= displacement due to factors other than immigration; PD=native displacement due to one or two immigrant group's job gain; CC= complete complementarity; NC=native job gain as the result of immigrant job loss*

Does Competition Exist?

The top half of Table 6 provides a general summary of job competition patterns for the three native-

born groups in the core and peripheral sectors in Los Angeles. The data in the two columns for each of the three native-born groups indicate the number of industries that fall into each job competition pattern. The first column provides the actual number of industries that fall under one of the five patterns, while the second column provides the percent total of this figure.

Table 6

Summary of Overall Immigrant Job Competition Patterns on Native Workers and Industrial Dualism Patterns, Los Angeles

OVERALL JOB COMPETITION PATTERNS	Whites		Blacks		Mexican	
	No Indust	% of Total	No Indust	% of Total	No Indust	% of Total
1 Complete Displacement	7	0.15	3	0.07	6	0.13
2 Partial Displacement	16	0.35	12	0.26	10	0.22
"Overall" Displacement	***23***	***0.50***	***15***	***0.33***	***16***	***0.35***
3 Displ. Due to Other Factors	5	0.11	6	0.13	7	0.15
4 Complete Complement	2	0.04	6	0.13	8	0.17
5 Native Complement. Due to Immig.	16	0.35	19	0.41	15	0.33
"Overall" Complement	***18***	***0.39***	***25***	***0.54***	***23***	***0.50***
TOTAL	46	1.00	46	1.00	46	1.00
DUALISM PATTERNS	No Indust	% of Sec Total	No Indust	% of Sec Total	No Indust	% of Sec Total
CORE INDUSTRIES						
1 Complete Displacement	4	0.15	2	0.07	5	0.19
2 Partial Displacement	9	0.33	7	0.26	4	0.15
"Overall" Displacement	***13***	***0.48***	***9***	***0.33***	***9***	***0.33***
3 Displ. Due to Other Factors	3	0.11	4	0.15	5	0.19
4 Complete Complement	1	0.04	3	0.11	5	0.19
5 Native Complement. Due to Immig.	10	0.37	11	0.41	8	0.30
"Overall" Complement	***11***	***0.41***	***14***	***0.52***	***13***	***0.48***
TOTAL	27	1.00	27	1.00	27	1.00
PERIPHERY INDUSTRIES						
1 Complete Displacement	3	0.56	1	0.05	1	0.05
2 Partial Displacement	7	0.37	5	0.26	6	0.32
"Overall" Displacement	***10***	***0.53***	***6***	***0.32***	***7***	***0.37***
3 Displ. Due to Other Factors	2	0.11	2	0.11	2	0.11
4 Complete Complement	1	0.05	3	0.16	1	0.56
5 Native Complement. Due to Immig.	6	0.32	8	0.42	7	0.37
"Overall" Complement	***7***	***0.37***	***11***	***0.58***	***10***	***0.53***
TOTAL	19	1.00	19	1.00	19	1.00

Source: Author's estimates are based on data taken from U.S. Census Bureau 1970 PUS (1%) and 1980 PUMS (5%) files.

NOTE: Overall displacement is the sum of numbers 1 and 2, while overall complementarity is the sum of numbers 4 and 5. Total does not take into account overall displacement or complementarity.

The data in Table 6 show that, indeed, both job displacement and complementarity exist in Los Angeles. However, more industries show complementarity rather than displacement for blacks and Mexicans, the two groups most vulnerable to job competition with immigrants because of their substitutability. Combining complete displacement with partial displacement yields an overall displacement trend,[20] and combining complete complementarity and complementarity due to immigrant job loss produces an overall complementarity trend.[21] Comparing the job competition trends of overall displacement with

[20]It is important to distinguish between complete and partial displacement because the former is an instance where all three native groups have been displaced in a particular industry while the latter includes the displacement of one or two native-born groups. Nonetheless, I combine these two patterns to get an overall displacement trend while at the same time acknowledging that this combination is not as accurate (i.e., some native-born groups in an industry in this category may actually be gaining jobs) as if it were analyzed individually.

[21]Combining these two job competition patterns (complete complementarity with complementarity due to immigrant

overall complementarity shows that immigrants complement native-born groups in much larger proportions than they displace them.[22]

Of particular note in Table 6 is pattern 5 which shows the number of industries in which immigrant groups were displaced by native-born workers. This finding suggests that, just as native-born workers are displaced as a result of increased immigration, immigrants likewise are displaced in particular industries as a result of native-born employment gains. As the regional labor market fluctuates through cycles of growth and decline, different groups compete for different jobs, but displacement can harm either immigrants or the native-born.

Do Industrial Dualism and Industrial Change Matter?

The second and third inquiries of this section are whether industrial dualism (core and periphery) and industrial change (growth or decline) matter in stimulating or thwarting job competition. The second half of Table 6 along with Table 7 summarizes data on the five individual job competition patterns analyzed separately by industrial dualism and change. Indeed, as these data show, industrial dualism and industrial change make very little difference in stratifying the five job competition patterns.

Industrial Dualism?

As the bottom half of Table 6 indicates, in the core sector of Los Angeles, there is a higher proportion of industries where immigrants more often complement than displace native workers.[23] Similarly, with the exception of whites in Los Angeles, a clear majority of the industries in the periphery reveals that immigrants complement, as opposed to displace, native-born labor. Thus, industrial dualism does not seem to concentrate job displacement in the periphery as originally hypothesized. No clear pattern of either displacement or complementarity emerged in the two sectors, implying that industrial dualism has little effect in mediating job competition. However, a more detailed analysis of the differences between the data for the five job competition patterns reveals several important findings.

Los Angeles includes several core industries registering complete displacement. Thus, competition between immigrants and the native-born in the high-skilled core sector may be as prevalent as in the low-skilled peripheral sector in Los Angeles. Immigrants in Los Angeles may be more skilled than previously thought, given their ability to compete and in some instances displace native workers in core sector industries. Los Angeles, in both its core and peripheral sectors, showed several industries that registered

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job loss) provides us with an overall complementarity figure that is broad based because it describes native-born employment share gain as the result of either immigrant employment share loss or gain. However, in this study I differentiate between these two patterns, describing instances of immigrant job displacement as a result of native-born white, black, and Mexican employment share gain.

[22]The exception to this pattern is for native-born whites in Los Angeles.

[23]The only exception is the native-born white group, which had a slightly larger percentage (48%) of industries showing displacement than complementarity (41%).

native-born employment displacement as a result of factors other than immigration (pattern 3). That is, native-born white, black, or Mexican labor is being replaced in those particular industries because of either industrial restructuring, white or other group employment gain, or other factors not tested in this model. This suggests that immigrants may be playing a minimal role in the displacement of native labor in several industries in Los Angeles. Lastly, job gains for native workers come largely at the expense of immigrant labor (see pattern 5 for each sector). That is, the employment gains that native labor accrues do not generate opportunities for the immigrant population. This finding suggests that competition is a two-way phenomenon: both immigrants and natives can displace each other.

Industrial Growth?

Table 7 lists those industries for each sector in which native-born workers were displaced or complemented[24] by the employment of immigrants; it also separates the displacement and complementarity categories based on whether the industries grew or declined during the 1970s. Industrial growth or decline may influence whether job displacement or complementarity occurs in an industry. In declining industries, displacement is more likely than in a robust growing industry.

Los Angeles had more industries in the core that grew (18 out of 27) than declined, and complementarity was more likely to occur in those industries that grew than in those that declined. However, no clear patterns emerged showing job displacement to be more prevalent in the declining industries and complementarity to be concentrated in the growth industries. This finding suggests that both instances of immigrant displacement and complementarity occur, regardless of whether an industry is declining or growing. Industrial change makes no difference in patterns of job competition due to increased immigration.

Table 7

Summary of Immigrant Job Competition Patterns on Native Workers According to Industrial Dualism and Change: Los Angeles

		Whites	Blacks	Mexicans
		Number of Industries Affected	Number of Industries Affected	Number of Industries Affected
CORE INDUSTRIES				
DISPLACEMENT		16	13	14
	Growth	12	8	9
	Decline	4	5	5
COMPLEMENTARY		11	14	13
	Growth	6	10	9
	Decline	5	4	4
PERIPHERY INDUSTRIES				
DISPLACEMENT		12	8	9
	Growth	10	5	6
	Decline	2	3	3
COMPLEMENTARY		7	11	10
	Growth	1	6	5
	Decline	6	5	5

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS (1%) and 1980 PUMS (5%) files.

[24]The displaced row category has been aggregated to include the three displacement patterns (1-3) and likewise, the complementarity row category includes the two complement patterns (4 & 5) as discussed above.

Summary

Table 8 lists the four hypotheses for Test 1 and the number of industries that are either rejected or accepted for each native-born group. In general, this first test shows data to be inconclusive for blacks and Mexicans. That is, I cannot conclude one way or the other that immigrants systematically displace or complement black and Mexican workers in Los Angeles. Test 1 does not signify that increases in immigration lead to the displacement of native-born labor. In fact, the only group that experienced instances of displacement was the white population. However, this displacement was only concentrated in the core. This finding is important because it suggests that (1) displacement may be occurring in high-skilled industries as opposed to low-skilled ones contrary to what is usually argued, and (2) immigrants may be preferred over whites or may be close substitutes for whites in high-skilled industries. In either case, job displacement in industries is not occurring between immigrant and minority workers in Los Angeles. Furthermore, the following findings suggest a higher incidence of complementarity to the native-born as a result of increased industrial employment of immigrants.

- Blacks and Mexicans were represented more industries (54% and 50%, respectively) with instances of complementarity than displacement than did whites (39%).

- Whites, blacks, and Mexicans gained in their employment share in several industries while immigrants lost in those same industries, suggesting that immigrants may be losing in their industrial employment share as a result of native gain.

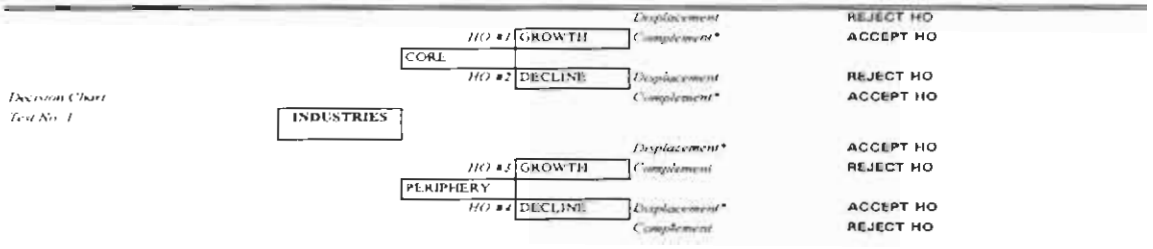
- When analyzing the five job competition patterns for each sector, three important patterns surfaced. First, immigrants show similar job displacement and complementarity patterns in the core and periphery. Second, native labor displacement in several industries in both sectors is the result of factors other than immigrant employment share increase. Third, immigrants show many instances of employment share loss simultaneously with native gain.

- Instances of immigrant displacement and complementarity occur regardless of whether an industry is declining or growing. Industrial change makes no difference in stratifying complementary or displacement effects of increased immigration.

- With the exception of whites, displacement in Los Angeles's core and periphery sectors is not nearly as prevalent as complementarity, and industrial change is not a factor in their stratification.

Table 8

Number of Industries that Accept or Reject Criteria of Hypotheses for Test No 1, Los Angeles



LOS ANGELES

Hypotheses	WHITES		BLACKS		MEXICANS	
	Reject	Accept	Reject	Accept	Reject	Accept
1. Core industries that grew complements native labor during increases of immigration	12	6	8	10	9	9
2. Core industries that declined complements native labor during increases of immigration	8	8	8	8	8	8
3. Peripheral industries that grew displaces native labor during increases of immigration	1	10	6	8	8	6
4. Peripheral industries that declined displaces native labor during increases of immigration	6	2	8	6	8	6

IV. OCCUPATIONAL REPOSITIONING

The previous data indicate the extent of immigrant and native-born labor access to different sectors of the economy but, they say little about the levels at which these workers are employed. Here, I look at occupational repositioning for the same ethnic groups at issue in this paper. I employ two tests that correspond to two occupational typologies according to 15 categories and four segments. I have chosen to look at 15 broad categories (census defined) divided between growth and decline to assess, similar to the previous test, whether occupational change (growth and decline) makes a difference in stratifying occurrences of job competition. The latter test divides all of the census-defined occupations into four broad categories (independent primary, craft, subordinate primary, and secondary; see note 12 for a description of job characteristics for each of these categories). The test's primary purpose is to measure whether institutional barriers such as unions or credentialing requirements make a difference in stratifying instances of job competition.

Between 1970 and 1980, the Los Angeles economy, like the national economy, shifted from goods producing to services, thus resulting in expanded white-collar and service occupations. Los Angeles showed a net growth of 350,000 jobs concentrated in the managerial, sales, goods producing, and service occupations.

Table 9 provides data for Los Angeles on the number of jobs per occupation for the total

populations and by nativity. Immigrants gained in their employment share in every occupation between 1970 and 1980. Their largest gains were concentrated in the semi-skilled, craft, and clerical occupations, which coincidentally also had the largest employment losses for the native-born population. Almost half-a-million immigrants gained in occupational employment while natives lost over 145,000 jobs.

An alternative way to classify occupations is via segments derived from segmentation analysis (Gordon, Edwards and Reich 1982). The bottom half of Table 9 shows data on the number of jobs per occupational segment for the total population and by nativity. As the data for the four occupational segments show, the largest employer in Los Angeles in 1970 is the subordinate primary, followed by the secondary, independent primary, and craft. This order changes in 1980 when the independent primary becomes the second largest employer. During the 1970s, occupations that are characterized in the subordinate primary declined by 2%. When disaggregated by nativity, the data show that native workers experienced the largest loss of jobs in the subordinate primary, secondary, and craft occupations. However, these losses were offset by the large growth of immigrant employment in each of the four segments.

Table 9
Occupational Change in Los Angeles, 1970 - 1980 by Total Employment, Nativity, Race and Ethnicity

	Total Employment				*Nativity*					
					Immigrants			*U.S. Born*		
	1970	1980	Diff	% Diff	1970	1980	Diff	1970	1980	Diff
MGRL & ADMIN	308,800	460,020	151,220	0.49	37,600	79,120	41,520	271200	380,900	109,700
PROFESSIONAL	604,500	646,440	41,940	0.07	66,600	106,980	40,380	537,900	539,460	1,560
SALES	322,000	449,280	127,280	0.40	37,700	78,300	40,600	284,300	370,980	86,680
CLERICAL	883,100	850,300	-32,800	-0.04	86,500	136,780	50,280	796,600	713,520	-83,080
CRAFT	456,800	502,240	45,440	0.10	68,600	143,180	74,580	388,200	359,060	-29,140
SEMI-SKILLED	557,300	437,340	-119,960	-0.22	128,900	216,840	87,940	428,400	220,500	-207,900
TRANSPORT	108,100	120,680	12,580	0.12	9,900	20,900	11,000	98200	99,780	1,580
LABORERS	162,100	221,680	58,780	0.36	24,500	71,220	46,720	137,800	149,860	12,060
PRVT HSHLD SRV	59,200	36,760	-22,440	-0.38	10,300	19,040	8,740	48900	17,720	-31,180
PROTECTIVE SRV	39,600	55,120	15,520	0.39	1,800	4,920	3,120	37800	50,200	12,400
FOOD & FD PREP SRV	175,400	195,300	19,900	0.11	28,000	63,780	35,780	147,400	131,520	-15,880
HEALTH SRV	55,300	71,920	16,620	0.30	5,900	16,000	10,100	49400	55,920	6,520
JANITORIAL SRV	85,100	109,860	24,760	0.29	12,200	36,860	24,660	72900	73,000	100
PERSONAL SRV	114,200	89,260	-24,940	-0.22	11,000	18,400	6,200	103800	71,160	-31,140
FARM FOREST FISH	17,200	53,260	36,060	2.10	5,100	20,600	15,500	12100	32,660	20,560
Total	3,948,900	4,298,860	349,960	0.09	535,500	1,032,620	497,120	3,413,400	3,266,240	-147,160

	WHITES			*LATINOS*			*BLACKS*			*ASIANS*		
	1970	1980	Diff	1970	1980	Diff	1970	1980	Diff	1970	1980	Diff
MGRL & ADMIN	278,100	352,580	74,480	12,500	39,880	27,380	10,800	32,680	21,880	6,300	30,900	24,600
PROFESSIONAL	516,000	480,440	-35,560	29,000	48,560	19,560	34,600	57,780	23,180	23,200	53,460	30,260
SALES	279,200	323,960	44,760	21,300	57,900	36,800	14,100	36,080	21,980	8,400	25,440	19,040
CLERICAL	705,600	531,220	-174,380	79,800	134,340	54,540	73,300	117,200	43,900	21,300	55,460	34,160
CRAFT	447,400	295,480	-151,920	70,200	135,840	65,640	30,500	42,540	12,040	6,400	22,860	16,460
SEMI-SKILLED	408,500	241,040	-167,460	163,500	223,520	58,020	67,600	39,500	-28,100	13,100	24,180	11,080
TRANSPORT	73,500	65,900	-7,600	19,600	28,320	8,720	53,000	21,720	8,720	1,300	2,720	1,420
LABORERS	96,400	89,860	-6,540	35,700	88,560	52,860	22,000	28,360	6,300	6,600	9,580	2,980
PRVT HSHLD SRV	25,800	9,980	-15,820	6,000	16,580	9,680	24,000	7,460	-16,540	2,000	1,560	-440
PROTECTIVE SRV	34,500	35,200	1,300	1,800	5,880	4,580	3,400	11,020	7,620	200	1,420	1,220
FOOD & FD PREP SRV	130,800	104,880	-25,920	22,000	54,820	32,320	12,700	17,580	4,880	8,700	14,460	5,760
HEALTH SRV	34,500	33,620	-880	5,200	14,360	9,160	14,300	17,740	3,440	1,100	4,840	3,740
JANITORIAL SRV	40,400	35,420	-4,980	34,800	57,700	22,900	28,200	29,960	1,760	1,300	4,300	3,000
PERSONAL SRV	80,000	50,480	-29,520	13,800	19,560	5,760	16,700	13,320	-3,380	3,000	4,260	1,260
FARM FOREST FISH	9,000	20,300	11,300	5,800	19,280	13,480	1,000	5,180	4,180	1,300	6,340	5,040
Total	2,959,700	2,566,560	-393,140	501,200	922,440	421,240	366,200	478,060	111,86 0	102,200	265,780	159,580

Occupational Segments	*Total Employment*				*Immigrants*			*U.S. Born*		
	1970	1980	Diff	% Diff	1970	1980	Diff	1970	1980	Diff
1 Primary	858,900	1,132,280	273,380	0.32	98,500	193,920	100,420	765,400	938,360	172,960
Craft	356,700	393,420	36,720	0.10	54,900	107,300	52,600	301,800	253,920	-15,880
S Primary	1,688,800	1,658,970	-29,830	-0.02	218,600	354,570	142,970	1,477,200	1,304,400	-172,800
Secondary	1,044,500	1,114,190	69,690	0.07	175,500	376,830	201,330	869,000	737,560	-131,440
Total	3,948,900	4,298,860	349,960	0.09	535,500	1,032,620	497,120	3,413,400	3,266,240	-147,160

	WHITES			*LATINOS*			*BLACKS*			*ASIANS*		
	1970	1980	Diff	1970	1980	Diff	1970	1980	Diff	1970	1980	Diff
1 Primary	747,200	845,600	98,400	44,700	112,240	67,540	40,100	88,500	48,000	24,700	75,280	50,580
Craft	271,000	233,440	-37,560	48,700	96,100	47,400	27,000	34,900	7,900	7,900	21,840	13,940
S Primary	1,294,600	1,004,800	-289,800	196,800	320,340	123,540	147,830	202,400	58,550	42,500	105,530	63,030
Secondary	646,900	482,720	-164,180	211,000	393,960	182,960	151,250	152,860	1,610	27,100	59,130	32,030
Total	2,959,700	2,566,560	-393,140	501,200	922,440	421,240	366,200	478,660	185,860	102,200	265,780	159,580

Source: 1970 figures from the U.S. Bureau of the Census, Public Use Sample (1/100); 1980 figures from U.S. Bureau of the Census, Public Use Microdata Samples (5% "A" Sample)

Similar to industries in Los Angeles, occupational growth was concentrated among the immigrant and minority populations while whites and the native-born lost in their concentration. What can shift-share methodology tell us about the occupational employment change for these population groups? Is competition a factor in white and native occupational job loss? In the following section I attempt to answer these two questions.

Shift-Share Model Results on 15 Occupational Categories (Test 2)

Table 10 shows the changes in occupational employment for the total population in Los Angeles and for each ethnic group. As the actual (job change) column shows, U.S.-born whites suffered significant job loss in Los Angeles with the other racial and ethnic groups offsetting that loss by phenomenal growth. These latter groups exceeded the expected job growth rate,[25] in some cases by over 2,000%! These data reveal a different set of dynamics affecting the process of job change and concentration in Los Angeles. As the Los Angeles economy grew, it absorbed large numbers of immigrants mostly in the services and some white-collar jobs. White employment declined in Los Angeles for the same reasons cited in an earlier study of New York City by Waldinger (1987): the decline in white employment in New York is primarily due to the older age, higher death rate, lower birthrate, and greater outmigration to the suburbs or other regions of the United States of whites as compared to nonwhites. In addition, Waldinger notes that a large cohort of European immigrants who arrived between 1900 and 1915 reached retirement age during the 1970s. I address the extent and type of occupational job competition.

TABLE 10

Changes in Occupational Employment For Selected Ethnic Groups, Los Angeles, 1970 - 1980

	EMPLOYMENT		JOB CHANGE			
Groups in Los Angeles	1970	1980	Expected	Actual	Actual - Expected	A - E/ 1970 Emp
TOTAL EMPLOYMENT	3,948,900	4,298,860	355,401	349,960	-5,441	-0.14%
NATIVE-BORN Whites	2,675,700	2,292,440	240,803	-383,260	-624,073	-23.32%
NATIVE-BORN Blacks	362,000	466,040	32,580	102,040	69,460	19.19%
NATIVE-BORN Mexicans	241,600	314,980	21,699	73,380	51,690	21.70%
FOREIGN-BORN Mexicans	438,900	389,260	12,301	260,360	247,859	178.44%
FOREIGN-BORN Latinos	62,600	145,740	5,634	83,140	77,506	123.81%
FOREIGN-BORN Asians	41,700	174,360	3,753	132,600	128,847	308.99%

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS (1%) and 1980 PUMS (5%, "A" Sample) files.

Table 11 provides data on racial and ethnic groups according to their nativity status and share results from the shift-share model (presented in both absolute and percentage figures) in 15 occupations. In addition, I have included the total employment in each occupation during 1980. This table shows several

[25]"Expected" growth rate calculates the number of jobs each group would have gained had gains been proportional to the growth experienced by the overall regional economy during this period, when employment grew by about 9% in Los Angeles from 3,948,900 jobs in 1970 to 4,298,860 in 1980.

combinations of both native and immigrant occupational gain and loss. For example, both natives and immigrants gained in their employment share in the managerial and administration occupations but showed losses in the semi-skilled occupations. As with the analysis of industrial repositioning, these gains and losses reflect different instances of native displacement and complementarity that, in part, can be attributed to immigrant employment share gain. Other factors such as occupational change, each region's general economic climate, and other variables not tested in this model can also be factors affecting both native and immigrant group's job loss in an occupation.

Table 11

Occupational Shift-Share Model Results for Share, 1970-1980: Los Angeles (in absolute and percentage figures*)

		Change Due to SHARE			*Change Due to SHARE*		
	Total	U.S. Born			Immigrant		
	1980 Emp.	Whites	Blacks	Mexicans	Mexicans	Latinos	Asians
MGRL & ADMIN	460,020	4,630	13,863	7,340	3,252	2,763	12,523
		1.01	**3.01**	**1.60**	**0.71**	**0.60**	**2.72**
PROFESSIONAL	646,440	19,746	12,680	2,564	2,636	-2,753	-3,648
		6.15	**1.96**	**0.40**	**0.40**	**-0.43**	**-0.56**
SALES	449,280	-1,946	12,978	7,265	2,431	1,291	7,925
		-0.34	**2.89**	**1.62**	**0.60**	**0.29**	**1.78**
CLERICAL	850,800	10,126	31,011	15,787	-959	-859	2,959
		1.19	**3.65**	**1.86**	**-0.07**	**-0.05**	**0.34**
CRAFT	502,240	-15,239	2,179	-2,548	10,873	-1,691	5,856
		-3.03	**0.43**	**-0.51**	**2.16**	**-0.32**	**1.76**
SEMI-SKILLED	437,340	-29,749	-26,878	-20,897	-20,263	-13,285	-6,289
		-6.79	**-6.15**	**-4.78**	**-4.63**	**-3.04**	**-1.44**
TRANSPORT	129,640	-1,182	4,212	-1,034	-3,995	339	-203
		-0.91	**3.49**	**-0.80**	**-3.15**	**0.28**	**-0.17**
LABORERS	223,080	-19,803	-6,234	-562	5,455	-5,530	-7,169
		-8.96	**-2.82**	**-0.25**	**2.47**	**2.05**	**-3.24**
PRVT HSHLD SRV	36,760	-638	-12,327	315	-977	5,931	-3,473
		-1.73	**-33.53**	**0.86**	**-2.66**	**14.50**	**-9.45**
PROTECTIVE SRV	55,120	-3,850	5,295	1,771	960	840	940
		-6.95	**9.61**	**3.21**	**1.74**	**1.52**	**1.71**
FOOD & FD PREP SRV	195,360	-10,710	681	320	6,698	4,513	-12,379
		-5.45	**0.35**	**0.16**	**3.43**	**2.46**	**-6.24**
HEALTH SRV	71,920	-2,768	-3,945	1,910	2,061	80	3,820
		-3.85	**-5.49**	**2.66**	**2.87**	**0.11**	**5.31**
JANITORIAL SRV	109,860	-7,028	-12,500	-572	-5,553	2,536	1,170
		-6.40	**-11.38**	**-0.52**	**4.14**	**2.31**	**1.06**
PERSONAL SRV	89,260	3,701	-3,118	2,051	-692	294	-4,267
		4.15	**-3.49**	**2.30**	**-0.67**	**0.33**	**-3.66**
FARM FOREST FISH	53,260	-5,725	1,852	-1,233	-4,891	1,267	-1,610
		-10.75	**3.48**	**-2.32**	**-9.18**	**2.38**	**-3.02**
Total	4,298,860	3,587	491	325	197	87	56
		0.08	**0.01**	**0.01**	**0.00459**	**0.00203**	**0.00129**

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS and 1980 PUMS files

NOTE: Percent of total employment in 1980 is in bold

The data in Table 11 show that for Los Angeles, those occupations that suffered the severest decline in their employment also produced the largest job losses for immigrants and the native-born. For example, semi-skilled occupations in Los Angeles experienced the largest job loss of close to 120,000 jobs. Both

immigrant and native employment shares in this occupation were negative and large, suggesting that job losses are due to factors other than job competition between immigrants and native-born workers.

As Table 12 shows for Los Angeles, the white population experienced partial displacement in more occupations than did the black or Mexican population. This table then aggregates these patterns into two simple categories of either displacement or complementarity.[26] Los Angeles showed more instances of complementarity than displacement for its black and Mexican populations; its white population, however, experienced more displacement than complementarity. Most whites in most occupations were partially, not completely displaced, suggesting that the aggregated overall displacement subcategory is not as fraught with native displacement as its title implies. In general, in Los Angeles immigrants complement natives in occupations more than they displace them and when displacement occurs, it is typically partial.

Table 12

Summary of Immigrant Job Competition Patterns on Native Workers, Los Angeles (Occupations)

JOB COMPETITION PATTERNS	Whites		Blacks		Mexicans	
	No Occup	% of Total	No Occup	% of Total	No Occup	% of Total
1 Complete Displacement	2	0.04	2	0.04	1	0.02
2 Partial Displacement	7	0.15	3	0.07	2	0.04
"Overall" Displacement	*9*	*0.20*	*5*	*0.11*	*3*	*0.07*
3 Displ. Due to Other Factors	2	0.04	1	0.02	2	0.04
4 Complete Complement	1	0.02	3	0.09	5	0.11
5 Native Complement. Due to Immig.	3	0.07	5	0.11	5	0.11
"Overall" Complement	*4*	*0.09*	*9*	*0.20*	*10*	*0.22*
TOTAL	15	0.33	15	0.33	15	0.33

Source: Author's estimates are based on data taken from U.S. Census Bureau 1970 PUS (1%) and 1980 PUMS (5%) files.

NOTE: Overall Displacement is the sum of 1&2, while overall complementarity is the sum of 4 & 5. Total does not take into account overall displacement or complementarity.

Shift-Share Model Results on Four Occupational Segments (Test 3)

The final analysis of this research assesses the shift-share model results for occupations divided among four segments derived from segmentation theory. Table 13 shows data on changes in occupational segment employment for selected racial and ethnic groups. This table provides a glimpse of the changing employment composition for each group. The data show that whites were the primary losers of jobs in the

[26]Individual analysis of the five job competition patterns is important because it describes different types of displacements and complements. For example, the partial displacement category underemphasizes the overall displacement subcategory because it describes a situation where only one or two native groups have experienced loss in their employment share, while one, two, or three immigrant groups have gained. Likewise, complete complementarity describes a situation in which both the native and immigrant population gain in their employment share while the complementarity due to immigration describes a situation in which natives gain in their employment share while immigrants lose. It is important to distinguish between these two complementarity scenarios because the latter shows that immigrants can also be displaced in the job competition debate.

craft, subordinate primary, and secondary segments. However, they gained by more than 81,000 jobs in the independent primary segment suggesting that some of their losses in the other segments may have been the result of their upward mobility into this segment.

TABLE 13

Changes In Occupational Segment Employment For Selected Ethnic Groups, Los Angeles, 1970-1980

	EMPLOYMENT		JOB CHANGE			
					Actual -	A - E/
Groups in Independent Primary	1970	1980	Expected	Actual	Expected	1970 Emp
NATIVE-BORN White	675,900	766,940	216,588	81,040	-135,248	-20.01%
NATIVE-BORN Blacks	39,500	85,220	12,640	45,720	33,080	83.75%
NATIVE-BORN Mexicans	24,300	49,180	7,776	24,880	17,104	70.39%
FOREIGN-BORN Mexicans	6,200	30,140	1,984	23,940	21,956	354.13%
FOREIGN-BORN Latinos	6,200	20,000	1,984	13,800	11,816	190.58%
FOREIGN-BORN Asians	8,600	49,180	2,752	40,580	37,828	439.86%
Groups in Craft						
NATIVE-BORN White	241,600	204,260	24,160	-37,340	-61,500	-25.46%
NATIVE-BORN Blacks	26,600	33,580	2,660	6,980	4,320	16.24%
NATIVE-BORN Mexicans	21,700	30,480	2,170	8,780	6,610	30.46%
FOREIGN-BORN Mexicans	12,900	43,920	1,290	31,020	29,730	240.47%
FOREIGN-BORN Latinos	7,800	15,600	780	7,800	7,020	90.00%
FOREIGN-BORN Asians	3,700	15,020	370	11,320	10,950	295.95%
Groups in Subordinate Primary						
NATIVE-BORN White	5,175,400	900,700	-23,468	-272,700	-249,232	-21.24%
NATIVE-BORN Blacks	145,950	196,790	-2,919	50,840	53,759	36.83%
NATIVE-BORN Mexicans	101,100	125,920	-2,022	24,820	26,842	26.55%
FOREIGN-BORN Mexicans	45,900	118,830	-918	72,930	73,848	160.89%
FOREIGN-BORN Latinos	25,150	48,440	-503	23,290	23,793	94.60%
FOREIGN-BORN Asians	16,200	69,510	-324	53,310	53,634	331.07%
Groups in Secondary						
NATIVE-BORN White	584,800	430,540	40,936	-154,260	-195,196	-33.38%
NATIVE-BORN Blacks	149,950	148,450	10,497	-1,500	-11,997	-8.00%
NATIVE-BORN Mexicans	93,900	109,400	6,573	15,500	8,927	9.51%
FOREIGN-BORN Mexicans	73,900	206,370	5,173	132,470	127,297	172.26%
FOREIGN-BORN Latinos	23,450	61,700	1,642	38,250	36,609	156.11%
FOREIGN-BORN Asians	13,200	40,590	924	27,390	26,466	200.50%

Source: Author's estimates are based on data taken from U.S. Census Bureaus, 1970 PUS (1/100) and 1980 PUMS (5%, "A" Sample) files

Table 14 presents the shift-share model results for each racial and ethnic group by occupational segment. These data measure the employment share gain or loss for each group and provide some insights into the different job competition patterns described earlier. Based on the shift-share results on the occupational segments, whites were the only group that experienced instances of displacement as a result of increased immigrant employment share. Both native-born blacks and Mexicans complemented the presence of immigrants in each of the four segments, with the only exception being Mexicans in the subordinate primary segment. The subordinate primary sector was the only one in Los Angeles that experienced a loss of jobs between 1970 and 1980, making it more vulnerable than the other segments to instances of job

competition.

The job competition patterns for the occupational segments in Los Angeles overwhelmingly show that immigrants played a minimal role in the displacement of native-born groups in each of the four segments. While whites did lose in each segment, these losses could very well be the result of their upward mobility into the independent primary segment, a situation suggested by the data results of the shift-share model. The nonwhite native-born groups gained in their employment share suggesting that immigrants do not displace them but rather complement their employment.

TABLE 14
Occupational Segment Shift-Share Model Results For Selected Ethnic Groups, Los Angeles, 1970 - 1980

	EMPLOYMENT				*Change Due to*				
Groups in Ind. Primary	1970	1980	Change	LA I.E.% C.	Industry Change	Interactive Effect	Group Size	Share	Job Comp. Pattern
NATIVE-BORN White	675,900	756,940	81,040	0.32	216,288	81,108	-135,180	-68	PD
NATIVE-BORN Blacks	39,500	85,220	45,720	0.32	12,640	45,425	32,785	295	CC
NATIVE-BORN Mexicans	24,300	49,180	24,880	0.32	7,776	24,786	17,010	94	CC
FOREIGN-BORN Mexicans	6,200	30,140	23,940	0.32	1,984	23,932	21,948	8	
FOREIGN-BORN Latinos	6,200	20,000	13,800	0.32	1,984	13,764	11,780	36	
FOREIGN-BORN Asians	8,600	49,180	40,580	0.32	2,752	40,506	37,754	74	
Groups in Craft									
NATIVE-BORN White	241,600	204,260	-37,340	0.10	24,160	-24,160	-48,320	-13,180	PD
NATIVE-BORN Blacks	26,600	33,580	6,980	0.10	2,660	6,916	4,256	64	CC
NATIVE-BORN Mexicans	21,700	30,480	8,780	0.10	2,170	8,680	6,510	100	CC
FOREIGN-BORN Mexicans	12,900	43,920	31,020	0.10	1,290	30,960	29,670	60	
FOREIGN-BORN Latinos	7,800	15,600	7,800	0.10	780	7,800	7,020	0	
FOREIGN-BORN Asians	3,700	15,020	11,320	0.10	370	11,285	10,915	35	
Groups in Subordinate Primary									
NATIVE-BORN White	1,173,400	900,700	-272,700	-0.02	-23,468	-269,882	-246,414	-2,818	PD
NATIVE-BORN Blacks	145,950	196,790	50,840	-0.02	-2,919	49,623	52,542	1,217	CC
NATIVE-BORN Mexicans	101,100	125,920	24,820	-0.02	-2,022	25,275	27,297	-455	CD
FOREIGN-BORN Mexicans	45,900	118,830	72,930	-0.02	-918	72,522	73,440	408	
FOREIGN-BORN Latinos	23,150	48,440	23,290	-0.02	-503	23,138	23,641	152	
FOREIGN-BORN Asians	16,200	69,510	53,310	-0.02	-324	53,298	53,622	12	
Groups in Secondary									
NATIVE-BORN White	584,800	430,540	-154,260	0.07	40,936	-153,048	-192,984	-2,212	PD
NATIVE-BORN Blacks	149,950	148,450	-1,500	0.07	10,497	-1,500	-11,996	-1	CC
NATIVE-BORN Mexicans	93,900	109,400	15,500	0.07	6,573	15,024	8,451	476	CC
FOREIGN-BORN Mexicans	73,900	296,370	222,470	0.07	5,173	130,803	125,630	1,667	
FOREIGN-BORN Latinos	23,450	61,700	38,250	0.07	1,642	38,224	36,582	27	
FOREIGN-BORN Asians	13,200	40,590	27,390	0.07	924	27,324	26,400	66	

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS (1/100) and 1980 PUMS (5%, "A" Sample) files.

NOTE: The Job Competition Pattern column only provides data for the native-born group per each segment to maintain consistency with this study's emphasis on the native-born labor force; see Table 5 for acronym definition.

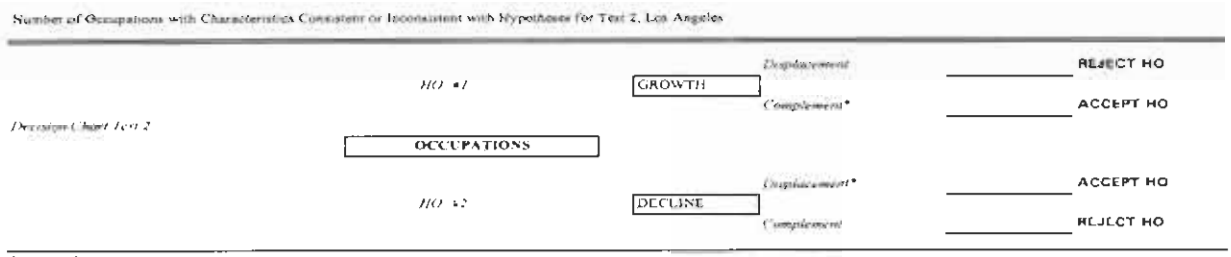
Summary

Table 15 lists the two hypotheses for Test 2 and the number of occupations that led either to rejection or acceptance of the hypotheses for each native-born group. In general, the data indicates that blacks and Mexicans in Los Angeles were complemented by increases in immigration in growing occupations. However, no discernible impact could be found on whites, blacks, and Mexicans in those occupations that declined. That is, even in a declining labor market, immigrants in Los Angeles were not

responsible for black, white, and Mexican job loss. Thus, Test 2 shows that increases in the occupational employment of immigrants do not lead to displacement of native-born labor. In fact, this situation only occurred for whites in the growth occupations.

Table 15

Number of Occupations with Characteristics Consistent or Inconsistent with Hypotheses for Test 2, Los Angeles



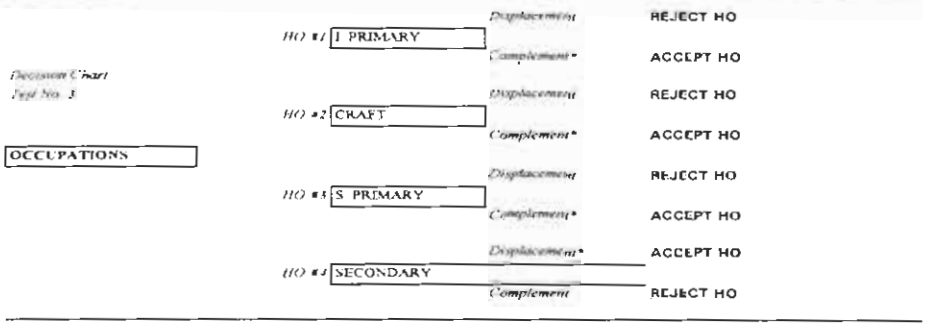
Los Angeles

Hypotheses	WHITES Reject	Accept	BLACKS Reject	Accept	MEXICANS Reject	Accept
1. Occupations that grow: complement native labor during increases of immigration	9	2	3	8	4	7
2. Occupations that decline: displace native labor during increases of immigration	2	2	1	3	3	1

The last test of this study focused on all the census-defined occupations classified into four segments. Table 16 provides a summary of the occupational segments for Los Angeles and New York, confirming or disconfirming the hypotheses provided schematically at the top of the table. Data in this table show that blacks and native-born Mexicans in the three primary and in the secondary segment were complemented by the presence of immigrants. That is, minority workers, with the exception of Mexicans in the subordinate primary segment, did not lose jobs in the four labor market segments as a result of increased immigrant employment. The data also suggest that whites were partially displaced in every segment. Thus, to the extent that displacement between immigrants and natives is occurring in Los Angeles, it is primarily relegated to native-born whites and to a lesser extent Mexicans (only in the subordinate primary). This finding is consistent with earlier data in this study that showed whites to be the primary victims of occupational segment job loss between 1970 and 1980.

TABLE 16

Occupational Segments with Characteristics Consistent or Inconsistent with Hypotheses for Test No. 3, Los Angeles



LOS ANGELES

Groups in Ind. Primary	Job Comp. Pattern	Hypothesis Decision
NATIVE-BORN White	PD	Reject
NATIVE-BORN Blacks	CC	Accept
NATIVE-BORN Mexicans	CC	Accept
Groups in Craft		
NATIVE-BORN White	PD	Reject
NATIVE-BORN Blacks	CC	Accept
NATIVE-BORN Mexicans	CC	Accept
Groups in Subordinate Primary		
NATIVE-BORN White	PD	Reject
NATIVE-BORN Blacks	CC	Accept
NATIVE-BORN Mexicans	CD	Reject
Groups in Secondary		
NATIVE-BORN White	PD	Accept
NATIVE-BORN Blacks	CC	Reject
NATIVE-BORN Mexicans	CC	Reject

Source: Author's estimates are based on data taken from U.S. Census Bureau, 1970 PUS (1/100) and 1980 PUMS (5%, "A" Sample) files.

NOTE: The Job Competition Pattern column only provides data for the native-born group per each segment to maintain consistency with this study's emphasis on the native-born labor force; see table 5 for acronym definition.

V. CONCLUSIONS AND POLICY IMPLICATIONS

After carefully summarizing the main findings and discussing the hypotheses for each of the three tests above, I conclude that the segmentation/queuing theory best describes what is occurring in Los Angeles's labor markets. While the results of this study are complex and many, several major findings are evident. One of these is that, overall, immigrants are not displacing native-born labor in disproportionate numbers. Instances are found, however, of sporadic or isolated job displacement between immigrants and native-born whites and Mexicans in some occupations and industries. However, the data show that complementarity is more frequent than displacement and that the white labor force has decreased significantly due to factors other than immigration. These two findings taken together suggest a process of queuing whereby whites vacate jobs that are then filled by immigrant and/or minority labor. These findings

suggest that immigrants do not contribute to or perpetuate an urban underclass.

The Urban Underclass and Increases in Immigration

The concern over the effects that immigration may have on the employment of natives, particularly other Latinos and black, was of primary interest in this study. The job competition question, as argued in the underclass debate, postulates that low-skilled Latino immigrants may be a closer substitute for low-skilled U.S.-born Latinos and blacks than for other U.S.-born groups such as women, teenagers, and whites. As a result, competition in specific labor markets between immigrants and minority groups may result in the displacement of low-skilled U.S.-born Latinos and blacks, thus contributing to their already higher than average rates of unemployment. This formulation, however, fails to capture the structural attributes and changes that have occurred in the secondary and primary labor markets and their growth or decline.

Immigration, especially during economic boom periods, is often seen as a positive economic stimulus. Increased inflows of immigrants during boom and bust times can be complementary units of production to other non-immigrant groups, as this research has shown. As immigration increases, the employment opportunities of U.S.-born workers also improve because of the rising demand for complementary workers and the increased demand for goods and services. That the entry of immigrants into local labor markets has a negligible and, at worst, mixed effect on U.S.-born workers' employment prospects is echoed by several prominent immigration scholars (Borjas 1990; Greenwood and McDowell 1988; Simon 1989; Reischauer 1989).

In Los Angeles, Latino immigrants may serve as substitutes for some low-skilled groups and as complements to other workers. What accounts for some of the sporadic displacement evident in some of the occupations and industries in Los Angeles? It may be that employers prefer immigrant or other types of workers over black and white workers. Indeed, Kirshenman and Neckerman (1990), Kirshenman (1991), and Neckerman (1991) show that employers regard black workers, especially males, as more devious, argumentative, intimidating, and uncooperative than women or immigrants. Employers may be relocating to suburban areas, thus relying on informal recruiting and transportation systems which exclude black workers from employment. Another likely possibility is that employers may be excluding blacks and whites from jobs in particular industries because they prefer to hire recent immigrants who are more vulnerable to employer exploitation and likely not to complain. Because the data in this research suggest that an ethnic succession or job queuing process is taking place in Los Angeles, I believe that employers may selectively choose immigrants over white and some black workers in those labor markets where their skills are tangible. Because these markets are rare, immigration is not a major contributor to a black and Latino underclass.

Policy Implications

The recent immigration debate in California and other high immigrant-receiving states has focused mostly on the immigrant impact on labor supply, rather than structural problems in the U.S. economy and

mostly on the immigrant impact on labor supply, rather than structural problems in the U.S. economy and labor market. The primary concern in this debate is the cost associated with providing education, health care, welfare services, and employment to a burgeoning immigrant population, both legal and undocumented. As a result, policies that deny immigrants a public education, a driver's license, or even citizenship status for their children have been proposed to curb their flows. These solutions are short-sighted at best because they do not address the fundamental reason why immigrants come to this country: not to become dependents of a state but rather to work and make better lives for themselves.

The misguided "band-aid" policies being debated in California's capitol, rather than stymie the movement of immigrants into this country, will instead have the unintended effect of further marginalizing a major portion of the population. The net effect of not providing education and health care to thousands of school-age children and adults will be an uneducated, unhealthy, and unemployed populace that will, in the long-run, cost dearly. Public policies should instead focus on structural solutions, such as maintaining and expanding our industrial job base and increasing employment and training programs. Additionally, policy analysts and social scientists need to further analyze the magnitude of and relationship between immigrant and native labor markets.

Present industrial policy or lack thereof serves as a magnet for cheap immigrant labor. The continued demand for cheap labor not only attracts immigrant labor, legal or otherwise, but also serves as a catalyst for poor labor market conditions that in turn are more conducive to job competition between immigrants and other marginalized workers. The same industries demanding cheap or immigrant labor also have the largest number of workplace hazards, low wages and few benefits, and a poor environmental record. These deficiencies translate into substandard conditions of working poverty, especially for a family of four in 1992 when the poverty threshold was approximately $14,350. The burden of impoverishment falls not only on a family or individual but also on the state in terms of such expenses as future welfare rolls and unemployment benefits. Industrial policies that increase the minimum wage, favor the employment of native-born workers and the implementation of a national health care plan will make jobs, which previously did not provide medical and other benefits, more attractive to U.S.-born labor. While immigrants will still be attracted to these jobs, knowing that there is a well-established native labor force will discourage, to some extent, immigration for work purposes.

Job displacement for California workers, indeed the entire country, is due less to job competition with immigrants than to the massive exodus and closure of firms that the state suffered in the middle to late 1980s. Los Angeles provides a case in point. During the 1970s, the area actually showed an expansion in its manufacturing base when, according to the Bureau of Labor Statistics, Los Angeles accounted for approximately one-fourth of the net growth in manufacturing jobs for the entire country. However, by the 1980s, Los Angeles's economy, which was highly dependent on its defense and associated industries, began the rapid decline that persists today. Though the area continues to maintain a readily available and cheap supply of labor, the adoption of somewhat tougher environmental laws, improved labor standards, and other

Area has been blamed for the departure of industries to more "friendly" environments and even cheaper labor.

The fact remains that California, rather than favoring labor, has a long and storied history of being anti-union and lax in enforcing workplace safety and environmental regulations. Firms do not leave the state when they are losing money; they leave when they are not making enough profit.[27] Policies that focus on maintaining and expanding our industrial base need to be pursued if we are to maintain a highly employed labor force. If the state is going to attract firms and expand its employment base, its population, including immigrants, needs the requisite skills, education, and training that employers demand to support higher wages. Public policies that would improve the human capital of recent and past arrivals, minorities, and women will benefit the state in the long run through increased employment and production.

Lastly, because undocumented immigrants are such a small proportion of the legal immigrant population (less than 14%) and an even smaller proportion of the total population of California (less than 4%), their negative impact is negligible or marginal at best. An analysis of several of California's largest revenue-producing industries, such as agriculture and wine, reveals that their largest number of employees are immigrants. These industries are vital to the state's economy and rely on immigrant workers because other types of labor are unwilling or unable to work in this area. Historically, immigrant labor has always been vital to California's growth and economy. In short, implementing short-sighted policies that hurt the employability of immigrants will in turn hamper the contributions they can make to the state's future economy.

[27]As average profit margins for the United States fell from 10% in 1965 to less than 6% during the second half of the 1970s, a decline of more than a third (Harrison and Bluestone, 1988), firms relocated to other countries in increasing numbers.

APPENDIX A
Shift-Share Analysis

Shift-share analysis describes and disaggregates changes in either a local or regional economy. Shift-share studies use a number of economic indicators to measure an economy's performance. For certain purposes, value added, gross revenues, sales, or some other output or earnings measure can be used instead of employment. When a money measure is used in addition to employment, the analysis may provide insights concerning relative productive impacts. Employment is most often used as the unit of measure because it is generally the most available in a suitable form for shift-share analysis (Bendavid-Val, 1983). Shift-share method is a relatively simple statistical technique that can easily be used with unpublished or published data. A shift-share method enables one to divide regional employment change in an industry or occupation in order to identify the factors that most influence that change. Through this method, one is also able to break down some of the effects attributable to different factors influencing labor market movement.

By analyzing employment change through three variables: population growth, group size and share effect, this analysis can separate the three different sources of employment change in dual labor market segments and industrial categories for each of the population subgroups. The analysis focuses on employment changes attributable to changes in a specific group's position or group size.

For a given period of time the employment change of each segment (independent primary, independent primary craft, subordinate primary, and secondary) is divided into three components corresponding to changes in employment induced by the following variables:

Population Growth (P), Group Growth (G), and Share Effect (S).

Let:

$\mathbf{R}_{ij}$ be employment growth in sector $_i$ of region $_j$.
$\mathbf{P}_i$ be regional population growth per segment.
$\mathbf{G}_{ij}$ be group growth in sector $_i$ of region $_j$.
$\mathbf{S}_{ij}$ be share effect in sector $_i$ of region $_j$.

Then:

$$\mathbf{R}_{ij} = \mathbf{P}_i + \mathbf{G}_{ij} + \mathbf{S}_{ij} \quad \text{or} \quad \mathbf{S}_{ij} = \mathbf{R}_{ij} - \mathbf{P}_i - \mathbf{G}_{ij}.$$

With:

$$\mathbf{P}_{ij} = \mathbf{B}_{ij}\mathbf{X}_S$$
$$\mathbf{G}_{ij} = \mathbf{B}_{ijt}(\mathbf{A}_{ij}-\mathbf{E}_{ij})/\mathbf{B}_{ijt}$$
$$\mathbf{S}_{ij} = \mathbf{R}_{ij} - \mathbf{P}_i - \mathbf{G}_{ij} \text{ or } \mathbf{R}_{ij} - \mathbf{B}_{ij}\mathbf{X}_S - \mathbf{B}_{ijt}(\mathbf{A}_{ij}-\mathbf{E}_{ij})/\mathbf{B}_{ijt}$$

Where:

$\mathbf{B}_{ijt}$ = Employment in sector $_i$ of region $_j$ during time period $_t$.
$\mathbf{X}_S$ = Regional population growth (employed persons) per segment.
$\mathbf{A}_{ij}$ = Groups employment in sector $_i$ of region $_j$.
$\mathbf{E}_{ij}$ = Groups expected employment in sector $_i$ of region $_j$.

NOTE: This model is applied separately for the three industrial and occupational typologies

(Tests 1, 2, and 3).

Regional Population Growth (P)

Regional population growth measures total population growth (employed persons) on employment change per segment in sector $_i$ (industry) and region $_j$ (Los Angeles). This figure is obtained by multiplying regional employment growth in each industry per segment, per group (i.e., Mexican native-born and white foreign-born, etc.) by the total regional population growth per segment (the total of all employed racial/ethnic groups in 1970 minus the same in 1980 divided by the total figure for 1970). This computation will yield the number of new or lost jobs in the region that can be attributed to growth in regional population employment.

Group Size (G)

Group size measures how an increase of a given (racial, ethnic, sex, or age) group in the population affects employment change in sector $_i$ and region $_j$ per segment. In calculating these figures, I assume that job change in each industry is proportional to the change in the relative size for each group. Each racial group (white, black, Asian, Mexican, and Latino) by nativity status (foreign or native-born) has different percentage figures corresponding to its respective job change. Group size is obtained by multiplying the percent of job change proportional to group size change by the base year (1970) regional employment. The crux of this research will focus on this particular measure because here one can see the effect that increases in a particular group, say foreign-born Latinos or foreign-born Mexicans, have on other groups in the same labor market.

Share-Effect (S)

Since $\mathbf{R_{ij}} = \mathbf{P_i} - \mathbf{G_{ij}} + \mathbf{S_{ij}}$, the regional shares-effect can be calculated residually as $\mathbf{S_{ij}} = \mathbf{R_{ij}} - \mathbf{P_i} - \mathbf{G_{ij}}$. In other words, the shares effect can be computed as that part of the net relative change that was not accounted for by the population growth effect and the group growth effect. This residual can be computed for each industry separately and provides us with information on whether a group is moving toward concentration or deconcentration.

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