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Immigration and Wages: Evidence from the 1980's

By KRISTIN F. BUTCHER AND DAVID CARD*

More immigrants entered the United States during the past decade than in any comparable period since the 1920's. Among the issues raised by this influx, none is as controversial as its effect on the labor market opportunities of native-born workers. Evidence on the labor market consequences of immigration is limited (see Michael Greenwood and John McDowell, 1986, and George Borjas, 1990). This paper presents new evidence on the effects of immigration, based on changes in the distributions of wages in 24 major cities during the 1980's. Although immigrant inflows are small relative to the populations of most cities, recent immigrants are a significant fraction of less-educated workers in many cities. We therefore concentrate on measuring the effects of immigration at the lower tail of the wage distribution. In particular, we ask whether recent declines in the real earnings of the least-skilled workers in the U.S. economy are related to immigration. Our empirical analysis reveals large differences across cities in the relative growth rates of wages for low- and high-paid workers. Nevertheless, these differences bear little or no relation to the size of immigrant inflows. Our results therefore confirm the findings of earlier studies, based on 1970 and 1980 Census data, that suggest that the labor market consequences of higher immigration are relatively small.

I. Characteristics of New Immigrants in 1980 and 1985

A standard approach to measuring the labor market effects of immigration is to treat different cities within the United States as distinct labor markets, and to compare labor market outcomes across cities with higher and lower immigrant densities. We

follow this approach here, tracking wages in 24 major cities during the period from 1979 to 1989. Our sample includes the 10 most immigrant-intensive cities identifiable in *Current Population Survey (CPS)* microdata files, along with a group of 14 other cities (listed in Table 2). The other cities were selected by a variety of criteria, including stable boundaries, relatively large sample sizes, and a desire for geographic comparability with the high-immigrant cities. We believe that the sample gives a fair picture of the variation in immigrant inflow rates and relative immigrant "quality" across major U.S. cities.

We begin by presenting some simple evidence on the nature of recent immigrant inflows into the United States. The first two columns of Table 1 contain data from the 1980 Census on the characteristics of natives and recent immigrants (i.e., those who immigrated between 1975 and 1980) in the 24 cities in our sample. Recent immigrants are younger, less educated, and more likely to be male than natives (or earlier immigrants). The proportion of Hispanics is also much higher among recent immigrants than in the native population. The education distribution of newly arriving immigrants is relatively disperse: the fraction of college graduates is about the same as in the native population, but close to one-quarter of recent immigrants have less than an elementary education. As a result, recent immigrants make up 17 percent of the population in these cities with 6 or fewer years of schooling, and 10 percent of the population with less than an eighth-grade education.

Columns 3 and 4 of Table 1 present the characteristics of individuals in the March 1985 *CPS*, classified by whether or not the respondent was living in the United States 5 years earlier. Based on responses to a similar question in the 1980 Census, we estimate that 85 percent of those living abroad 5 years ago are immigrants. Demographic differences between the two groups

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TABLE 1—COMPARISON OF RECENT IMMIGRANTS
AND OTHERS IN 24 CITIES,
1980 CENSUS AND MARCH 1985 CPS

| | 1980 Census | | March 1985 CPS | |
|-------------------------------|-------------|------|-------------------|------|
| | (1) | (2) | (3) | (4) |
| Pct of Total | 86.8 | 3.4 | 96.6 | 3.4 |
| Pct Female | 51.4 | 48.2 | 51.5 | 46.5 |
| Mean Age | 37.4 | 31.3 | 37.7 | 31.7 |
| Pct Age 16–24 | 24.7 | 34.4 | 21.7 | 33.0 |
| Pct Hispanic | 5.0 | 39.0 | 11.2 | 36.7 |
| Education (Years): | | | | |
| Mean | 12.5 | 10.7 | 12.7 | 11.3 |
| Pct 0–6 | 2.3 | 22.8 | 3.4 | 15.0 |
| Pct 16+ | 18.0 | 17.3 | 22.3 | 21.0 |
| Work in Previous Year: | | | | |
| Pct Worked | 71.5 | 59.5 | 71.4 | 60.6 |
| Avg. Log Wage | 1.82 | 1.51 | 2.06 | 1.75 |
| Std. Deviation | 0.66 | 0.66 | 0.66 | 0.64 |

Note: Samples contain individuals age 16–68 in 24 cities. Col. (1) contains natives; Col. (2) contains immigrants who entered the United States between 1975 and 1980; Col. (3) contains individuals who were living in the United States in March 1980; Col. (4) contains individuals who were living abroad in March 1980.

are consistent with the differences between recent immigrants and others in the 1980 Census. The 30 percent wage gap between the new arrivals and other workers is also very similar to the gap between recent immigrants and others in 1980. We conclude from these comparisons that the relative “quality” of arriving immigrant cohorts was relatively stable between 1975 and 1985.

II. Immigration to Specific Cities

From this general overview we turn to a specific examination of the nature of immigrant flows to each of the 24 cities in our data set. Table 2 provides information on the percent of “recent immigrants” in each city in 1980 and 1985, together with data on the overall population growth rate between 1980 and 1987, and the wage gap between recent immigrants and natives in 1980. Two important features of U.S. immigration are highlighted in the table. First, recent immigrants are highly concentrated in only a few cities. Three cities (New York, Los Angeles, and Miami) accounted for 51 percent of recent immigrants in both 1980 and 1985. Second, there is substantial variation across

TABLE 2—CHARACTERISTICS OF 24 MAJOR CITIES

| | Percent | | Growth Rate ^a | Wage Gap ^b |
|------------------|--------------|------|-----------------------------|--------------------------|
| | Recent Imms: | | | |
| | 1980 | 1985 | | |
| New York | 4.4 | 6.0 | 0.4 | 34.5 |
| Los Angeles | 7.7 | 7.3 | 1.8 | 44.5 |
| Chicago | 2.5 | 2.4 | 0.3 | 32.3 |
| Philadelphia | 0.9 | 1.5 | 0.5 | 25.9 |
| Detroit | 0.8 | 0.9 | –0.4 | 15.2 |
| San Francisco | 4.3 | 4.1 | 1.3 | 27.5 |
| Washington, D.C. | 2.8 | 3.8 | 1.6 | 27.7 |
| Baltimore | 0.7 | 1.6 | 0.7 | 26.6 |
| Houston | 3.3 | 3.5 | 2.4 | 32.2 |
| Minneapolis | 1.1 | 0.9 | 1.3 | 3.4 |
| Dallas | 1.7 | 4.7 | 3.4 | 31.6 |
| Seattle | 1.9 | 2.5 | 1.6 | 24.3 |
| Anaheim | 4.8 | 3.9 | 2.0 | 44.2 |
| Milwaukee | 0.6 | 3.3 | –0.1 | 19.4 |
| Atlanta | 0.7 | 2.4 | 3.1 | 17.1 |
| San Diego | 4.0 | 3.9 | 2.9 | 34.8 |
| Miami | 6.1 | 8.7 | 1.4 | 30.8 |
| Denver | 1.4 | 0.9 | 2.0 | 9.2 |
| Riverside, CA | 1.9 | 4.4 | 4.4 | 22.2 |
| San Jose | 4.4 | 3.6 | 1.3 | 20.7 |
| New Orleans | 1.3 | 2.1 | 0.7 | 14.5 |
| Tampa | 0.7 | 5.1 | 2.8 | 21.7 |
| Portland | 1.5 | 1.6 | 0.8 | 14.2 |
| Sacramento | 1.7 | 3.2 | 2.8 | 17.0 |

^aAnnual percentage growth rate in population 1980–87.

^b1980 wage gap between recent immigrants and native born.

cities in the composition of recent immigrant inflows. As a general rule, the quality of recent immigrants, measured by their wage gap relative to native workers, is lower in cities with higher inflow rate. A key correlate of both inflow rates and the relative wage of recent immigrants is the fraction of Hispanic immigrants, which ranges from under 10 percent in Detroit, Minneapolis, Seattle, and Portland to over one-half in cities in California and Texas.

An important feature of immigration to a local labor market is its effect on population growth. A natural assumption is that an inflow of new immigrants generates a proportional increase in the labor force and population of a city. Recent research by Randall Filer (1990), however, suggests that the intercity migration decisions of native workers are highly sensitive to immigrant inflows. Indeed, Filer’s analysis of population movements between 1975 and 1980 im-

plies that immigrant arrivals are almost completely offset by native outflows.

There is some evidence of offsetting out-migration in Table 2, particularly for the high-immigrant cities of New York, Los Angeles, and Miami. All three cities had large immigrant inflows but relatively modest growth rate during the 1980's. In the absence of out-migration, an increase in the fraction of new immigrants will raise the population growth rate of a city point-for-point. Therefore, if native inflow rates are independent of immigration rates, population growth rates should be linearly related to immigration inflow rates, with a slope of 1.0. In fact, the slope of a regression line fitted to all 24 cities in our data set is 1.04 (with a standard error of 0.54). When a similar regression is fit to the subset of observations that excludes New York, Los Angeles, and Miami, however, the estimated slope is much higher (2.76, with a standard error of 0.67). This regression accounts for about one-half of the variation in growth rates in the subset of 21 cities. From this evidence we conclude that native in-migration flows during the 1980's were actually *positively* correlated with inflows of recent immigrants to all but the 3 most immigrant-intensive cities.

One explanation for the difference between the highest-immigrant cities and other major cities is based on the composition of immigrant inflows. Between 1980 and 1985, over one-half million Cuban and Southeast Asian refugees arrived in the United States (Frederick Hollmann, 1990, Table V). Most of the Cubans, and perhaps one-half of the Asians, settled in either New York, Los Angeles, or Miami. To the extent that the refugees were drawn to these cities by cultural and ethnic ties, their location decisions may have been less sensitive to local labor market conditions than the decisions of other newly arriving immigrants. It should be pointed out, however, that New York and Los Angeles had large immigrant inflows during the 1970's and grew more slowly than most other U.S. cities between 1970 and 1980. The experiences of these two cities during the 1980's were therefore in keeping with earlier trends. What is appar-

ently different between the 1970's and 1980's is the emergence of a positive relation between immigration and overall population growth among other cities.

III. Immigration and Wages

Table 3 turns to an examination of wage outcomes in different cities during the past decade. The data are taken from merged files of the 12 monthly *Current Population Surveys* administered in 1979, 1980, 1988, and 1989, and pertain to hourly wage rates (for hourly rated workers) or the ratio of average weekly earnings to average weekly hours (for salaried workers). For each city and each year, we have calculated the 10th and 90th percentiles of the log wage distribution. The first two columns of Table 3 represent (unweighted) averages of the 1979 and 1980 percentiles, and the second two columns represent changes from the 1979-80 average to the 1988-89 average.

TABLE 3—LEVELS AND CHANGES IN PERCENTILES OF LOG WAGES IN 24 CITIES: 1979-80 TO 1988-89

| | Percentiles in 1979-80 | | Changes from 1979-80 to 1988-89 | |
|------------------|---------------------------|------|---------------------------------------|------|
| | 10th | 90th | 10th | 90th |
| New York | 1.14 | 2.39 | 0.47 | 0.67 |
| Los Angeles | 1.14 | 2.46 | 0.34 | 0.56 |
| Chicago | 1.18 | 2.50 | 0.30 | 0.48 |
| Philadelphia | 1.12 | 2.38 | 0.44 | 0.59 |
| Detroit | 1.13 | 2.51 | 0.29 | 0.46 |
| San Francisco | 1.26 | 2.56 | 0.35 | 0.56 |
| Washington, D.C. | 1.18 | 2.69 | 0.43 | 0.41 |
| Baltimore | 1.12 | 2.39 | 0.36 | 0.54 |
| Houston | 1.14 | 2.45 | 0.22 | 0.52 |
| Minneapolis | 1.15 | 2.47 | 0.39 | 0.50 |
| Dallas | 1.14 | 2.35 | 0.28 | 0.58 |
| Seattle | 1.27 | 2.50 | 0.29 | 0.49 |
| Anaheim | 1.14 | 2.55 | 0.40 | 0.50 |
| Milwaukee | 1.12 | 2.39 | 0.30 | 0.46 |
| Atlanta | 1.12 | 2.40 | 0.39 | 0.58 |
| San Diego | 1.12 | 2.44 | 0.36 | 0.52 |
| Miami | 1.10 | 2.20 | 0.29 | 0.63 |
| Denver | 1.15 | 2.50 | 0.29 | 0.45 |
| Riverside, CA | 1.12 | 2.41 | 0.37 | 0.58 |
| San Jose | 1.25 | 2.63 | 0.40 | 0.58 |
| New Orleans | 1.13 | 2.36 | 0.19 | 0.49 |
| Tampa | 1.10 | 2.17 | 0.29 | 0.59 |
| Portland | 1.19 | 2.46 | 0.29 | 0.44 |
| Sacramento | 1.12 | 2.46 | 0.43 | 0.48 |

The distribution of hourly wages in each city is approximately lognormal, although the distributions contain prominent "spikes" at points like \$3.00, \$5.00, and \$10.00 per hour. The spread between the 10th and the 90th percentile of log wages in any city tends to be strictly proportional to the estimated standard deviation, as is the case for a normal distribution.

The 1979-80 data reveal sharp differences across cities in both the level and dispersion in wages. Interestingly, there is less variation across cities in the 10th percentile of wages than in wages at the middle or upper end of the earnings distribution. This is apparently due to the restraining effect of the minimum wage, that served as the 10th percentile of wages in many cities in 1979 and 1980. One implication of a binding national wage floor is that the dispersion of wages within a city is highly correlated with the average level of wages. In 1979-80, this pattern is clearly present in the data. Despite the differences in mean log wages across cities, however, 97 percent of the overall variation in individual wages for workers in our sample of cities is within-city variation.

Intercity differences in the 10th percentile of wages in 1979-80 are uncorrelated with differences in the fraction of recent immigrants (or total immigrants) in the city. Wages at the upper end of the earnings distribution are weakly negatively related to the fraction of recent immigrants, but weakly positively related to the overall fraction of immigrants. These small and unsystematic correlations are consistent with findings in the previous literature. Looking across cities in 1979-80, there is no evidence of any effect of immigration on the level of wages.

Changes in the distribution of wages over the last decade also show considerable intercity variation. Mean log wages in most cities grew at roughly the same rate as the Consumer Price Index (CPI), which rose 44 percent between 1979-80 and 1988-89. Mean log wages in Detroit, Houston, and New Orleans, however, grew much more slowly than average consumer prices, while those in New York grew faster. As shown in the third and fourth columns of Table 3,

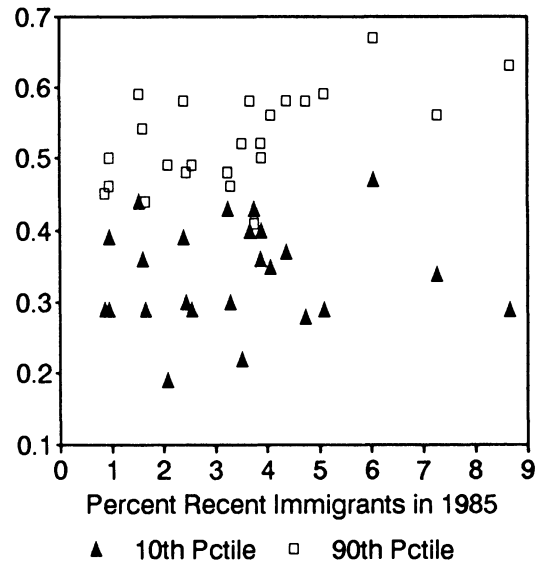


FIGURE 1. IMMIGRATION AND CHANGE IN WAGE DECILES IN 24 MAJOR CITIES, 1979-80 TO 1988-89

there are significant differences across cities in the relative growth of the 10th and 90th percentiles of wages (and in the corresponding change in the standard deviation of wages). In every city except Washington, D.C., wage rates in the upper tail of the earnings distribution grew more quickly than those in the lower tail. Thus, the growth in wage inequality during the 1980's (Chinhui Juhn et al., 1989) was almost entirely due to an increase in the within-city variance.

The rise in wage inequality over the 1980's was greater in cities with relatively bigger immigrant inflows. This is illustrated in Figure 1, which plots the changes in the 10th and 90th percentiles of wages for each city against the fraction of recent immigrants in 1985. Contrary to our expectations, however, the data suggest that higher immigration is associated with more rapid increases in the 90th percentile of wages, rather than with any relative decline in the 10th percentile of wages.

One explanation for the pattern of the data in Figure 1 is that the cost of living rose more rapidly in cities with larger immigrant inflows, and that these increases in

prices lead to wage increases for high-wage workers. To test this possibility we constructed wage changes relative to city-specific cost-of-living indexes, which are available from the Bureau of Labor Statistics for most of the cities in our sample. As hypothesized, the change in the city-specific cost of living is positively correlated with the fraction of recent immigrants in 1985. Adjusting for changes in the local cost of living, the change in the 90th percentile of wages is still positively related to the fraction of recent immigrants, but the regression coefficient is halved and falls to statistical insignificance. Similarly, an adjustment for the local cost of living causes the regression coefficient relating the change in the 10th percentile of wages to the fraction of recent immigrants in 1985 to become (slightly) negative. Thus, adjusting for city-specific changes in the cost of living, we find less evidence of a positive correlation between immigration rates and the growth of high-skilled wages, and more evidence of a negative correlation between immigration and the growth of low-skilled wages. Neither of these correlations, however, is large or statistically significant.

We have also calculated the effect of higher immigration on the various percentiles of the wage distribution, controlling for such factors as the overall population growth rate, the fraction of immigrants initially living in each city, and the initial level of wages in the city. In no case do we find a large or statistically significant effect of immigration on the rate of increase of wages for the least-skilled workers.

IV. Conclusions

We believe that the evidence we have assembled for the 1980's confirms the conclusions from earlier studies of 1970 and

1980 Census data. In particular, we find little indication of an adverse wage effect of immigration, either cross sectionally or within cities over time. Even for workers at the 10th percentile of the wage distribution there is no evidence of a significant decline in wages in response to immigrant inflows. The one important difference that emerges between our analysis and earlier studies is the finding of a positive link between immigrant inflows and net native migration. During the 1980's, rapidly growing cities in Texas, Florida, and California attracted both native and newly arriving immigrant workers. This configuration is quite different from the pattern of offsetting immigrant and native population inflows identified by Filer in earlier data.

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