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Population Mobility and Income Inequality in California

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Summary

Over the past three decades, California has experienced rapid growth in income inequality as well as tremendous population movement into and out of the state. Population flows can be important determinants of the income gap between rich and poor families when the flows are skewed toward the top or bottom of the income distribution. Understanding the role of population mobility in explaining the growth in income inequality is critical to our understanding of income trends in California. As inequality rises, we become concerned that the economy is not providing opportunities for low-income families to achieve income gains. Yet, if inequality grew because the state has attracted new low-income families, this suggests that the critical change has been the nature of the population rather than the nature of economic opportunities.

We begin by reporting trends in family income inequality over the last three decades. We use recently available data through 1999 to show that in the late 1990s, family income continued to grow throughout the distribution, including at the lower income levels. Family income inequality was lower in California in 1999 than it was in the mid-1990s. However, the recent economic boom has not been substantial enough to reverse the income trends of the last three decades. Families in the bottom and lower-middle of the distribution have even lower incomes than low-income families in the business cycle peak years of the 1970s and 1980s. And income inequality was substantially higher in California in 1999 than in the previous two decades.

We find that international immigrants, especially those arriving after 1980, have disproportionately increased the number of low- and lower-middle-income families in California.

Population flows can be important determinants of the income gap between rich and poor families when the flows are skewed toward the top or bottom of the income distribution.

Simple calculations suggest that international immigration explains roughly one-third of the increase in family income inequality in California and more than half of the higher inequality in the state compared to the rest of the nation. Existing research has shown little or no effect of immigration on the income of native families. Our findings result from the direct effect of immigration flows on the population.

In contrast, domestic out-migrants (i.e., those leaving California for other states) during the 1990s tended to be in families at all levels of income. The exodus from California to other states in the 1990s did not substantially affect the distribution of income in the state.

We conclude that population change, particularly the inflow of low-income immigrant families, has contributed to growth in income inequality in California. However, other forces explain the bulk of the growth in inequality. The rising value of skills such as schooling and labor market experience has been one of the most important factors behind the growing inequality. Thus, the concern over the economic opportunities available to low-income families, particularly those headed by low-skilled workers, is well-founded.

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Introduction

Family income inequality has risen sharply in California over the last three decades. The growth in inequality in the state has been more rapid and more sustained than in the rest of the nation. This issue of *California Counts* begins with a review of the trends in the distribution of family income since the late 1960s, incorporating recently available data on income in 1999. The recent data are important because they show that California's strong economic growth has begun to narrow the gap between families in the top and the bottom of the income distribution. Nevertheless, in 1999, income inequality in California remained high, relative both to its level at the peak of the last expansion (1989) and to income inequality in the rest of the United States.

Over these same three decades, California experienced a high degree of population mobility. Estimates vary, but most sources agree that international immigration in the 1970s led to an average annual net increase in the state population of at least 50,000, at least 150,000 in the 1980s, and at least 200,000 in the 1990s.[1] From the mid-1970s through the late 1980s, domestic migration (i.e., migration from other states) typically increased the state population by 20,000 to 150,000 residents per year, on net. However, during the 1990s, California experienced large outflows of domestic migrants, leading to a net reduction in the state population of as many as 400,000 people per year around 1993 (Johnson, 2000). The international immigration and domestic migration numbers provided here and throughout the text are measures of net population movement. "Net international immigration" refers to the number of residents arriving from other nations less the number of residents leaving for other nations. Similarly, "net domestic migration" refers to the number of residents arriving from other states less the number leaving for other states.

In this issue of *California Counts*, we examine trends in family income and the relationship between income inequality and population mobility. Understanding how much population changes have contributed to the growing income inequality in the state is crucial to properly understanding income trends in California over the last 30 years. We care about growing inequality because it may reflect a decline in economic opportunities for low-income families. However, when growth in inequality occurs because a region is attracting low-income families, the critical change has been in the nature of the population rather than in the nature of economic opportunities.

We use data from the March Current Population Survey (CPS) collected by the United States Census Bureau for the years 1969 through 1999. The California sample from the CPS includes roughly 5,000 households per year.[2] The CPS data do not provide the most accurate count of international and domestic migrants, but this dataset is the best source for individual-level information on immigration, domestic migration, family income, and other characteristics.[3]

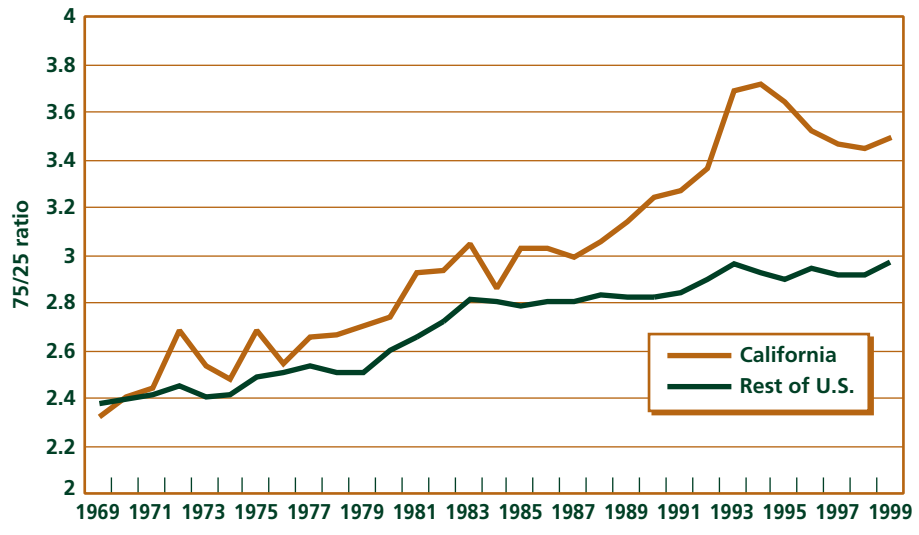
When growth in inequality occurs because a region is attracting low-income families, the critical change has been in the nature of the population rather than in the nature of economic opportunities.

Trends in Family Income Inequality

Figure 1 shows trends in the ratio of the income of families at the 75th percentile to the income of families at the 25th percentile, the 75/25 ratio. As the figure shows, since 1969 there has been an upward trend in income inequality, both in California and in the rest of the nation. In 1969, California

The striking feature of the recessions of the early 1980s and 1990s is that growth in inequality was not fully offset by declining inequality during the following recovery periods.

Figure 1. 75/25 Ratio of Family Income, 1969–1999



families at the 75th percentile had 2.3 times the income of families at the 25th percentile. By 1999, this ratio had increased to 3.5.

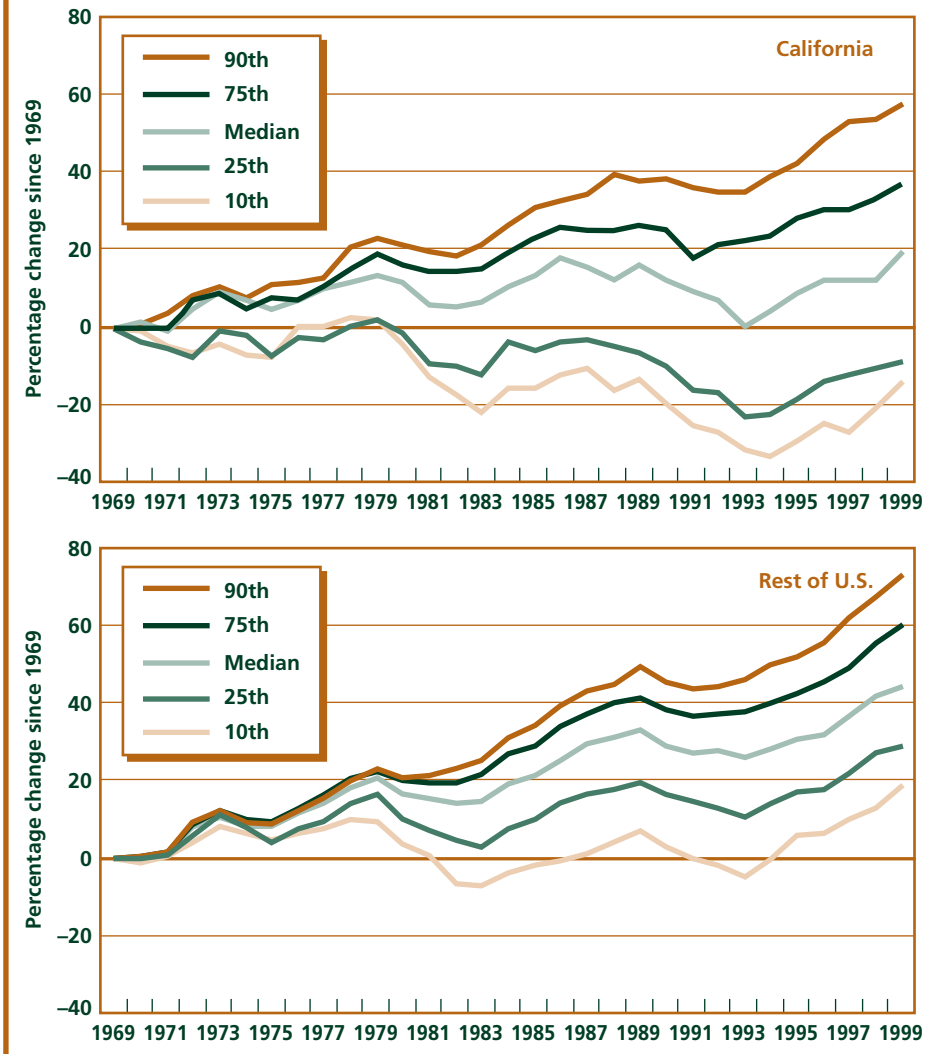
Historically, there has been a strong relationship between business cycles and family income inequality, with income inequality rising in recessions and falling during expansions. Although this pattern can be seen throughout the period shown in Figure 1, the striking feature of the recessions of the early 1980s and 1990s is that growth in inequality was not fully offset by declining inequality during the following recovery periods. As a result, family income inequality increased during these decades.

The figure also illustrates that until the mid-1980s, California and the rest of the nation followed a similar trend, with inequality somewhat higher in California. Beginning in the late 1980s, inequality grew faster in the state than in the rest of the nation, with especially rapid increases during the most recent recession in the early 1990s. Although California has experienced consistently strong economic growth and declining inequality in recent years, income inequality in the state remains substantially higher than that of the rest of the nation.

In California, the increases in inequality summarized in Figure 1 result from a combination of income growth at the top of the distribution and income losses at the bottom. Figure 2 shows the trends in income at the 10th, 25th, 50th (median), 75th, and 90th percentiles of family income. The income statistics reported here are based on a different sample of families in each year. Thus, they do not show how the incomes of the same families have changed over time. For example, the highest point on the graph shows that high-income families at the 90th percentile in 1999 earned almost 60 percent more than families at the 90th percentile in 1969. As with income inequality, the relationship between business cycles and family income is apparent, with incomes at all percentiles of the distribution falling in the early 1980s and early 1990s and rising in the late 1980s and late 1990s.

The most striking feature of the California figure is the absolute decline in income levels for families near the bottom of the distribution. During the 1970s,

Figure 2. Percentage Change in Real Family Income by Income Percentile, 1969–1999



the income received by families at the 10th and 25th percentiles of the income distribution in California fluctuated mildly but showed little overall growth. During the recession of the early 1980s, the income of families at the 25th percentile fell to 12 percent below the 1969 level. Even at the business cycle peak in 1989, families at the 25th percentile earned 7 percent less than similar families in 1969: $25,810 compared to $26,670 for a family of four. In the early 1990s, the recession reduced incomes at the 25th percentile even further, to 23 percent below 1969 levels. Even after five years of recent real growth, income at the 25th percentile in 1999 remained 9 percent below 1969 levels at $25,260. The income decline for households at the 10th percentile was even greater, with family income falling from $15,810 in 1969 to $13,600 in 1999, a 14 percent decline.[4]

Incomes for those near the top of the distribution (75th and 90th percentiles) also fell during recessions. However, in contrast to those near the bottom of the distribution, incomes in the upper percentiles recovered rapidly during expansion periods, eventually exceeding previous peak levels. Between 1969 and 1999, incomes at the 75th percentile rose by 37 percent, from $64,250 to $88,280. At the 90th percentile, income growth was even

Measuring Family Income Inequality: *Technical Notes*

Family Income

Family income is defined as the sum of all income from all sources for all related persons living in the same residence. Because larger families require more resources than smaller families to maintain the same level of individual consumption, we adjust family income based on the number of family members.[a] We evaluate the distribution of adjusted family income across people, rather than across family units, by assigning to each person the adjusted income of his or her family.

Inflation Adjustment

All income statistics reported in this study are adjusted to real 1999 dollars, based on a consumer price index (CPI-U-RS) computed by the Bureau of Labor Statistics.[b] For California statistics, we adjust the national series to reflect inflation in the state following the method of Reed, Glenn Haber, and Mameesh (1996). Income trends, such as those displayed in Figure 2, are sensitive to the method of inflation adjustment. Inflation as measured by the CPI-U-RS is similar to that of the Personal Consumption Expenditure Deflator but is lower than that of the CPI-U, the typical series used for income trends. Relative to trends adjusted by the CPI-U, the trends we report show more real growth in the middle and top of the distribution and less real decline at the bottom of the distribution. Our measure of inequality, the 75/25 ratio, is not affected by the choice of price index.

Income Inequality

A simple way to characterize dispersion in the distribution of income is to compare the level of income of families at the bottom and the top of the distribution. We use the 25th percentile—the level of income at which 25 percent of people live in families with lower income—to measure income in the lower-middle of the distribution. We use the 75th percentile to measure income in the upper-middle of the distribution. Our measure of inequality is the ratio of these two income levels, known as the 75/25 ratio.

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[a] We divide family income by the official 1999 U.S. poverty line relevant for the family and then multiply by the poverty line for a family of four in 1999 ($16,895). The adjustment takes into account "economies of scale" made possible through the sharing of common resources in large families. The base level of the poverty threshold does not affect the trends in family income and income inequality because the trends are scale-free (e.g., dividing every family's income by $15,000 or $5,000 will not change these trends).

[b] The CPI-U-RS is a research series that was developed to provide a more consistently measured index across the 1980s and 1990s than the CPI-U. The CPI-U is also known as the CPI-U-X1.

greater, with an increase of 58 percent, from $86,140 to $135,850.[5] As a result, the distribution of income in California widened, as income in the upper percentiles rose and income in the lower percentiles declined.

In the rest of the United States, income growth has been greater than in California for families throughout the distribution of income (lower panel of Figure 2). For upper-middle-income families at the 75th percentile, income grew by roughly 60 percent, compared to less than 40 percent in California. There was also real growth at the bottom and lower-middle of the distribution. The income of families in the 25th percentile was almost 30 percent higher in 1999. For California, the 25th percentile declined by 9 percent. What is clear from Figure 2 is that relative to the rest of the nation, the more rapid rise in inequality in California (as shown in Figure 1) was due not to higher income growth for families at the top of the distribution but to the decline in income for families at the bottom.

The trends in family income in California reported here have been noted previously by Daly and Royer (2000), the Legislative Analyst's Office (2000), the California Budget Project (2000), Reed (1999), and Reed, Glenn Haber, and Mameesh (1996). However, this is the first California study to incorporate recently available data on family income in 1999. These more recent data are important because they show that family income has continued to grow throughout the distribution, including at the 25th and especially at the 10th percentiles. Family income inequality was lower in California in 1999 than it was in the mid-1990s. However, despite several years of economic growth, inequality remains high in California relative to past decades. In 1996, the 75/25 ratio achieved its highest single-year decline. It would take almost three more years with declines of the same magnitude just to get back to the level of the 75/25 ratio in 1989 and over nine years to get back to 1969 levels.

International Immigration

International immigration to the United States was relatively light during the 1950s and the early 1960s until the passage of the Immigration and Nationality Act Amendments in 1965. Immigration to California increased along an upward trend through the late 1960s, 1970s, and 1980s. Immigration levels were particularly high in the late 1980s after the passage of the Immigration Reform and Control Act (1986), under which about 1.6 million undocumented immigrants in California applied for amnesty. In the recent years of economic growth, immigration has grown again, increasing the state's population by more than 250,000 residents annually, on net.

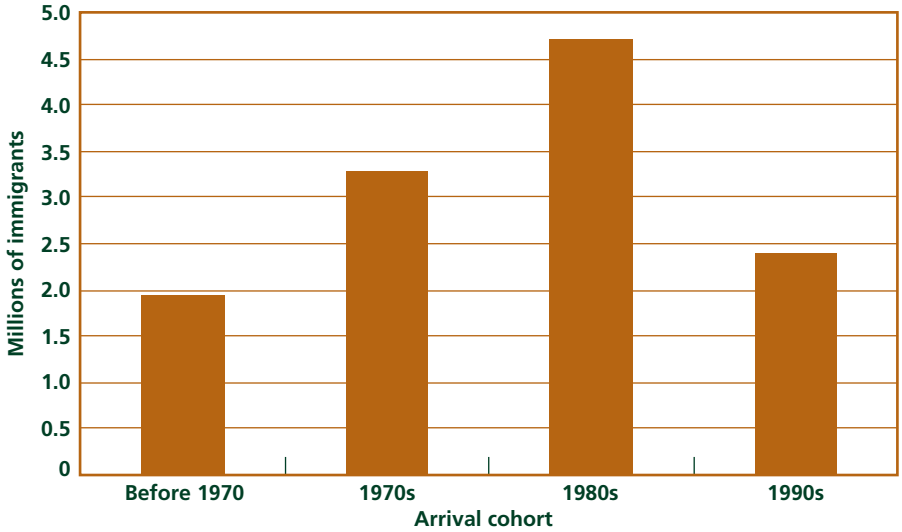
Despite several years of economic growth, inequality remains high in California relative to past decades.

In this report, the term "immigrant" refers to people living in the United States who were born outside of the United States.[6] The CPS sample includes documented and undocumented immigrants; however, undocumented immigrants are likely to be underrepresented. We use the immigration status and arrival date of the family head to classify the entire family.[7] To increase our sample of immigrants, we combine income data from three years, 1997–1999, and refer to the combined sample as "the late 1990s."[8]

In the CPS sample for the late 1990s, 37 percent of the California population lived in a family headed by an immigrant. Figure 3 shows the number of Californians in immigrant families by arrival cohort. As the figure demonstrates, the pattern of arrival dates for California's current immigrants mirrors the trends in immigration discussed above, with arrival peaking in the 1980s.

More than 60 percent of those who arrived in the 1980s and 1990s had incomes in the first or second quintile of the family income distribution.

Figure 3. Immigrants in the Late 1990s by Arrival Cohort



Note: This and the following figures labeled "late 1990s" are based on data from the combined samples of the 1998, 1999, and 2000 March CPS.

Figure 4 illustrates the location of immigrant families in the distribution of family income in California by income quintile. Quintile groups divide the population into five categories of equal size from lowest to highest family income. The bars in the figure show the share of immigrant families in each quintile group. If immigrant families were evenly distributed across income quintiles, each group would have 20 percent of immigrants. As Figure 4 illustrates, immigrant families were overrepresented in the bottom two income groups—the lowest 40 percent of the income distribution. Almost 30 percent of immigrants were in the lowest quintile and more than 25 percent were in the next lowest quintile. Only 12 percent of immigrants were in the highest quintile.

Figure 5 shows the location of immigrant families in the distribution of family income by arrival cohort. In the late 1990s, immigrants who had arrived before 1970 were relatively evenly distributed across the income distribution. This was less true for later cohorts, who were more likely to be in the lower quintiles of the distribution. In the late 1990s, more than 60 percent of those who arrived in the 1980s and 1990s had incomes in the first or second quintile of the family income distribution. One important reason why earlier cohorts of immigrants tended to have higher incomes than immigrants who arrived after 1980 is the economic progress of the earlier immigrants, who had been in the United States longer and who had more work experience.[9]

The disproportionate share of immigrants in the bottom half of the family income distribution suggests that immigration may increase income inequality. To study the effect of immigration on the distribution of family income, we calculated a rough estimate of the distribution of income in the absence of immigration.[10] Our primary calculation is based on the assumption that in the absence of immigration, native families would have exactly the same incomes as existing native families in California. That is, the distribution of family income in the absence of immigration can be learned by simply removing immigrant families from the data sample. In the analysis that follows, we discuss this assumption, the

Figure 4. Representation of Immigrants in the Distribution of Family Income, Late 1990s

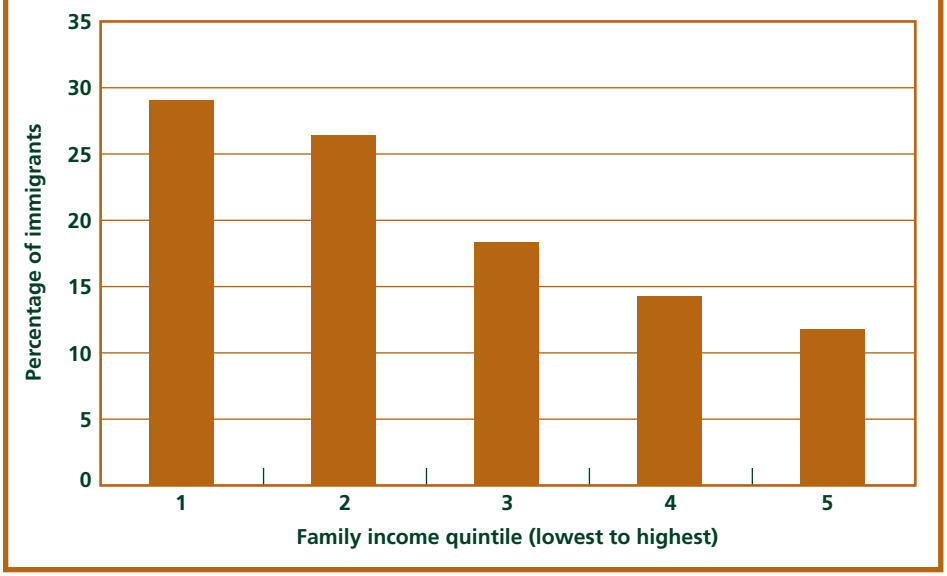
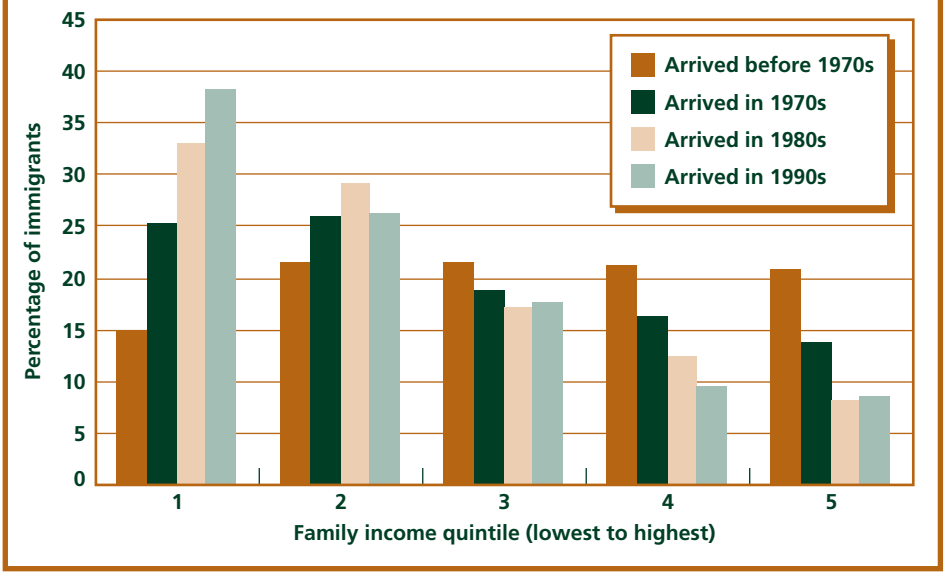


Figure 5. Representation of Immigrants in the Distribution of Family Income by Arrival Cohort, Late 1990s



The disproportionate share of immigrants in the bottom half of the family income distribution suggests that immigration may increase income inequality.

related evidence, and the effect of relaxing this assumption.

Figure 6 shows the percentage change in real adjusted family income in California between 1969 and the late 1990s with and without immigrants in the data sample. The unadjusted line shows that below the 35th percentile of the family income distribution, real income levels fell between 1969 and the late 1990s. When immigrants are removed from the sample, the percentage change in income over the period is positive for all but the bottom 12 percentiles of the income distribution. Thus, by removing immigrants from the sample, we can reduce the number of percentiles experiencing declines in real income.

We can also examine how removing immigrant families affects inequality. Between 1969 and the late 1990s, the 75/25 ratio grew from 2.3 to 3.5—an increase of 1.2 units. When we remove immigrants, we find a ratio of under 3.1 in the late 1990s—an increase

Immigration can explain more than half of the higher family income inequality in the state relative to the rest of the nation.

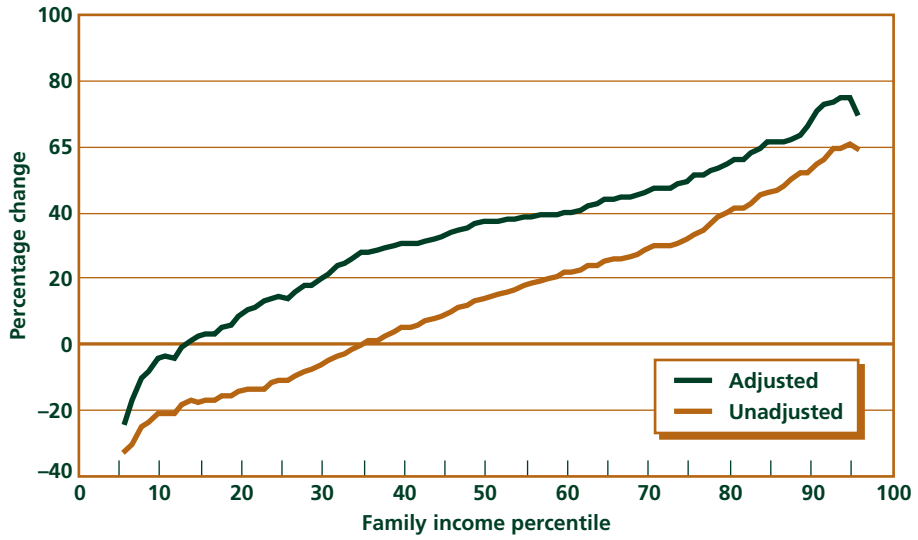
of just under 0.8 units above 1969 levels. This suggests that immigration explains about one-third of the growth in the 75/25 ratio between 1969 and the late 1990s. As suggested by Figures 3 and 5, the largest effect comes from removing immigrants who arrived during the 1980s (not shown).

We also consider the role of immigration in explaining the higher income inequality in California relative to the rest of the nation. In the late 1990s, the 75/25 ratio in the rest of the nation was 2.9. If we remove immigrants, the 75/25 ratio falls by about 0.1 units. Without immigrants, the difference between California and the rest of the nation was slightly over 0.2 compared to the actual difference of over 0.5. In other words, immigration can explain more than half of the higher family income inequality in the state relative to the rest of the nation.

One possible criticism of our calculation is that we do not adjust for any effect of immigration on the income of native families. Economic theory suggests that immigration may affect the incomes of natives. When immigrants have different skills than natives do, immigrants may complement the native workforce and increase incomes for natives. On the other hand, if immigrant labor substitutes for native labor, immigration may reduce native wages. The empirical evidence on the effect of immigrants on native income is mixed, but most research finds little or no effect (see National Research Council, 1997, for a summary). Furthermore, Reed (1999) found that adjustments for immigrant income effects did not substantially change the estimated effect of immigration on native wage inequality in California. Using this evidence, we maintain the assumption that immigration does not affect native income.

Another possible criticism of our calculation is that we removed immigrants from the sample but we did not adjust the nature of the native population. Immigration may affect the characteristics of the native population living in California. A growing share of U.S. natives in California are the children of immigrants. In the absence of immigration, these natives would not be state residents. When we removed immigrant families from the data sample, we removed the U.S.-born children of immigrants if those children lived with their parents. However, if they headed their own families, they were considered natives and

Figure 6. Effect of Immigration on the Percentage Change in Family Income by Percentile,1969 to late 1990s



Note: Statistics are not reported for the top and bottom 5 percent because extreme income values are not reported in CPS data.

were not removed. In addition, immigration may have less direct effects on the native population. Immigrants have increasingly taken jobs with low education requirements, which may have caused natives to seek additional education or to leave the state.

To address this concern, we considered an alternative calculation where we assumed that in the absence of immigration, native families in California would have the same characteristics as native families in the rest of the nation. This alternative is at the opposite extreme of the first calculation. In the first calculation, we assumed that California families were unchanged by immigration. In the alternative calculation, we assumed that all of the uniqueness of California families is due to immigration. Using this alternative calculation provides a sense of how sensitive the primary results are to relaxing the underlying assumption that immigration has no effect on the characteristics of natives.

For the alternative calculation, we removed immigrants and adjusted the remaining native population to match native population characteristics in the rest of the nation. That is, we re-weighted the U.S.-born California sample to match the characteristics of the native family heads in the rest of the nation, based on sex, age (five-year age groups), education (less than a high school diploma, high school diploma, some college, and bachelor's degree or beyond), and racial/ethnic identification (white, Hispanic, African American, and other). The alternative calculation does not substantially change our results—immigration can explain about one-third of the growth in family income inequality and more than half of the higher inequality in California compared to the rest of the nation.

We conclude that immigration has increased inequality in California because immigration has increased the number of people living in families with relatively low incomes. Clearly, these calculations are not meant to provide an exact picture of the distribution of income in the absence of immigration. However, they provide a rough sense of the role that immigration has played in altering the distribution. Whether immigration will continue to exert upward pressure on income inequality depends on how quickly the incomes of recent immigrant families improve, as well as on the extent and nature of future immigration.

Domestic Migration

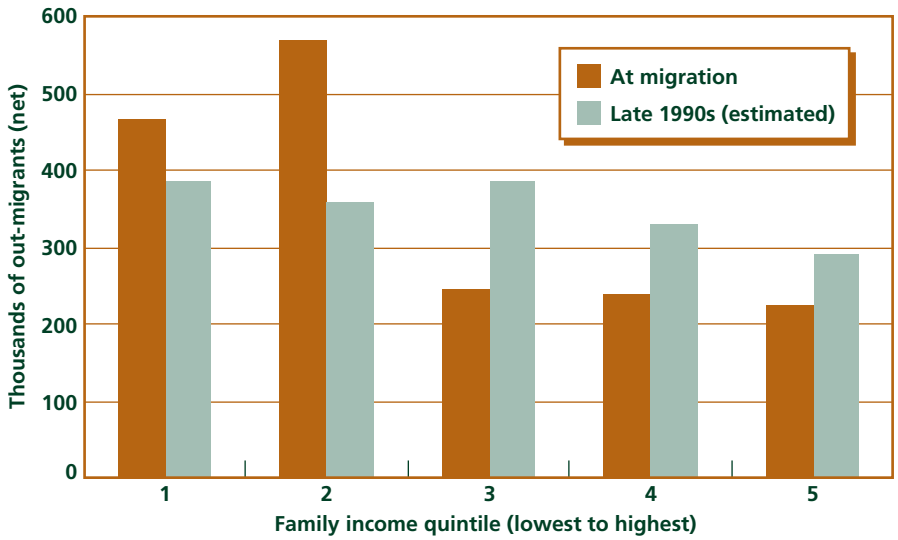
Historically, California has been a major destination for people from other states. Although net domestic in-migration was lower in the 1970s and 1980s than in the preceding decades, in the mid-1980s California received about 100,000 new residents each year from other states. During the 1990s, however, California experienced an unprecedented out-migration to other states. Over two million more people left California for other states than arrived here from them (Johnson, 2000).

Immigration can explain about one-third of the growth in family income inequality and more than half of the higher inequality in California compared to the rest of the nation.

Did net domestic out-migration in the 1990s substantially affect the distribution of income in California?[11] Figure 7 reports net domestic migration by family income quintile. The brown bars are based on family income at the time of migration.[12] Although every income quintile experienced net domestic out-migration of substantial numbers, the out-migration was particularly concentrated among families at the bottom of the distribution, with almost 60 percent of net out-migrants in the two lower quintiles.

The income statistics for domestic migrants do not necessarily represent the migrants' true earnings potential in California. People who move across states are more likely to have spent part of the year out of work (either before or after migration). People who

Figure 7. Representation of Net Domestic Migration in the Distribution of Family Income, Late 1990s



Note: The brown bars are based on the observed California family income quintile of domestic migrants in the year of migration. The green bars are based on the estimated income quintile domestic migrants would be in if they resided in California in the late 1990s.

migrate are also more likely to be in an investment stage of their career, earning less while they accumulate training (e.g., people going to college). For those who left California, higher earnings may have attracted them to their new state of residence, suggesting that their reported income was higher than it would have been if they stayed in the state. On the other hand, they may have been willing to accept salary cuts relative to their California earnings because of lower costs of living in the new state of residence.

To address these concerns with measuring income at the time of migration, we used personal characteristics to estimate the level of family income each domestic migrant would earn in California in the late 1990s.[13] We constructed cells based on sex, age in 1999 (five-year age groups), education (less than a high school diploma, high school diploma, some college, and bachelor's degree or beyond), immigration status, and racial/ethnic identification (white, Hispanic, African American, and other).[14]

The green bars in Figure 7 represent domestic migration based on the migrants' estimated location in the distribution of family income in California in the late 1990s.[15] The net out-migration in the 1990s was slightly concentrated among people who were likely to be in low- and middle-income families in the late 1990s. However, the concentration in the lower half of the distribution is much more notable in the brown bars (where we used actual income at the time of the migration) than in the green bars (where we used estimated income in the late 1990s). Some of this difference can be explained by the problems with income measurements for domestic migrants mentioned above. In addition, our method of estimating incomes in the 1990s takes into account several personal characteristics such as age and education but does not attempt to correct for characteristics that affect income but were not measured by the survey, such as training outside of formal schooling. Domestic migrants may be systematically different along these dimensions—for example, out-migrants may tend to be people whose specific training was not well-suited to the needs of the California labor market. This "selection bias" could cause the predicted incomes shown by the green bars to be somewhat overestimated.

To get a sense of the effect of net domestic migration on the distribution of family income in California, we simulated the distribution of family income if net out-migrants were still in the California population in the late 1990s. Using personal characteristics (as defined above), we

re-weighted the California resident population in the late 1990s to include the people who would have been present were it not for net domestic migration.

We found that net domestic out-migration during the 1990s had very little effect on the distribution of income. In the late 1990s, the 75/25 ratio was about 3.5. Simulating the distribution in the absence of net domestic migration leads to the same 75/25 ratio of 3.5. When we constructed the domestic migration counterpart to Figure 6, we found that income change adjusted for domestic migration is not noticeably different from unadjusted income change. This result is not surprising in light of the evidence in Figure 7 (green bars) that during the 1990s net migration was relatively evenly distributed throughout the distribution of income. Even if we were to base our conclusions on income at the time of migration (brown bars in Figure 7), the result that domestic migration had little or no effect on the distribution of income in California remains unchanged.[16]

What Does It Mean?

California has experienced rapid growth in income inequality and tremendous population flows over the last three decades. Is there a link between these two trends? Our results suggest that international immigration can account for roughly one-third of the growth in family income inequality in California between 1969 and 1999 and more than one-half of the higher inequality in the state compared to the rest of the nation in the late 1990s. In contrast, net domestic out-migration during the 1990s has not played a role in changing the distribution of income in the state.

We find that immigration increased inequality because it disproportionately increased the number of low-income and lower-middle-income families in the population. Immigrant families tend to have low incomes for a number of reasons including lower educational attainment relative to natives. In light of the growing proportion of immigrants in our population and the high value of education in our economy, it is more important than ever to ensure that second and third generations of immigrants have access to high-quality education and training (see Vernez, Krop, and Rydel, 1999).[17] If the children of immigrants are not provided with the education they need to succeed, this could result in a greater gap between rich and poor natives in future generations. The economic progress of immigrants is an important topic of ongoing and future research at the Public Policy Institute of California.

The relationship between immigration and income inequality has no direct implications for immigration policy. Our findings are not based on any adverse effect of immigration on the income of native families. Evidence on the effect of immigration on native wages is mixed, but most studies find little or no effect. Moreover, immigration policy should be based on the overall social and economic benefits of immigration versus the costs. For a study of the economic effects of immigration see the report of the National Research Council (1997).

Although immigration has contributed to income inequality in California, other forces explain the bulk of the growth in inequality.

Although immigration has contributed to income inequality in California, other forces explain the bulk of the growth in inequality. The rising value of skills such as schooling and labor market experience has been an important factor. Reed (1999) finds that the rising value of skills was more important than immigration in explaining the growth in male wage inequality in California since the late 1960s.

National studies have also concluded that the rising value of skills is the most important factor in the growth of wage inequality.

In light of the long-term nature of these trends, we should expect family income inequality to remain high in California.

Although there is no consensus on the underlying causes of the increasing value of skills, technological change and international trade are considered to be important factors. The rising value of labor market skills suggests that concern over the economic opportunities available to low-income families, particularly those headed by low-skilled workers, is well-founded.

The income trends reported in this study are long-term trends across each of the last three decades. The last five years have done little to reverse these trends. Despite income growth throughout the distribution in California, families in the bottom and lower-middle of the distribution have even lower incomes than similar families had in the business cycle peak years of the 1970s and 1980s. Although income inequality has fallen during the recent growth period, it remained substantially higher in California in 1999 than in the previous decades. In light of the long-term nature of these trends, we should expect family income inequality to remain high in California. ◆

Notes

[1] Estimates are based on figures from the California Department of Finance (2000), Johnson (1996, 2000), and Census Bureau data for 1990–1999 (http://www.census.gov/population/estimates/state/st-99-2.txt).

[2] For a description of these data and income measurement issues, see Reed (1999).

[3] See Johnson (1997, 2000) for comparisons of CPS measures of immigration and domestic migration with alternative data sources.

[4] As discussed in the text box, these income statistics are sensitive to the choice of income deflator. We use the CPI-U-RS, which provides lower estimates of inflation than more commonly used measures. However, if this price index were overinflated, the declines in income at the bottom and lower-middle of the income distribution would be less substantial. But the price index does not affect comparative measures such as the growing gap in California and the slower growth at all levels of the distribution in California compared to the rest of the nation.

[5] The growth in income at the 75th and 90th percentiles in recent years (as shown in Figure 2) was driven primarily by labor market earnings and not directly by the stock market boom. For many families, rising stock market values contributed mostly to wealth rather than income. The Legislative Analyst's Office (2000) showed the importance of capital income in creating phenomenal income gains at the very top of the income distribution, above the 90th percentile.

[6] People born in Puerto Rico, Guam, and other U.S. territories are classified as immigrants.

[7] Our simulation strategy requires that we classify the entire family with the same immigration status and we use that of the family head. The immigrant status of some adults is different from that of the family head (e.g., native-born Californians who marry immigrants). However, classification of adults by "own immigrant status" rather than that of the family head does not substantially change the numbers of immigrants nor their location in the income distribution. For example, using "own status" for persons over age 15 would cause each bar in Figure 3 to be slightly shorter but would not affect the shape of Figure 4. For our simulation strategy, it is appropriate to classify children age 15 and under using the same immigration status as the family head if, for example, we assume that the native-born children of immigrants would not be present in California in the absence of immigration.

[8] Income from years 1997–1999 is measured by the CPS in years 1998–2000. Combining data from these sample years had no substantial effect on our results. The combined sample includes 21,923 natives and 17,782 immigrants in California.

[9] See Schoeni, McCarthy, and Vernez (1996) for a study of immigrant economic progress. For a description of immigration and immigrants, see Fix and Passel (1994).

[10] Our approach follows that of Reed (1999). However, our analysis is for family income rather than male wages. We also have two more recent years of data.

[11] Interstate migration information was not consistently available in the CPS before 1982. The domestic migration numbers for the 1980s, based on the CPS, suggest an outflow of roughly 50,000 people, whereas other Census Bureau data suggest a substantial net inflow over the decade (see Johnson, 1997). For this reason, we do not focus on domestic migration during the 1980s. However, when we replicate our analysis for domestic migration in the 1980s, we find it had almost no effect on the 75/25 ratio for family income in the late 1990s. In contrast, the CPS estimates of domestic migration in the 1990s are consistent with independent estimates. Over the 1990s, the CPS sample includes 1,497 domestic in-migrants to California and 3,905 domestic out-migrants from California.

[12] Using data from the 1991–2000 March CPSs, we calculated the family income quintile of domestic migrants on the basis of income received in the year of migration, using the quintile income levels of families resident in California at the time of the survey. That is, if a man in Oregon in March 1995 lived in California in March 1994, he was considered a domestic out-migrant from California. To determine his California income quintile shown by the brown bars in Figure 7, his family income in 1994 was compared to the 1994 income distribution for families residing in California (based on the

March 1995 CPS). Net domestic migration over the decade was calculated separately for each quintile.

[13] If a man in Oregon in March 1995 reported living in California in March 1994, we used his characteristics to estimate his family income quintile if he were to live in California in 1999.

[14] For those under age 18, we assigned the education and immigration status of the family head.

[15] To create the green bars in Figure 7, we assumed that within each cell defined in the previous paragraph, net domestic migrants had the same quintile distribution as California residents in the late 1990s.

[16] We simulated the distribution of family income in California if net out-migrants were still in the state population in the late 1990s at the same percentile of the income distribution as they were in the year of migration (as shown in Figure 7, brown bars). This method led to a 75/25 ratio of 3.54 compared to 3.48 using the method described in the text (Figure 7, green bars).

[17] See Reed (1999) for a discussion of immigration, education, and wage inequality. For a study of immigrant economic progress see Schoeni, McCarthy, and Vernez (1996).

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