The Internationalization of the U.S. Labor Market and the Wage Structure

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Beginning with the important work of Murphy and Welch (1992), a great deal of recent research has attempted to document and explain the dramatic changes in the wage distribution that occurred during the 1980s (see also Katz and Murphy 1992). Practically every income group faced a decline in real wages during the 1980s. However, workers at the 33rd percentile experienced a 14 percent drop in the real wage, workers at the 66th percentile experienced only a 6 percent drop, and workers in the upper tail of the distribution experienced a 1 percent wage increase. Therefore, the widening of the wage distribution occurred because the relative wage of less skilled workers fell dramatically during the decade.

Although these facts are indisputable, there is considerable disagreement about the causes of the increase in wage inequality. The trends can be understood in terms of a simple supply-demand equilibrium story. It is well known that the labor market entry of the large baby boom cohort in the 1970s shifted out the supply curve of college graduates, thus depressing the payoff to a college education throughout much of that decade. During the 1980s, however, the rate of increase in the supply of college graduates slowed dramatically. The relative decline in the number of new labor market entrants with a college education raised the wage gap between college graduates and less educated workers. It turns out, however, that if the elasticity of labor demand has a reasonable value, the supply shifts cannot generate the huge increase in the returns to schooling that occurred during the 1980s. As a result, it must also be the case that the demand for skilled workers shifted out by more than the demand for unskilled workers.

A number of hypotheses can explain the differential shifts in labor demand. For instance, the de-unionization of the labor market probably had a particularly adverse impact on the wage of unskilled workers. Because unions

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"prop up" the wage of less skilled workers, the drop in the demand for union labor would raise the wage gap between skilled and unskilled workers. Some studies conclude that perhaps as much as half of the increase in wage inequality can be attributable to the decline in unions (Freeman 1993).

The relative demand for skilled workers may also have increased because of skill-biased technical change. Some studies, in fact, argue that this type of technical change explains most of the increase in wage inequality in the United States (Bound and Johnson 1992; Berman, Bound, and Griliches 1994). If the technological advances that are being introduced constantly into the labor market are good substitutes for unskilled workers and complement the skills of highly educated workers, technical change would lower the demand for unskilled labor and increase the demand for skilled labor.

The internationalization of the U.S. labor market, either through trade or immigration, probably contributed significantly to the rise in wage inequality (Murphy and Welch 1991; Borjas, Freeman, and Katz 1992; Borjas and Ramey 1994). In 1979, trade between the United States and the rest of the world was balanced: exports exceeded imports by only about 1 percent. By the mid-1980s, the trade deficit in durable goods was equal to 2.5 percent of GDP. If the imported goods compete with goods produced by relatively unskilled workers, the demand for unskilled workers would be affected by the trade deficit. The increasing internationalization of the U.S. economy also occurred because of a sizable increase in immigration. In 1980, only 13 percent of workers with less than a high school education were foreign-born; by 1990, nearly a quarter of the high school dropouts were immigrants. This paper summarizes some of the evidence linking the internationalization of the U.S. labor market with the changes in the wage structure.

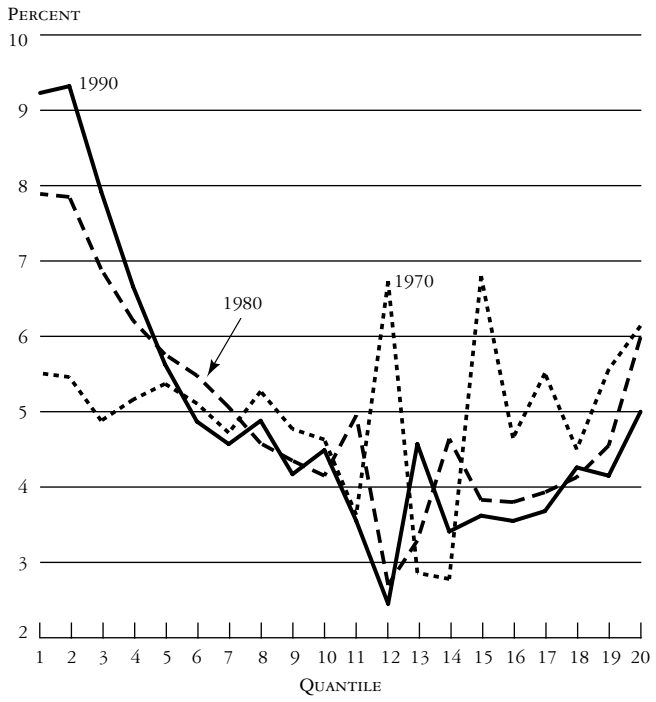
Immigration

There are two distinct ways in which immigration can alter the U.S. wage structure. Even if immigrants do not affect the wage of native workers, immigrants will change the shape of the wage distribution as long as the skill distribution of immigrants differs from the skill distribution of native workers. In fact, there have been major changes in the skill distribution of the immigrant flow during the past thirty years. In particular, more recent immigrant waves are relatively less skilled than earlier waves (Borjas 1985, 1995).

Chart 1 illustrates these changes by using decennial Census data to calculate the fraction of immigrant workers found in each of twenty quantiles of the native wage distribution between 1970 and 1990. If immigrants had the same skill distribution as natives, 5 percent of the immigrant work force would be found in each quantile. As the figure shows, however, more recent immigrants tend to be disproportionately unskilled. In 1970, for example, only 5.6 percent of immigrant workers were in the first quantile of the wage distribution (that is, in the bottom 5 percent of the distribution), and 6.1 percent were in the twentieth quantile (that is, in the upper 5 percent of the wage distribution). By 1990, however, more than 9 percent of immi-

Chart 1

Immigrant Placement in Native Wage Distribution
1970-90



Source: Author's tabulations from public use sample of the decennial Censuses. Values are calculated for the sample of men aged 25 to 64, who work in the civilian sector, are not self-employed, and do not reside in group quarters.

grants were in the first quantile and exactly 5 percent were in the twentieth quantile.

Because the volume of immigration has increased rapidly in the past two decades *and* because the skills of immigrants differ significantly from those of natives, immigrants distort the shape of the aggregate wage distribution. In particular, the disproportionate increase in the number of less skilled immigrants may have increased aggregate wage inequality. Immigrants also have an additional impact on the wage structure because the supply shifts caused by immigration will likely affect the earnings of similarly skilled natives.

Many studies attempt to estimate the impact of immigrants on native wages by regressing the native wage in a particular labor market or locality on the relative quantity of immigrants in that locality (or the change in the wage in the locality over a specified time period on the change in the number of immigrants in the locality). These across-city correlations generally indicate that the average native wage is slightly lower in labor markets where immigrants tend to reside (see Altonji and Card 1991 and LaLonde and Topel 1991). The point estimates of the elasticity of the native wage with respect to the number of immigrants cluster around -.01 to -.02, so that if one city has 10 percent more immigrants than another, the native wage in the city with more immigrants is only about .2 percent lower.

Studies of specific labor markets confirm the finding that immigration seems to have little impact even when the market receives very large immigrant flows. On April 20, 1980, Fidel Castro declared that Cuban nationals wishing to move to the United States could leave freely from the port of Mariel. By September 1980, about 125,000 Cubans, mostly unskilled workers, had chosen to undertake the journey. Almost overnight, Miami's labor force had unexpectedly grown by 7 percent. Card's (1990) influential analysis of the data indicates that the time-series trend in wages and employment opportunities for Miami's workers, including its black population, was barely nudged by the Mariel flow. The trend in the wage and unemployment rates of Miami's workers between 1980 and 1985 was similar to that experienced by workers in such cities as Los Angeles, Houston, and Atlanta, cities that did not experience the Mariel flow.

It is important to stress that the correlations estimated in this extensive literature do not truly answer the question whether native workers are adversely affected by immigration. In particular, the comparison of economic conditions in different metropolitan areas, as well as the pre- and post-immigration comparison in a particular metropolitan area, presumes that the labor markets are closed (once immigration takes place) and that the migration flow is exogenous.

Metropolitan areas in the United States are not closed economies: labor, capital, and goods flow freely across localities and tend to equalize factor prices in the process. In other words, native workers and firms vote with their feet and respond to the entry of immigrants by moving to areas offering better opportunities. This migration attenuates the cross-section correlation between the wages of natives and the presence of immigrants. As a result, the comparison of local labor markets may be masking the "macro" effect of immigration. Moreover, immigrants do not simply land in a randomly chosen metropolitan area; presumably they choose areas that provide the best opportunities. Therefore, the correlations typically estimated in the literature have no structural interpretation; they do not estimate the demand function for native workers, nor do they estimate the reduced-form impact of immigrants on native employment opportunities.

A recent study of time-series data drawn from the Current Population Survey provides indirect evidence of the macro impact of immigration. Borjas, Freeman, and Katz (1992) conclude that the large increase in the relative number of unskilled workers caused by immigration explains about a third of the 10 percentage point decline in the relative wage of high school dropouts between 1980 and 1988. Similarly, Topel (1994) finds that the relative decline in the wage of less skilled workers during the 1980s was steepest in labor markets that had a sizable immigrant presence.

To reconcile the finding that local labor markets do not seem to be affected by immigration with the possible existence of an economy-wide impact, Filer (1992) ana-

lyzes how the internal migration flows of U.S.-born workers respond to immigration. Using 1980 Census data, he finds that metropolitan areas where immigrants cluster experience lower rates of native in-migration and somewhat higher rates of native out-migration. This pattern of native mobility, of course, dissipates the impact of immigration over the entire economy. The evidence for more recent time periods, however, seems to be mixed. Using various Current Population Survey supplements from the 1980s, Butcher and Card (1991) estimate a positive correlation between immigration flows and the in-migration rates of natives to particular cities, while Frey's (1994) study of the 1990 Census reveals that less skilled native workers residing in states that received large immigrant flows in the late 1980s had relatively high probabilities of out-migration.

Trade

Chart 2 illustrates the relationship between the rise in wage inequality in the United States and the increasing volume of foreign trade. The chart shows the similar trends exhibited by (1) the age-adjusted log wage differential between highly educated and less educated workers and (2) net imports in durable goods as a percentage of GDP. As indicated by the early work of Murphy and Welch (1991), higher trade deficits in durable goods are associated with a larger wage gap between skilled and unskilled workers throughout much of the 1949-90 period.

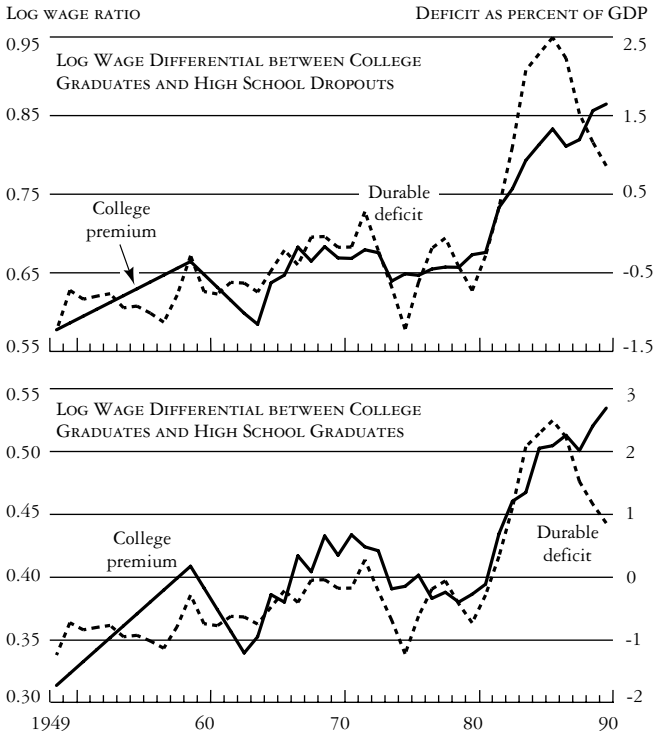
A series of statistical tests presented in Borjas and Ramey (1994) examine the robustness and interpretation of the time-series correlation between wage inequality and a number of variables that have been proposed as "causes" of the increase in wage inequality, including changes in labor supply, the de-unionization of the U.S. labor force, an increase in research and development expenditures, changes in the female participation rate, and net imports in durable and nondurable goods. The Borjas-Ramey analysis indicates that the *only* variable that is cointegrated with the trend in wage inequality is net imports in durable goods as a percent of GDP. In other words, only the durable goods deficit has the same stochastic long-run trend as the time series on wage inequality between 1963 and 1988.

Why does trade in durable goods matter so much for wage inequality? Durable goods in the United States are typically produced by industries that not only employ a relatively large number of unskilled workers, but that are also highly concentrated and unionized, and pay relatively high wages. In 1976, for example, 78 percent of all workers employed in a set of trade-impacted highly concentrated industries (such as automobiles and steel) were high school graduates or dropouts. Moreover, workers in the automobile industry earn about 24 percent more than equally skilled workers employed in other industries, while the wage advantage for workers employed in the steel industry is about 16 percent. In other words, workers in these trade-impacted industries (who are predominantly less educated) get some of the rents in the industries through higher wages.

When foreign firms enter markets in which domestic firms have substantial market power, they cap-

Chart 2

Durable Goods Trade Deficit and the Return to Skills 1949-90



Source: Borjas and Ramey 1994.

ture rents that would otherwise go to the domestic industry. This entry decreases the relative wage of unskilled workers in two distinct ways. First, because the rents of domestic firms have fallen, the wage of workers still employed in these industries declines. Second, to the extent that foreign competition reduces employment in the concentrated industries, many of the workers must move to the lower paying competitive sectors of the economy. Overall, the wage of less educated workers falls relative to that of college-educated workers.

The empirical work in Borjas and Ramey (1993) suggests that the trade deficit in durable goods can have a numerically important impact on aggregate wage inequality. Using simple accounting methods, the authors calculate the extent to which employment changes in trade-impacted highly concentrated industries affect aggregate wage inequality. The increasing volume of foreign trade (between 1976 and 1990) accounts for about 50 percent of the decline in employment in these industries, as well as 25 percent of the change in aggregate wage inequality.

This approach also provides an explanation of the regional differences that exist in the evolution of the wage structure. As Karoly and Klerman (1993) and Topel (1994) have shown, wage inequality has not increased evenly across regions. Borjas and Ramey report a significant negative correlation between employment changes observed in trade-impacted concentrated industries in a particular locality (defined as a metropolitan area) and the trend in wage inequality in that locality. In other words, employment declines in these industries raise the wage gap between highly educated and less educated workers.

It is important to point out, however, that the trade story does not provide a complete explanation of the changes in wage inequality during the entire period. There is an important timing problem in the empirical evidence. As shown in Chart 2, the trade deficit in durable goods began to decline after 1988, but wage inequality continued to rise. The underlying reason for the breakdown of the long-run relationship between wage inequality and trade is that even though the trade situation in durable goods began to improve in the late 1980s, employment in these trade-impacted industries continued to decline, driving down the relative wage of unskilled workers even further.

SUMMARY

The empirical evidence suggests that the increasing internationalization of the U.S. labor market, through both immigration and trade, has had an important impact on the wage structure. Immigration has probably increased aggregate wage inequality because more recent immigrant waves tend to be less skilled than earlier waves. Moreover, it is likely that the large number of unskilled immigrants who entered the United States in the past two decades have had an adverse effect on the employment opportunities of less skilled native workers. Trade in durable goods has increased wage inequality because durable goods industries employ a disproportionately large number of less skilled workers and these workers receive relatively higher wages than workers in more competitive sectors of the economy. The trade deficit in durable goods has reduced the rents going to domestic firms (and workers) and has had adverse spillover effects as displaced workers move from the trade-impacted industries into other sectors of the economy. It will be of great interest to see how the current trends in immigration and trade will affect the evolution of the wage structure in the 1990s.

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