

Wage inequality and technological change

By nearly all measures, inequality in both hourly and weekly earnings among U.S. workers has increased over the last several decades. Not surprisingly, the difference is particularly evident among workers with varying levels of education and technical skills. But the so-called wage gap can also be observed in workers with similar levels of educational attainment. In a recent study entitled “Evidence on Wage Inequality, Worker Education, and Technology,” published in the *Federal Reserve Bank of St. Louis Review*, economist Christopher H. Wheeler examines these trends and reaches some interesting results.

The reasons most often cited for the growing wage disparity include increased international trade, declining unionization, rising immigration, and—perhaps most importantly—technological change. Wheeler points out that while economists and other analysts disagree about the relative importance of each of these factors, a near consensus has nevertheless emerged around one theory—what has been called “skill-biased technological change” (SBTC). The basic SBTC hypothesis is as follows: the supply of highly educated workers has grown substantially in recent decades. Between 1950 and 1990, for example, the proportion of U.S. workers with at least some college grew from 17 percent to 57 percent. At the same time, the U.S. economy has experienced tremendous technological growth, especially in the area of information technology. Together these trends have led to increased wages among more highly skilled workers and decreased wages among those with less education and skill.

Using data from the Current Population Survey (CPS), Wheeler looks

at various measures of wage inequality in light of union membership, educational attainment, and the use of computers in the workplace. He finds evidence suggesting that, while some of the growing disparity in wages is due to declining union membership and representation, “the vast majority of the rise in U.S. wage inequality over the past two decades is the product of increasing gaps between workers within the same industry rather than between workers across industries.” Interestingly, this within-industry wage disparity holds even among workers with similar levels of education. Moreover, such disparity is positively associated with both the “college employment fraction” (the proportion of workers with college degrees) and the frequency of computer usage. Together these findings support the notion that skill-biased technological change has contributed substantially to the growth in wage inequality among U.S. workers in recent decades.

New numbers

Two new statistical indicators of conditions in the labor market came to our attention this month. The Society of Human Resource Management (SHRM) sent us an invitation to receive an e-mail notice of the Leading Indicator of National Employment (LINE) that they have developed in collaboration with the Rutgers University School of Management and Labor Relations. First announced in November of last year, the SHRM/Rutgers LINE data are collected through a survey of human resource executives at more than 500 manufacturing firms. The index is a weighted average of diffusion indexes for five components: total employment (0.6), total vacancies (0.1), recruiting difficulty (0.1), new hire compensation (0.1), and employment expectations (0.1). A LINE reading above 50.0 suggests that

manufacturing employment is generally expanding, while an index below 50.0 suggests manufacturing employment is contracting. A diffusion index is calculated as the percentage of respondents reporting an increase plus one-half of the percentage reporting no change. For example, if 45 percent of respondents reported increased recruiting difficulty, 31 percent reported less difficulty, and 24 percent reported no change, the diffusion index for that component would be 45 plus 12, or 57. The SHRM/Rutgers LINE was 63.7 in June, indicating moderate job growth, according to SHRM.

The Conference Board, a business research organization based in New York, issued its first release on help-wanted online on July 19. The Conference Board Help-Wanted OnLine Data Series[™] is based on counts of new, unduplicated, first-time job postings on any of approximately 1,200 computer job boards. These job boards include only sites that require an employer to take a positive action to post a job on an external site and exclude in-house boards that list only positions internal to the company. Jobs posted on any new sites that meet these criteria will be added to the data.

The online help-wanted data are presented both as counts rounded to the nearest thousand and as rates per 100 persons in the labor force (employed plus unemployed) as reported by the Bureau of Labor Statistics (BLS). The data are national in coverage and are not stratified by industry or region. There was a total of just over 2 million new online jobs posted in June, representing 1.39 jobs per 100 persons in the labor force. The Conference Board suggests that these data be used cautiously until a longer series is available to understand any seasonal patterns and correlations with other labor market statistics such as the Board’s help-wanted index and employment and vacancy data from BLS.