

# Economic change and the structure of opportunity for less-skilled workers

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Because the primary source of support for most nonelderly adults comes from their employment and earnings, understanding the jobs and wages available to less-educated workers is key to understanding changes in the well-being of low-income populations.<sup>1</sup> Expansions and contractions in the macroeconomy influence unemployment rates, wages, and overall economic growth, all of which are important determinants of the economic circumstances facing low-income families.

Low-income families are more reliant on jobs and earnings in the 2000s than they were in past decades. This is particularly true for less-skilled single mothers, who greatly increased their earnings following welfare reform in the mid-1990s. Maintaining a high employment economy, with stable or growing wages and jobs that are readily available to less-educated workers, continues to be the most important anti-poverty policy for this country. The deep recession that began in 2008, with unemployment rates at their highest levels in 25 years, is likely to cause significant increases in poverty.

## Work behavior among less-educated persons

The economy primarily affects individuals who are working or actively looking for work. Trends in labor force participation since 1980 have differed between less-educated men and women. Employment declined markedly among less-educated men between 1979 and 2007, although more of this decline occurred between 1979 and 1995 than in the more recent decade. Figure 1 shows the trends over this period by education level in the share of men between the ages of 18 and 54 who report themselves as either working or looking for work.<sup>2</sup> Men with more than a high school degree have always been highly likely to work, with about a 90 percent labor force participation rate throughout this period. (The slight decline is due to growing years of school and earlier years of retirement within this group.) In contrast, men with only a high school degree or less have experienced substantial declines in labor market involvement.

Juhn indicates that virtually all of the decline in less-skilled men's labor force participation over the 1980s can be ex-

plained by declining wages.<sup>3</sup> More recent declines are less easily understood. While labor force participation has risen slightly among the least-educated, it continues to decline among those with just a high school education. This is true even though unemployment rates remained relatively low throughout the 1990s and early 2000s. Increased incarceration (making men less employable upon release) and increased child support enforcement (making work less lucrative) explain some, but not all, of the decline in labor force participation among young black men.<sup>4</sup> There appears to have been a behavioral change in labor market involvement among less-skilled young men, especially black men, that was unrelated to measurable economic variables. It is unclear whether the deep recession that started in 2008 will exacerbate these trends as even fewer jobs are available.

Figure 2 shows labor force participation changes among women between 1979 and 2007, differentiating between the same three education groups as in Figure 1. In general, all women increased their labor force involvement since 1979, although the patterns differ across groups. Women with post-high school training show steady increases in work, from 1979 to 1998, after which the rate falls slightly. High school graduates show a similar pattern.

In contrast, women who are high school dropouts have labor force participation rates just over 44 percent from 1979 to 1994. Their rate increases to over 50 percent by 2000, then declines slightly. The increase in work among the least-educated women in the mid-1990s was related to the policy changes in welfare and in work subsidies that were enacted at that time. Cash welfare support became much less available and those on welfare were required to participate in

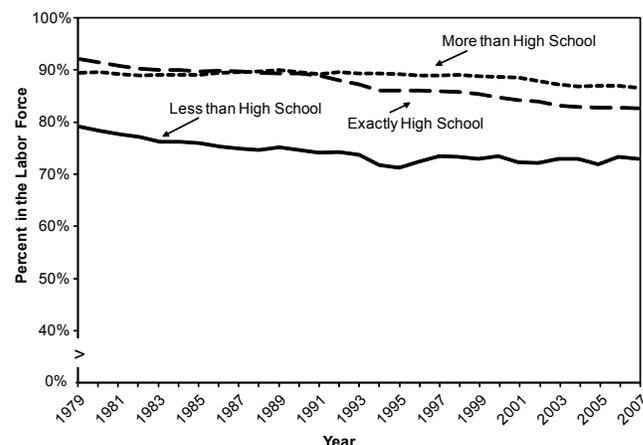


Figure 1. Male labor force participation by skill level, 1979 to 2007.

Source: Author's tabulations from Current Population Survey Outgoing Rotation Group data. Based on all noninstitutionalized civilian adults ages 18-65.

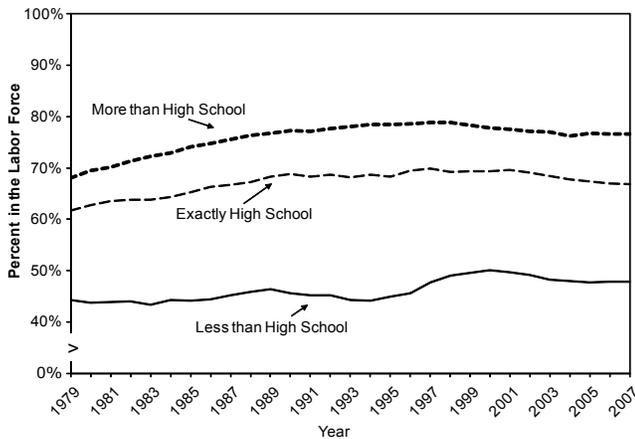


Figure 2. Female labor force participation by skill level, 1979 to 2007.

Source: Author's tabulations from Current Population Survey Outgoing Rotation Group data. Based on all noninstitutionalized civilian adults ages 18–65.

welfare-to-work programs. A very large number of single mother families left welfare and increased their earnings. At the same time, expansions in the Earned Income Tax Credit made work more lucrative. Research has linked work expansions among less-skilled women with both these EITC expansions and with the welfare reform changes.<sup>5</sup>

A growing number of women have left welfare but have not found employment. Blank and Kovak document increases in the number of “disconnected women,” single mothers who are neither working nor on welfare.<sup>6</sup> A high share of these women face barriers to employment, such as learning disabilities, mental and physical health problems, past histories of domestic violence or sexual abuse, or other issues that limit their ability to hold full-time steady employment. This population will require much more extensive interventions in order to move them to economic self-sufficiency.

The share of the less-skilled labor force that is composed of immigrants rather than the native-born has also increased. Among those without a high school degree, the share of men who are immigrants increased from 11 percent to 41 percent between 1980 and 2000; among similar women, the immigrant share rose from 12 percent to 35 percent.<sup>7</sup> While the groups with more education also show substantial increases in immigrant share, the numbers are much lower. For both men and women with a high school degree or with higher levels of schooling, the immigrant share was around 10 percent in 2000. Most of these immigrants are Hispanic workers; a much smaller share are Asian, black, or white. All else equal, rising immigration has helped to raise labor force participation over time. Of course, all else may not be equal. Labor force participation among natives may be reduced by immigration.<sup>8</sup>

Similar to less-skilled men, immigrants are a growing share of women without a high school degree. In 2000, 35 percent of these women were born outside the country. Immigrant shares remain lower among women than among men, in part

because single men are more likely to immigrate. Immigrant women are also less likely to be in the labor force than are native-born women.

Since 1979, men’s labor force participation has fallen, but women’s has risen. A primary reason for this is different wage trends among less-skilled men and women. We turn to that issue after a discussion of job availability.

## Job availability, unemployment, and the business cycle

Labor force participation measures the share of the population that is working or looking for work. If a high share of those in the labor force is without a job, but searching, this indicates lower well-being than when employment is high. Thus, the overall unemployment rate is an important indicator of economic well-being, particularly for lower-wage workers, who generally face higher unemployment rates than more-skilled workers.

### Changes in unemployment

Figure 3 plots unemployment rates by education level between 1979 and 2007.<sup>9</sup> Unemployment rates were relatively low from the mid-1990s to the mid-2000s, in contrast to the early 1980s when unemployment rose steeply. Even as overall unemployment fell, unemployment rates among the less skilled exceeded 8 percent in every year between 1979 and 2007, even during the booming years of the 1990s. Those with less than a high school degree had an unemployment rate of nearly 9 percent in 2007, well above the 5 percent for high school graduates and the 3 percent for those with post-high school training. Unemployment rose sharply over 2008 as the economy moved into recession, and overall unemployment rates in 2009 are expected to rival or exceed those of the early 1980s. The historical pattern is clearly being repeated

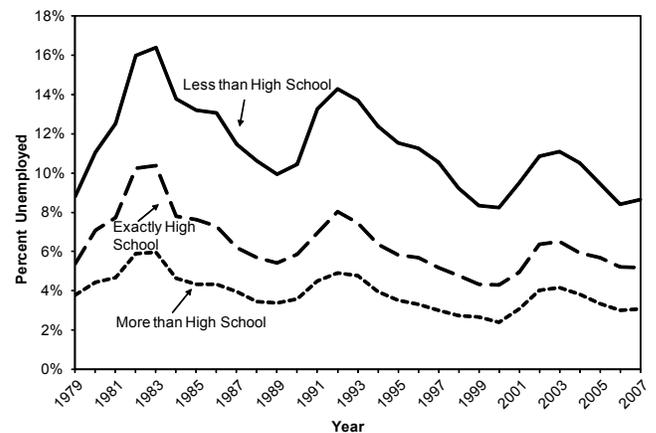


Figure 3. Unemployment rates by skill level, 1979 to 2007.

Source: Author's tabulations from Current Population Survey Outgoing Rotation Group data. Based on all noninstitutionalized civilian labor force participants ages 18–65.

in the recession of the late 2000s, as unemployment among the least skilled is rising much more rapidly than unemployment among more highly skilled workers.

### **Changes in jobs and job availability**

Since the mid-1980s, the labor market has absorbed a large increase in less-skilled immigrant workers and a large increase in less-skilled native-born women workers, while experiencing relatively low and stable unemployment rates through most of this period. Even with some decline in male labor force participation among less-educated workers, discussed above, the U.S. economy has been the envy of many other countries that have faced much higher unemployment and lower labor force participation over the past two decades. This reflects strong overall U.S. economic growth during these decades, which created a growing number of jobs.

There has been much concern about the declining number of “good jobs” that pay high wages and fringe benefits for less-educated workers. Manufacturing jobs have declined dramatically—among all male workers, the share employed in manufacturing has fallen from 29 percent in 1985 to 17 percent in 2007.<sup>10</sup> Among less-educated men, this decline has been even faster, from 34 percent in 1985 to 20 percent in 2007. Women have always been less likely to work in manufacturing; by 2007, less than 10 percent of all women workers were in this industry. The manufacturing employment of less-educated women declined from 22 percent to 12 percent between 1985 and 2007.

The decline in manufacturing jobs has not meant fewer available jobs for less-skilled workers; rather it has meant that different jobs are available. For instance, the share of less-educated men in retail trade and selected service jobs, including hotels, restaurants, and entertainment/tourism grew from 24 percent to 28 percent between 1985 and 2007; the share of less-educated women in these jobs grew from 36 percent to 40 percent. There has also been substantial employment growth among less-educated workers in health care and in clerical jobs. These industry shifts, reducing manufacturing jobs but increasing other job opportunities, can cause severe short-term disruptions for individuals who find themselves seeking work in very different sectors of the economy. Particularly among less-educated men, the jobs they used to hold have become much less available. In aggregate, however, there have been jobs available to less-skilled workers over the past three decades. The problem has not been job availability, but the wages that these jobs pay.

### **The effect of the economic cycle on less-skilled workers**

Less-educated workers are more affected by cyclical movements in economic growth than are more-educated workers. When unemployment rises, less-educated workers are more likely to lose their jobs, to move into part-time work, or to leave the labor force entirely. A glance at unemployment trends among more and less-educated workers (Figure 3) indicates that unemployment among the less-educated is much more cyclical than among more-educated workers.

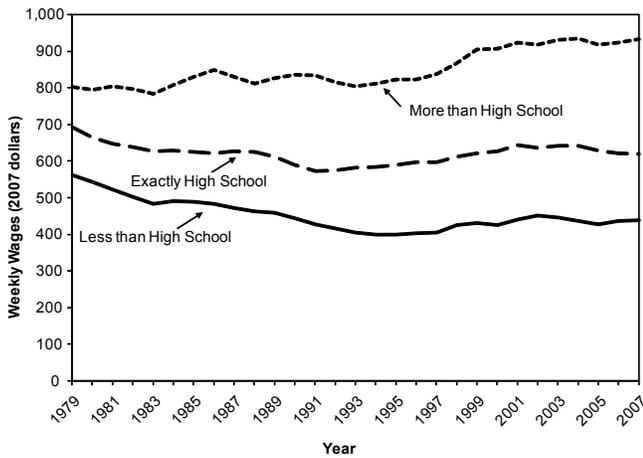
An interesting question is whether the economic situation of less-educated workers has become more or less sensitive to changes in unemployment over time. One group that has become more vulnerable to economic fluctuations, in part as a result of welfare reform, is low-income single-mother families. Prior to welfare reform, unmarried women with children were less affected by unemployment because they had ready access to cash assistance. As this has changed, their reliance on the labor market has risen and, hence, their exposure to unemployment and economic cycles has grown.

A mild recession in 2001 appeared to have little effect on single mothers, but this recession was concentrated in manufacturing and traded good industries, sectors where few less-skilled women are employed. In 2001, consumer spending remained strong, continuing to create demand for low-skilled workers in retail trade and in hotel and food services. Unfortunately, the recession that started in 2008 is much more widespread and has affected all sectors of the U.S. economy. By the end of 2008, unemployment among women had risen sharply and cash public assistance caseloads began to rise for the first time since the welfare reforms of the 1990s. Food stamp usage increased sharply as well. This recession will test whether states are able or willing to provide cash assistance to growing numbers of non-working single mothers when unemployment is high, and it will test the federal government’s willingness to assist states in funding caseload increases during a recession.

### **What do less-educated workers earn and why has this been changing?**

The U.S. economy has long been praised for its very flexible labor market, which has led to substantial job creation and relatively low unemployment rates in comparison to many European nations. This flexibility also means a larger number of lower wage jobs. Figure 4 graphs the trends in real median weekly wage rates among men between 1979 and 2007, by level of education.<sup>11</sup> As has been widely noted, substantial wage losses for less-skilled men occurred after 1979. Among those with post-high school education, wages rose slightly from 1979 to 1994 (there were much larger increases among men with a college education). Since the early 1990s, wages have risen at all skill levels. By 2007, full-time weekly wages were \$439 for high school dropouts, \$619 for high school graduates, and \$934 for those with more than a high school degree. For the two less-educated groups, these levels are still well below where they were in 1979, however.

In contrast to less-educated men, less-educated women experienced little drop in wages over the 1980s. Figure 5 shows trends in real median weekly wages for full-time work among women by education group between 1979 and 2007. High school graduate women experienced significant wage increases over this period, whereas wages grew much less among those with less than a high school degree. More skilled women experienced quite steep growth. These changes narrowed the wage gap between less-educated women



**Figure 4.** Real median weekly wages among men by skill level, 1979–2007.

**Note:** Adjusted to full-time equivalents. Inflation adjusted to 2007 dollars using the PCE deflator from the Bureau of Economic Analysis.

**Source:** Authors’ tabulations from Current Population Survey Outgoing Rotation Group data, 1979 to 2007. Based on all noninstitutionalized civilian labor force participants ages 18–65.

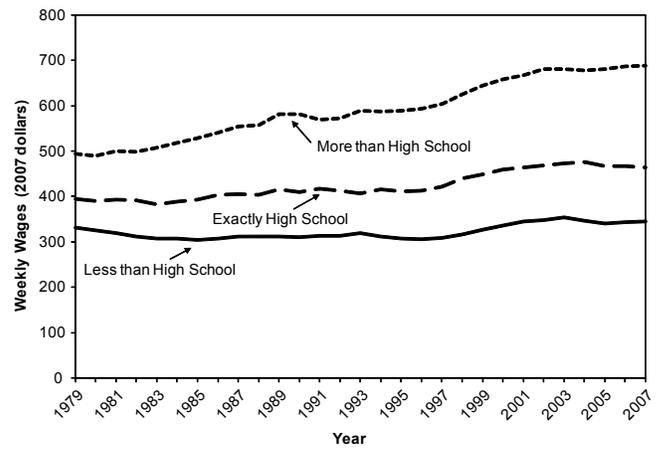
and men from 59 percent in 1979 to 78 percent in 2007. The wage gap among more-skilled men and women narrowed as well because more-skilled women’s wages are rising faster than equivalent men’s wages.

### Explaining these wage shifts

The period since 1979 has been a period of rising wage inequality. There is general agreement that the rise in inequality (and the decline in real wages) in the bottom half of the wage distribution occurred primarily in the 1980s. Little change in relative wages in the bottom part of the distribution occurred after that decade. In contrast, inequality in the top half of the wage distribution has risen steadily throughout this period, as wages among the highest-skilled workers continue to rise rapidly.<sup>12</sup>

The evidence suggests that wages among the least-skilled and the most-skilled have grown slightly faster over the past 15 years, while wages in the middle have stagnated. Lemieux indicates that wages grew most rapidly below the 20<sup>th</sup> percentile and above the 60<sup>th</sup> percentile of the wage distribution between 1989 and 2004.<sup>13</sup> This pattern is particularly noticeable for men. Thus, while less-skilled men lost earnings power over the 1980s, they experienced more wage growth in recent years, even if this more recent wage growth has not brought them back to the same level of real wages.

The wage losses among less-skilled workers in the 1980s appear to stem from numerous forces.<sup>14</sup> A primary factor is what economists call “skill-biased technological change,” or SBTC, which occurs when changes in technology increase labor demand for workers at a particular skill level.<sup>15</sup> Technological changes in the 1980s led to SBTC, with increased computer use in a growing number of applications, from robotics to just-in-time inventory systems. This increased de-



**Figure 5.** Real median weekly wages among women by skill level, 1979–2007.

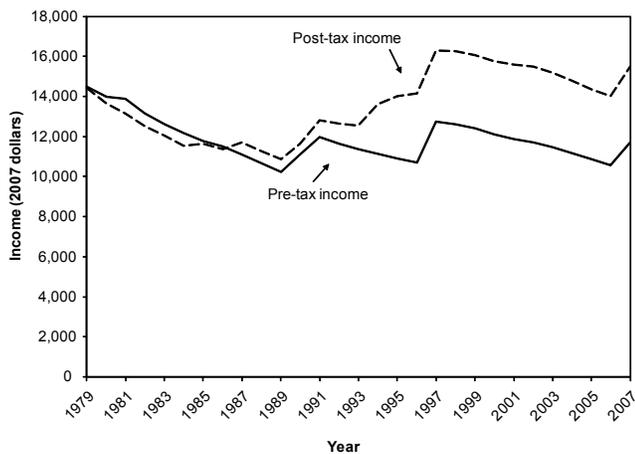
**Note:** Adjusted to full-time equivalents. Inflation adjusted to 2007 dollars using the PCE deflator from the Bureau of Economic Analysis.

**Source:** Authors’ tabulations from Current Population Survey Outgoing Rotation Group data, 1979 to 2007. Based on all noninstitutionalized civilian labor force participants ages 18–65.

mand for more-skilled workers outstripped supply increases, driving up wages. At the same time, demand for less-skilled workers fell. SBTC continues to affect the labor market in the 1990s and 2000s, but is primarily driving widening wages in the top half of the wage distribution as information technology continues to increase demand for the most-skilled workers, while displacing moderately skilled workers who perform more routine tasks.<sup>16</sup>

The popular discussion of stagnating wages often emphasizes growing trade and the internationalization of the economy. Less-skilled workers in less-developed countries typically earn much lower wages than less-skilled workers in the United States. Outsourcing production components that require only limited skill inputs can save a company money and will reduce their demand for less-skilled labor in the United States. The research literature has downplayed the importance of trade in rising wage inequality and falling wages among less-skilled workers, suggesting that declining wages would have occurred even without growth in global markets.<sup>17</sup> Recent work does suggest that trade in intermediate inputs, leading to changes in industrial organization, can be important.<sup>18</sup> Krugman provides reasons why trade shifts since the mid-1990s (particularly the rise of China) might make trade a more important factor for the evolution of less-skilled wages in the United States, although this effect is very difficult to measure.<sup>19</sup>

Some researchers have noted that institutional changes contributed to the declining wages of less-skilled workers, in addition to changes due to trade or technology. For instance, Card notes that the rapid decline in unions over this period explains about 20 percent of the wage decline among the least skilled.<sup>20</sup> Unions often raise wages at the bottom of the distribution, and the decline of unions has left less-skilled jobs that previously were somewhat protected by union bargaining ef-



**Figure 6. Pre-tax and post-tax income for a single mother working at the minimum wage, 1979–2007.**

**Notes:** This single-mother family is estimated to have one full-time worker at the minimum wage (for a total of 2000 annual hours of work) and two children. Federal income tax, FICA payroll taxes, and Earned Income Tax Credit included in post-tax calculations. Figures inflated to 2007 dollars using the PCE deflator.

**Sources:** Minimum wage data from the Department of Labor, *History of Federal Minimum Wage Rates Under the Fair Labor Standards Act, 1938–2007*, available at <http://www.dol.gov/esa/minwage/chart.htm>. Tax liabilities and credits for all years calculated using the NBER TAXSIM Model, Version 8.0, available at <http://www.nber.org/~taxsim/>.

forts more open to market vicissitudes. Unionization declined rapidly among all workers between 1985 and 2007, but fell faster among the less-skilled. Among less-skilled men, collective bargaining coverage declined from 28 percent to 15 percent between 1985 and 2007. Fewer women are in jobs covered by bargaining—their coverage decline over the same period was from 14 percent to 9 percent by 2007.<sup>21</sup>

In addition, the minimum wage remained constant throughout the 1980s, and its declining real value was an important factor in pushing wages downward among the less-skilled.<sup>22</sup> Female workers were particularly affected, since a disproportionately large number of them work in minimum wage jobs.<sup>23</sup> Of course, changes in minimum wages and in unionization may not be completely independent from changes in technology or in trade. Increasing global competition in U.S. manufacturing was one cause of declining unionization. Falling demand for less-skilled workers may have strengthened resistance to minimum wage increases over the 1980s.

The declines in minimum wages in the 1980s were partially made up by minimum wage increases in 1989 and 1996, and, for workers with children, by increases in the Earned Income Tax Credit (EITC). The EITC was greatly expanded in 1993 so that a growing share of low-wage workers could receive tax refunds, even if they owed no taxes. Figure 6 shows pre-tax and post-tax income, inflation adjusted, for a single mother with two children working full time at a minimum wage job from 1979 through 2007. During the 1980s, her real wages fall steadily with inflation erosion in the minimum wage. The minimum wage increases of 1989, 1996, and 2006 are clearly visible in the graph. Even more important, how-

ever, is the expansion in the EITC, which by 2007 increases her income by over three thousand dollars.<sup>24</sup> It is clear that policy (a non-inflation-indexed minimum wage) worked to lower wages in the 1980s, but minimum wage increases and EITC expansions helped raise earnings in the 1990s.

Lemieux describes the 1980s as a “perfect storm,” in which multiple factors resulted in an expansion in inequality across the wage distribution.<sup>25</sup> This includes technological, institutional, and policy changes. These forces, however, appear to be more quiescent in the past 15 years. Since the early 1990s, changes in demand and wages have benefited highly-skilled workers and flattened wages for middle-range workers. Less-skilled workers have experienced moderate wage gains.

Of course, wage changes have to be compared to price changes. If prices are falling, then lower wages may not leave families worse off. A recent paper by Broda and Romalis argues that increased trade over the past three decades has resulted in substantive price declines in the non-durable goods bought by lower-income families.<sup>26</sup> This paper, however, does not look at the total market basket of goods. Housing prices, which constitute a substantial share of lower income family budgets, have risen substantially over the past three decades in many areas and the share of budgets going to housing has increased.<sup>27</sup>

The long-term wage outlook for less-skilled workers is not rosy. All predictions for the future suggest that global demand for more-skilled workers will increase; it is hard to tell a story in which the demand for less-skilled workers increases within the United States. The labor market for the less-skilled has been relatively robust for the past 15 years, however, with low unemployment and slowly rising wages. At best, one can hope that demand does not fall and that a growing U.S. service sector continues to need workers in low-skill jobs.

## Poverty and the macroeconomy

A family of four with an income below \$21,000 is considered poor in 2007 in the United States. Analysis of data through the 1970s indicated a very large effect of rising unemployment on rising poverty; however, this relationship deteriorated in the 1980s, with unemployment and poverty becoming more disconnected. Recent evidence suggests the link between unemployment and poverty strengthened again in the 1990s.

I revisit the question of “how is poverty related to the macroeconomy?”<sup>28</sup> Overall, I find that poverty remains very responsive to the economic cycle. Although falling unemployment in the mid- to late-1980s had little effect on poverty because of an offsetting decline in real wages, lower unemployment in the 1990s and 2000s significantly reduced poverty for most groups. In contrast, inflation has virtually no effect on poverty.

The recession that began in 2008 promises to be extremely deep. As this is written in early 2009, many economists are predicting that unemployment will reach 10 percent. The

most recent poverty data we had available was for 2007, when the poverty rate for all persons was 12.5 percent and the average unemployment rate was 4.6 percent. If the unemployment rate rises from 4.6 percent to 10.0 percent and everything else remains unchanged, poverty could increase from 12.5 percent to 14.8 percent over the long term. This would be just below the high poverty rates that followed the recessions of 1990–1991 and 1980–1982. While many other factors could limit such a sharp rise in poverty, this estimate provides evidence of how important the labor market is to the economic well-being of low-income families.

Finally, it is worth commenting that growth in the macroeconomy alone will not eliminate poverty. Even when the economy recovers, unemployment is not likely to fall below its level in the late 1990s and early 2000s, when it was between 4 percent and 5 percent. Hence, rises in unemployment above this level will increase poverty, but unemployment is not likely to fall to a level that pushes poverty down substantially below where it was in 2000 at 11.3 percent. Declines in poverty below this level are likely to require targeted efforts to expand resources for those who can't work and to expand earning opportunities for less-skilled workers.

## Conclusions

There is both good news and bad news regarding the effects of the economy on the earnings opportunities of less-skilled workers. The good news is that low unemployment rates continue to benefit low-income persons. Poverty rates in the 2000s appear to be highly responsive to lower unemployment. Unemployment has been relatively low over the past two decades. Furthermore, at least since the early 1990s, wages have not fallen among less-skilled workers and have even risen somewhat. Wages among less-skilled women are higher than at any previous point in history.

The bad news is that wages among less-skilled men remain below where they were in the 1970s. And overall wage growth among all less-skilled workers has been limited. Although the economy has been in a period of sustained growth, this has benefited higher-skilled workers much more than less-skilled workers. And the period of growth has ended with a serious economic recession, with much worse economic prospects for low-income families, especially female-headed families who now rely more heavily on earnings and less on cash welfare.

These results suggest several important policy issues in the years ahead. Maintaining a strong economy and low unemployment is most important for the long-term economic well-being of low-wage workers. I have written previously and have documented in this article that the best policy we can pursue for the poor is to keep unemployment low and the economy strong.<sup>29</sup>

Given the forces that have shifted demand toward higher-skilled workers, however, economic growth by itself may

not be enough to reduce poverty or substantially improve the economic well-being of low-income families. Maintaining a reasonable level of the minimum wage is also important. When the minimum wage deteriorated in the 1980s, the real earnings of less-skilled workers declined. The decline of unions has also accelerated wage losses among lower-wage workers, suggesting that effective forms of worker organizations in a global economy may also prevent wage losses for some groups of workers.

We must also maintain the level of the Earned Income Tax Credit as a subsidy to lower-wage workers in low-income families. At present the EITC is primarily available to families with children. Expanding this to other low-wage workers in low-income families without children would help reduce poverty, as others have noted.<sup>30</sup> Such an EITC expansion might help reverse the falling labor force participation of less-skilled men shown in Figure 1. Other articles in this issue discuss other relevant policies, such as available child care and health insurance, or revisions to the unemployment insurance system.

Finally, any long-term solution to these problems will require increasing skill levels. Reforming and improving the public school system is critical, as is increasing opportunities for post-secondary education. Given the rapidly growing immigrant population among the less-skilled, the educational achievements of the children of these immigrants will be quite important for the future of the economy. If these children are able to reach higher educational levels than their parents, this adds to intergenerational mobility and assures that these families escape poverty over time.

The labor market has had a plentiful supply of low-wage jobs available, but the long-term outlook for jobs is uncertain. At best, there will continue to be a large low-wage employment sector; at worst, depending on broader trends in technology and economic globalization, the number of these jobs could shrink relative to the supply of low-wage workers. Or the wages on these jobs could fall, as they did in the 1980s. There is little prospect, however, that there will be substantial wage gains in low-skill jobs. Shifts in demand away from less-skilled work, combined with the large supply of less-skilled workers, will keep wages down.

Nonetheless, most families headed by less-skilled adults rely primarily on earnings. Assuring these families of stable and sufficient incomes is important in order to keep poverty low and to keep these families attached to the labor market rather than idle or engaged in less-socially-desirable activities. This requires ongoing public subsidies to less-skilled workers and ongoing attention to the problems faced by low-wage workers. ■

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<sup>29</sup>This article draws on "Economic Change and the Structure of Opportunity for Less-Skilled Workers," in *Changing Poverty, Changing Policies*, eds. M. Cancian and S. Danziger (New York: Russell Sage Foundation, 2009).

<sup>2</sup>The data in Figure 1 come from the Outgoing Rotation Groups (ORG) in the monthly Current Population Survey (CPS), a representative national sample of the population. The ORG includes data from one-fourth of the CPS in each month. The monthly samples are combined to produce annual averages.

<sup>3</sup>C. Juhn, "Decline of Male Labor Market Participation: The Role of Declining Market Opportunities," *Quarterly Journal of Economics* 107, No. 1 (1992): 79–121.

<sup>4</sup>H. J. Holzer, P. Offner, and E. Sorensen, "Declining Employment among Young Black Less-Educated Men: The Role of Incarceration and Child Support," *Journal of Policy Analysis and Management* 24, No. 2 (2005): 329–50.

<sup>5</sup>See for example, M. Cancian and D. Reed, "Family Structure, Childbearing, and Parental Employment: Implications for the Level and Trend in Poverty," In *Changing Poverty, Changing Policies*.

<sup>6</sup>R. M. Blank and B. Kovak, "The Growing Problem of Disconnected Single Mothers," in *Making the Work-Based Safety Net Work Better*, eds. C. J. Heinrich and J. K. Scholz (New York: Russell Sage Foundation, 2009).

<sup>7</sup>G. J. Borjas, "Wage Trends among Disadvantaged Minorities," In *Working and Poor: How Economic and Policy Changes Are Affecting Low-Wage Workers*, eds. R. M. Blank, S. H. Danziger, and R. F. Schoeni (New York: Russell Sage Foundation, 2006). It is widely believed that these data do not fully count undocumented immigrants, many of whom are working. If undocumented workers are more likely to be less-skilled, then the cited numbers undercount the effects of immigration on the low-skilled labor market.

<sup>8</sup>See S. Raphael and E. Smolensky, "Immigration and Poverty in the United States," in *Changing Poverty, Changing Policies*.

<sup>9</sup>Data are not shown separately for men and women, in part because their unemployment rates move together very closely. Women's unemployment is slightly higher than men's in most years, particularly among high school dropouts.

<sup>10</sup>The numbers in this section were tabulated by the author from the March Current Population Survey.

<sup>11</sup>These data are in 2007 dollars, adjusted for inflation and expressed in "full-time equivalents," so that differences in hours of work over time do not affect them. The data are deflated using the GDP deflator for Personal Consumption Expenditures. To adjust for differences in hours of work, I take average hours of work among full-time men (those working more than 35 hours/week) in each year and scale up wages among men who do not work full time using the ratio of average full-time hours to their actual hours. Figure 5 makes the same calculation for women.

<sup>12</sup>See, for example, D. H. Autor, L. F. Katz, and M. S. Kearney, "Trends in U.S. Wage Inequality: Revising the Revisionists," *Review of Economics and Statistics* 90, No. 2 (2008): 300–323.

<sup>13</sup>T. Lemieux, "The Changing Nature of Wage Inequality," *Journal of Population Economics* 21, No. 1 (2008): 21–48.

<sup>14</sup>While affected by all the same forces, less-educated women did better than less-educated men in the labor market over the past 25 years. Women's accumulating labor market experience and increasing returns to experience offset declines in the returns to education. Furthermore, the negative effects of children and marriage on women's wages appear to have abated over this period.

<sup>15</sup>One criticism of SBTC is that it is a hard theory to prove since technological change is a difficult concept to measure.

<sup>16</sup>See, for example, D. H. Autor, L. F. Katz, and M. S. Kearney, "Trends in U.S. Wage Inequality: Revising the Revisionists."

<sup>17</sup>E. Berman, J. Bound, and Z. Griliches, "Changes in the Demand for Skilled Labor within U.S. Manufacturing: Evidence from the Annual Survey of Manufactures," *Quarterly Journal of Economics* 109, No. 2 (1994): 367–397.

<sup>18</sup>R. C. Feenstra, and G. H. Hanson, "Global Producing Sharing and Inequality: A Survey of Trade and Wages," In *Handbook of International Trade*, eds. E. K. Choi and J. Harrigan (Oxford: Blackwell Publishing, 2003).

<sup>19</sup>P. R. Krugman, "Trade and Wages, Reconsidered," *Brookings Papers on Economic Activity* 2008, No. 1: 103–143. Krugman's empirical work, however, suggests that trade remains a relatively less important factor in the determination of U.S. wages, although the increasing complexity of intermediate component outsourcing make it difficult to measure this effect.

<sup>20</sup>D. Card, "The Effects of Unions on the Structure of Wages: A Longitudinal Analysis," *Econometrica* 64, No. 4 (1996): 957–80.

<sup>21</sup>These numbers were tabulated by the author from the March Current Population Survey.

<sup>22</sup>D. S. Lee, "Wage Inequality in the U.S. During the 1980s: Rising Dispersion or Falling Minimum Wage?" *Quarterly Journal of Economics* 114, No. 3 (1999): 977–1023.

<sup>23</sup>J. Dinardo, N. M. Fortin, and T. Lemieux, "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach," *Econometrica* 64, No. 5 (1996): 1001–1046.

<sup>24</sup>The pattern in Figure 6 is not unique to a single mother. If you plot the equivalent lines for a married couple family with children in which the father works full time at the minimum wage and the mother works part time, the pattern looks very similar.

<sup>25</sup>T. Lemieux, "What Do We Really Know About Changes in Wage Inequality?" Unpublished paper, University of British Columbia, 2008.

<sup>26</sup>C. Broda and John Romalis, "Inequality and Prices: Does China Benefit the Poor in America?" Unpublished paper. University of Chicago, 2008.

<sup>27</sup>M. Brennan and B. J. Lipman, *The Housing Landscape for America's Working Families, 2007* (Washington, DC: Center for Housing Policy, 2007).

<sup>28</sup>Full analysis shown in the book chapter.

<sup>29</sup>R. M. Blank, "Fighting Poverty: Lessons from Recent U.S. History," *Journal of Economic Perspectives* 14, No. 2 (2000): 3–19.

<sup>30</sup>See, for example, G. Berlin, "Rewarding the Work of Individuals: A Counterintuitive Approach to Reducing Poverty and Strengthening Families," *The Future of Children* 17, No. 2 (2007): 17–42.