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INEQUALITY IN EARNINGS AT THE CLOSE OF THE TWENTIETH CENTURY

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ABSTRACT

Median income in the United States has fallen and the distribution of income has grown markedly more unequal over the past three decades, reversing a general pattern of earnings growth and equalization dating back to 1929. Median trends were not the same for all groups—women's earnings generally increased—but the growth in earnings inequality has been experienced by all groups. Even white men employed full-time, year-round—traditionally the most privileged and secure group—could not escape wage stagnation and polarization. These patterns suggest research questions that go beyond conventional sociological interest in racial and gender wage gaps, refocusing attention on more general changes in labor market dynamics. The debates over the origins of the rise in US inequality cover a wide range of issues that can be roughly grouped into four categories: the changing demographics of the labor force, the impact of economic restructuring, the role of political context and institutions, and the dynamics of globalization. We review the empirical literature here, and challenge the field of sociology to reconstruct its research agenda on stratification and inequality.

INTRODUCTION

Median income in the United States has stagnated and the distribution of income grown markedly more unequal over the past three decades, reversing a

general pattern marked by earnings growth and equalization dating back to 1929. The journals in economics have been full of descriptions, analyses, and debates about this new trend, as has the popular press. It has been front page news on and off for at least the last decade. Earnings trends played a major role in the last two presidential campaigns, generating the ironic spectacle of Republican candidates raising the issue of income and jobs as one of their primary campaign themes. There have been ironies in the academic response as well. For example, if you had been reading only the flagship journals in sociology, you probably would not know about these trends. Sociologists have been strangely and remarkably silent on this issue. While stratification and inequality are among the few undisputed core areas in the field of sociology, sociological research in this area has continued to focus on trends in the earnings “gaps”—gender and race—or on poverty alone, leaving the broader trends—stagnation in earnings levels and growing polarization in earnings distributions—to the economists. Sociologists, in other words, have continued to focus on the question of how people are allocated to positions in the earnings distribution, rather than on the structure of those positions. If the structure had been stable, the narrow focus on allocation might be justifiable. But the last three decades have been a period of economic restructuring at many levels, and the impact on earnings distributions both within and between groups has been profound.

The purpose of this paper is to review the broad changes in earnings inequality, and the animated debates about the causes and consequences of these changes. We will restrict our focus to the trends in hourly wages and annual earnings and not address trends in family income, as the latter is affected by changes in family structure that would take us beyond the scope of this review. The debate over the origins of the new trends covers a wide range of issues that can be roughly grouped into four categories: the changing demographics of the labor force, the impact of economic restructuring, the role of political context and institutions, and the dynamics of “globalization.” Most of the literature cited here comes from labor economics because that is where most of the research is conducted and published. We believe that sociological theory has a rich framework for integrating and understanding the broad changes now under way, and we offer this review as a challenge to the field; to critically evaluate the evidence and provide a sociologically informed response.

BASIC TRENDS IN EARNINGS IN THE TWENTIETH CENTURY

Income tax data suggest that earnings inequality had two peaks in this century. The first occurred just prior to World War I, and the second on the eve of the

great depression (Williamson & Lindert 1980).¹ From the 1930s to the 1950s, a general secular decline in earnings inequality occurred, first documented by Kuznets (1953). A similar trend was documented for wealth by Lampman (1962). This leveling trend inspired Kuznets' classic argument on the "inverted U" curve linking economic development to inequality: The early stage of modern economic growth is fueled by capital accumulation and generates a corresponding rise in inequality, but this trend is temporary, and as a capitalist economy enters maturity inequality eventually declines (Kuznets 1955). Debate over the necessity of inequality for early growth remains a heated topic in development economics (Adelman & Morris 1973, Chenery 1974, Chenery et al 1986), and the causal link is disputed for the United States (Williamson & Lindert 1980).

The postwar years of prosperity were marked by a steady rise in median earnings and relative stability in earnings inequality. The benefits of economic growth were large and widely distributed. The annual income of the median worker more than doubled from 1950 to 1970, and those at the bottom of the earnings scale made even greater progress during this period (Danziger & Gottschalk 1995). It was, as many have pointed out in chastened hindsight, a rising tide that lifted all boats.

These trends made a dramatic reversal in the early 1970s. In 1973², median earnings began to stagnate and then decline, and during the 1980s earnings inequality rose dramatically. By the early 1990s, a significant number of workers were earning less than their counterparts in the 1960s, and the trends toward wage stagnation and polarization have continued through 1996 (Bernstein & Mishel 1997).

The trends since 1973 in hourly wages can be seen in Figure 1³. The data are taken from the Current Population Survey (CPS) outgoing rotation groups⁴. Each line represents the dollar value of the decile cutoff for deciles 1, 3, 5, 7,

¹Data on the distribution of earnings are sketchy prior to the imposition of a federal income tax, first levied on the wealthy in 1913 and eventually extended to the general population in 1929. Readers interested in earlier years can consult Williamson & Lindert's (1980) book on the history of wealth and income inequality, and the references mentioned there.

²This year is often cited as marking a secular decline in the growth of wages, productivity, and total output (Levy & Murnane 1992, Kutscher 1993, Western & Healy 1999).

³There are at least four different measures of economic well-being that can be examined here: hourly wages, annual earnings, household total earnings, and wealth. All show the same basic pattern, with pronounced rises in inequality. We show hourly wages here because they do not confound labor supply components like hours worked and income pooling, with labor pricing. Wages are thus a better representative of the job structure.

⁴The 4-8-4 rotation system used in the CPS results in one fourth of the sample being retired each month. The retired sample is called "the outgoing rotation group" (ORG) (see Bureau of the Census 1978). The cumulative ORG sample over the course of a year is about three times larger than the sample for the March CPS series on employment and earnings. See Bernstein (1997) for a discussion of the differences among alternative Census data sets.

and 9, divided by the dollar value for this decile in 1973 (decile 1 is the lowest decile in the distribution and decile 9 is the highest). Values above 1 imply that the workers at this decile made real wage gains in that year relative to 1973, while values below 1 indicate a decline in the real wage value for that decile. The line for decile 1, for example, represents the relative wage earned by the worker at the tenth percentile of the wage distribution from 1973 to 1976. If we follow it across the graph, we can see that workers in this decile saw their real wages rise slightly from the mid 1970s to the beginning of the 1980s, fall precipitously during the 1980s, and continue to decline at a lower rate during the 1990s. By 1996, real wages for these workers had fallen about 13% in real terms. The wage of the median worker (5th decile) stagnated through most of the 1970s and 1980s, and then fell sharply in the 1990s, losing a total of about 10% over the two decades. Even at the 7th decile, wages declined, albeit more modestly. The only workers who did not experience a drop in their real wages were those at the top (9th decile): This group saw their wages rise by about 10%, mostly during the 1980s. Thus, the story of this period is not that the rich got richer and the poor got poorer, but that virtually everyone lost ground, and those at the bottom lost the most.

The trend for all workers, however, masks a striking difference in the fortunes of men and women during this period. The sex-specific decile graphs can be seen in Figure 2. Among men, there were no winners. Those at the top of the distribution managed to hold on to the value of their real wage from 1973 to

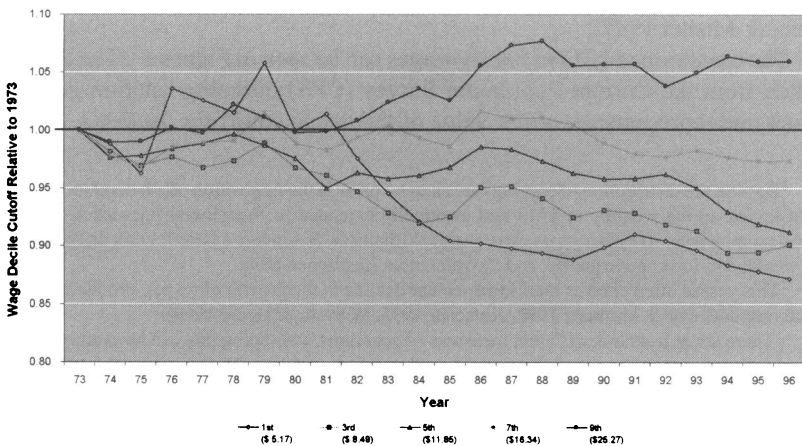


Figure 1 The lines trace the real value of wages at each decile relative to its value in 1973. The deciles are determined by the earnings distribution within sex. Data are for all workers, from the CPS, Outgoing Rotation Groups, and are available at: http://epinet.org/datazone/data/orghourlyxoffs_all.xls. For more information see (Bernstein & Mishel 1997).

1996, but everyone else experienced losses. At the bottom decile, wages dropped by 20% in real terms. For women, by contrast, there were no losers, and those at or above the median all experienced some gains. The wage gains for the median woman worker were quite modest, about 5%. But the wage gains for women in the top decile were nearly 30%. When comparing the patterns for women and men, it is important to keep in mind that the trends here are constructed within group—relative to their own position in 1973. Thus the gains that women made at the top still only put their ninetieth percentile somewhere around the eightieth percentile of the men's distribution in 1996, and the median woman is still earning about as much as a thirty-fifth percentile man. It would be a mistake to say that women have gained parity with men (Bernhardt et al 1995), but they did make both relative and absolute gains over the past two decades (Blau & Kahn 1994, Blau 1998). About the only thing that men and women shared over this period was the growth in within-group inequality.

The next question for most sociologists is how the trends in earnings break down by race. The stylized facts are that the decline in the race gap in income that had begun in the 1960s came to a halt in the early 1970s (Juhn et al 1991) and reversed by the mid 1970s, leaving blacks in the early 1990s at about the levels they had been in the late 1970s. Here, as well, the growth in within group

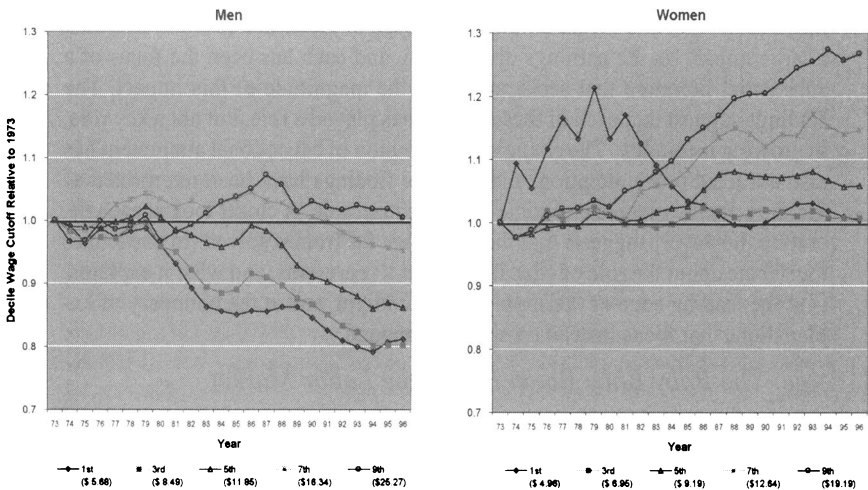


Figure 2 The lines trace the real value of wages at each decile relative to its value in 1973. Data are from the CPS, Outgoing Rotation Groups, and are available at: http://epinet.org/datasetone/data/orghourlyxoffs_men.xls and http://epinet.org/datasetone/data/orghourlyxoffs_women.xls. For more information see Bernstein & Mishel (1997).

inequality was the one common thread: Polarization in the earnings of black men and women grew in the 1980s decade (Morris et al 1994).

These, then, are the basic trends. There are numerous reviews, descriptive and synthetic, to be found in the microeconomics literature (Burtless 1990, Bound & Johnson 1991, Katz & Murphy 1992, Levy & Murnane 1992, Danziger & Gottschalk 1993, Danziger & Gottschalk 1995). The key finding, however, is that earnings inequality has been growing among virtually all groups. Even among white men employed full-time, year-round, the group that has traditionally enjoyed the highest wages, most generous benefits, and greatest protection from cyclical downturns, the trends of wage stagnation and polarization have been marked. This leads to a set of research questions that breaks out of the usual "wage-gap" framework and begins to address the general issue of changes in labor market dynamics.

CHANGES IN SUPPLY: DEMOGRAPHIC SHIFTS IN THE LABOR FORCE

From 1950 to 1980 the labor force expanded by more than 44 million workers, a 70% increase. More than half of that expansion occurred during the 1970s (Kutscher 1993). The timing of the increase coincides with three dramatic changes in the composition of labor supply: the entry of the baby boom generation to the labor force, the growth of women's labor force participation, and the increase of legal and illegal immigration. Each of these factors could have had a large impact on the earnings distribution, and each has been the focus of a substantial literature that seeks to clarify the magnitude of this impact. The findings suggest that each of these factors has played a role, but not a key role, in growing inequality. The changing distribution of educational attainment has also attracted much attention, and here the findings have been interpreted as yielding greater evidence of some kind of causal role. A closer look at each literature, however, suggests that the issues are far from resolved. In particular, the debate about the role of education, what it represents, and what it explains, is at the leading edge of the supply side paradigm, and at the boundary of explanations that focus instead on shifts in demand.

Age: The Baby Boom Enters the Labor Market

The baby boom generation is defined as the cohort born between 1946 and 1964. This cohort turned 18 from 1964 to 1980, years which roughly mark their transition into the labor force. The share of the labor force comprising young workers (20–34 years old) grew by over 40% during this period (Freeman 1980). Neoclassical economics would predict that this increase in the supply of workers with little experience would depress the relative wages of new workers (the classic work is Easterlin 1980) and, by exten-

sion, widen the overall wage distribution by lowering the wages in the bottom tail. There was, in fact, some evidence that the experience premium rose during the early years of the baby boom entry, and cross-national comparisons suggested that large cohort size did reduce the relative wages of younger workers by a small amount (for a review of this literature, see Bloom et al 1987).

But a number of studies suggest that the baby boom effect was not driving the growth in earnings inequality. First, the timing was off. Peak entry years for the baby boom cohort were during the 1960s and early 1970s, well before wages in the lower tail of the distribution collapsed (see Easterlin 1987:18). Second, empirical studies repeatedly documented that the growth in inequality was greater within age groups than between them (Dooley & Gottschalk 1982). And third, a recent study of the “baby bust” cohort, which should presumably benefit by the reverse logic, has shown that wages for this cohort while they are 25–34 years old are both absolutely lower than the boom cohort at the same age (by as much as 20% in some industries), and lower relative to older members of the labor force (Schrammel 1998). So the baby boom is now generally regarded as having played a minor role, at best, in the growth of earnings inequality.

Sex: Women Enter the Labor Market

Another profound change in the composition of the labor force was the steady rise in women’s labor force participation. From 1950 to 1994, the fraction of women working for pay increased from 34% to 59%. Among prime-aged women (25–54), the increase was even stronger: 37% to 75%. As a result, women’s share of the labor force rose from 30% to 46% (Spain & Bianchi 1996). As with the baby boom, this rapid influx of workers with low levels of experience and traditionally lower wages seemed a likely candidate for explaining the increase in overall earnings inequality. And as with the baby boom, this explanation fell short.

First, as is clearly visible in Figure 2, earnings data showed that the wage gap between the sexes was declining (Blau & Kahn 1994, Bernhardt et al 1995). This was an unexpected trend under the circumstances. One might expect that the general pattern of wage stagnation and decline should have been exacerbated for women by their rapidly increasing supply, but instead women in most segments of the earnings distribution saw real increases in their wages during this period. Compared to their male counterparts, women at the bottom of the distribution in particular held their ground. The net result was that while 50% of women’s earnings were in the bottom decile of the men’s distribution at the start of the 1970s, only 28% remained there by the end of the 1980s (Bernhardt et al 1995). The growing supply of women workers clearly did not depress their wages.

Second, inequality was growing rapidly within sex. The 90:10 earnings ratio for men grew from 3.6 to 4.4 from 1980 to 1996, and the ratio for women grew from 2.9 to 4.0 (based on data from Figure 2). While the decline in the gender wage gap was widely seen as heralding a new era of progress for women, the sharp polarization in earnings among women, as among men, made it clear that the benefits of this new era were going to be distributed more unequally than before. There was good reason to expect inequality to grow among women, as their levels of work experience and tenure rose strongly during this period, increasing the differentiation in human capital among them. While their stocks of work experience, and the returns to this experience rose during the 1980s (Spain & Bianchi 1996, Blau 1998), these and other human capital factors were found to explain 30–50% of the growing inequality in women's earnings (O'Neill & Polachek 1993, Wellington 1993). To the extent that both men's and women's earnings distributions reflected the same residual polarizing trend, rising earnings inequality could not be explained by the changing sex composition of the labor force.

If women were "perfect substitutes" for men in the labor market, one might read the evidence as consistent with the hypothesis that women's labor force entry placed them in direct competition with low-wage men, depressing the earnings for these men, but generally raising the earnings for women. This interpretation is complicated by occupational segregation. Occupational segregation by sex fell during the period from 1970 to 1990, but the rate of decline slowed in the second decade. Using the index of dissimilarity, the fraction of men or women who would have needed to change jobs to end segregation was 68% in 1970, 59% in 1980, and 53% in 1990 (Spain & Bianchi 1996, Table 4.6). This indicates the persistence of largely separate labor markets for men and women. Empirical studies find little evidence that increases in the female labor supply reduced the wages of men in the lower tail of the earnings distribution (Juhn & Kim 1999, but see also Topel 1994).

In sum, trends in women's labor force participation were clearly an important phenomenon during this period, but their impact on overall earnings inequality was probably modest at best. The way in which earnings inequality rose among both sexes suggests that other factors were at work.

Immigration: A New Wave of Unskilled Workers

A third demographic shift in the labor force was the change in ethnic composition. This shift was not as large as the age and sex changes described above, but there was a rapid influx of Asians and Latin Americans in the three decades following the 1965 amendments to the Immigration and Nationality Act. While 4.8% of the US population was foreign born in 1970, 15 million immigrants were added over the next 25 years, and by 1996 immigrants accounted for 9.3% of the population. Most immigrants are concentrated in just six

states—California, New York, Texas, Florida, New Jersey, and Illinois—with over a fifth originating from Mexico (Jasso & Rosenzweig 1990, Borjas 1997).

Empirically, immigrants have less schooling on average than US natives. In addition, the educational attainment of foreign-born workers rose slowly, increasing the skills gap with native workers. By 1990, the proportion of high school dropouts among immigrants was about twice as high as among natives (Borjas 1994; for heterogeneity among nativity groups see Portes & Rumbaut 1996:58–66). If immigrants are substitutes for native workers, an increase in the number of immigrants would push wages down for less educated native workers.

Patterns of immigration and educational attainment motivated two main approaches to studying earnings inequality: spatial studies of earnings across localities, and aggregate analysis linking immigration rates to earnings for different education groups. Spatial studies capitalize on the concentration of immigrants in relatively few localities. Using 1970, 1980, and 1990 Census data, studies of cities find that the proportion of immigrants in local labor markets and the size of immigrant inflows have little effect on native earnings and changes in earnings (Altonji & Card 1991, LaLonde & Topel 1991) despite small effects on employment (Card 1997). Critics argue that city wage levels and trends are dominated by common variation unrelated to local immigration. Results are thus sensitive to time points chosen for analysis (Borjas 1996, Borjas 1997). In addition, outflows of natives in response to immigration may bias estimated effects on local wage structures (Borjas 1997). Aggregate analysis can address both these problems.

Borjas et al (1992, 1997) studied aggregate effects by analyzing the influence of immigration on the supply of workers with different levels of education. The wage effects of immigration can then be calculated with unobserved coefficients (or elasticities) that express the change in wages for a given change in the labor supply. Disaggregating labor supply effects by educational level provides estimates of the impact of immigration on earnings inequality by skill level. Since immigrants increase the supply of dropouts compared to high schools graduates, immigration is estimated to account for a large part—around 45%—of the rise in the dropout-high school wage differential between 1980 and 1995. The influence of immigration on high school and college graduates is negligible. Critics of this approach argue that the aggregate estimates depend on the choice of wage elasticity, and substantial uncertainty accompanies this quantity (Borjas et al 1992:240, Katz & Murphy 1992:69), leading to a wide range of estimates (e.g. Borjas 1997:56).

How much does immigration affect inequality? The answer so far depends strongly on research design. Spatial studies yield small estimates that are sensitive to the choice of survey year. Aggregate studies report large effects that are, nevertheless, highly uncertain.

Education: Declining Position of High School–Educated Workers

Another change in labor force composition that has attracted much attention is the distribution of education. This story has a couple of ironic twists. Figure 3 shows the change in educational attainment for men over time. While the popular perception is probably that college completion has risen slowly but steadily in the postwar period, this is not true for men. Completion of a college degree peaked in the 1970s, then declined slightly during most of the 1980s and early 1990s. Most regard the 1970s peak in college enrollment as an anomaly, attributing the high levels to Vietnam War draft evasion.⁵ Whatever the reason, the number of college-educated workers grew relatively faster than non-college-educated in all age and sex groups throughout the 1970s. This was particularly true for young workers, where the number of college-educated workers grew by 85% for men and 150% for women from 1971 to 1979, compared to 13% and 66% rates of growth among the respective high-school-educated groups (this and other figures in this paragraph from Levy & Murnane 1992). As supply grew, the wage gap between college and high school-educated workers narrowed. For men, the college earnings premium fell from 22% to 13%, 50% to 35%, and 55% to 36% among the 10-year age groups bracketed by 25, 35, 45, and 54 years old, respectively. The comparable figures for women were declines from 41% to 23%, 47% to 30%, and 50% to 35%. This was a fairly dramatic shift, and one that attracted much popular and academic attention. A number of classic books were published on this issue, including *The Overeducated American* (Freeman 1976), and *Education and Jobs: The Great Training Robbery* (Berg 1970). America was seen to be producing too many educated workers, for jobs that had been increasingly “deskilled” with the introduction of modern technology (Braverman 1974).⁶

By the next decade, this decline in the earnings premium was reversed. Technological change was again claimed to be the driving force—this time by raising the demand for a high skill workforce. It was a remarkable about face.

A growing wage gap between high school and college-educated workers began to be documented in numerous studies by the mid 1980s (Dooley & Gottschalk 1985, Blackburn et al 1990, Murphy & Welch 1993). While most age-sex groups recouped during the 1980s the college premium losses that they had experienced during the 1970s, for the younger workers, the new gains

⁵Some economists focus instead on the post-peak decline and attribute this to the preceding fall in the education-related earnings premium. The assumption is that people would observe that the returns to a college degree were falling and would therefore choose not to go to college. The fact that women’s attainment shows a consistent rise suggests this argument is wrong.

⁶This issue also led to the notion of “underemployment” and the development of the “Labor Force Utilization Framework” for measuring it (Clogg 1979).

sometimes exceeded the earlier losses (Levy & Murnane 1992, Table 5, Part 2). In contrast to the other compositional changes in the labor force, the “rising education premium” appeared to be one of the few features in earnings trends that clearly contributed to the growth in overall wage inequality.

Despite the (economist’s) language used here, it should be kept in mind that the “rise” in the college premium was almost entirely driven by the *collapse* in the earnings of high-school graduates and dropouts. Both wages and to a lesser extent hours worked declined for this group. From 1979 to 1994 the real weekly earnings of college graduates rose by 5%, while the earnings of high-school graduates fell by 20% (Gottschalk 1997). This is what caused the doubling of the college premium.

Initially, the falling wages of the high-school educated were attributed to macroeconomic factors: a decline in demand for less-skilled workers arising from the trends in trade and immigration (Murphy & Welch 1988, Murphy & Welch 1992). As discussed elsewhere in this paper, evidence for these conjectures was mixed, leading to some influential reversals of opinion (Murphy & Welch 1993).

An alternative hypothesis regarding the rise in the education premium then gained some consensus: a rise in the rate of “skill-biased technological change.” For some labor economists, the puzzle that needs to be explained is not the fall in wages among the high-school educated, but rather a rising col-

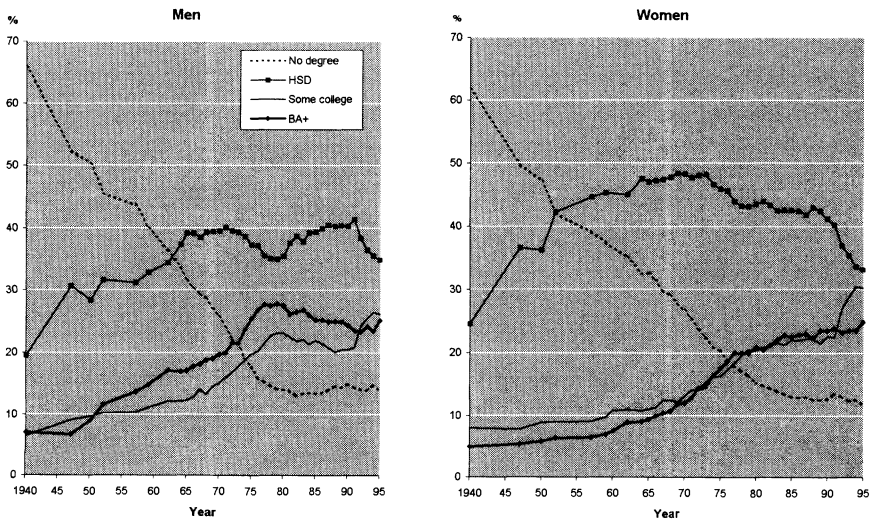


Figure 3 Each line represents the share of the 25–34-year-old population with the indicated educational attainment. Data are from the Census and CPS, and are available at: <http://www.census.gov/population/socdemo/education/table17.txt>.

lege premium during a period of rising supply. The lower rates of college attendance in the late 1970s did not result in a decline in the share of college-educated workers, just a slower rate of growth. Measured in terms of “aggregate labor input”⁷, the college-educated share of labor grew by 17.8% in the 1963–1971 period, by 24.1% the 1971–1979 period, and then by 15.6% in the 1979–1987 period (Murphy & Welch 1992, Table II). Simple economic logic implies that the demand for these “skilled” workers must therefore have risen more than the supply. The explanation for this increased demand is hypothesized to be a diffusion of technology in the workplace that requires higher levels of skills than in the past (Johnston & Packer 1987, Davis & Haltiwanger 1991, Bound 1992).

The evidence for a general increase in the demand for skills is weak, in large part because both skill and demand are notoriously difficult to measure. Educational attainment is often used as a proxy for skill, and the educational credentials of the workforce clearly rose during this period. But this is a measure of supply, and does not necessarily signify a shift in demand or job skill requirements. Educational attainment is, as well, a problematic proxy for individual skill. Howell and Wolff use the skill measures from the *Dictionary of Occupational Titles* as an alternative measure for skill demand (1991). While they do find an upgrading of cognitive and interactive skills and a declining demand for motor skills within industries, they also find that the wage effects are muted by the growth of moderate skill jobs in low-wage service industries. Another common proxy for skill demand is the share of non-production workers in an industry. This is the measure used by the most widely cited paper claiming that increased demand for skills is driving the growth in wage inequality. In this study by Berman et al (1994), the rising share of non-production workers in the manufacturing industry is found to be associated with the growth in wage dispersion in this sector. Using production work to proxy for lack of skills is at least as problematic as using educational attainment. Even if the proxy were acceptable, however, the timing of the changes in occupational composition does not match the timing of the wage changes. The share of non-production workers rises continuously from 1948 through 1982, and then begins a slight decline. Just as the growth in wage inequality begins, the demand for “skill” appears to fall.

The evidence for the more specific hypothesis of a technology-driven increase in demand for skills is equally weak. In a somewhat humorous exchange, one of the few papers to try to measure the extent of technological change in the workplace and its connection to wage differentials—“How computers have changed the wage structure” (Krueger 1993)—was answered with

⁷This is essentially the average number of hours worked for this group weighted by a time constant average wage. For details, see (Katz & Murphy 1992:39–40).

a paper entitled "The returns to computer use revisited: Have pencils changed the wage structure too?" (Pischke & DiNardo 1997). Krueger's study, using CPS data, found that computer use at work was associated with a 17% increase in wages in 1984, and a 19% increase in 1988. In the subsequent paper, Pischke & DiNardo, using a more detailed German work survey, find that pencils, calculators, and telephones have a similar effect. Entered simultaneously, each remains significant, though all of them, including computers, increase wages by only 5%. Another variable, "working while sitting," had similar wage impacts. Clearly, computer use, pencils, and sitting while working are potential proxies for a host of other factors that may be associated with wage differentials, the prime candidate of which is white-collar office work. Additional contributions to this literature can be found in Berman et al (1998) and Autor et al (1998).

The role of office workers in the growing education premium has been examined in a recent paper by Rose & Carneval (1997). Tracking the wage changes for the detailed three-digit occupational codes in the CPS from 1979 to 1995, they note that earnings for professionals in technical/scientific fields stagnated during this period, even in occupations closely tied to technological innovation. Among computer systems analysts with bachelor's degrees, for example, earnings rose by only 3% over the 16 years. Engineers, the largest occupation among science-related professionals, actually experienced earnings declines of about 1.5%. During this same period, earnings increased by 34% for all occupations in the category of "office work"⁸, an increase that was driven by the nonscience, nontechnical business professionals and managers. Explaining this disparity in earnings growth as a function of skill-biased technological change would be difficult.

The current popularity of this technology thesis is therefore somewhat curious. Productivity has stagnated over the period that technological change is supposed to have led to a skill-intensive workplace (Kozicki 1997)⁹, which requires us to believe that the change in technology was strong enough to reverse a half century of wage leveling, but still too weak to increase productivity (Mishel et al 1997). Perhaps, as Howell et al suggest, it is the "natural attraction of a simple story" that accounts for the tenacity of the technology thesis (1998). But the rapidity with which this story was embraced, and the vehemence with which it is defended suggest that something other than science makes this thesis attractive.

⁸Office workers are defined as managers, supervisors, fire sector employees, business professionals, employees of public administration and nonprofits, and support staff.

⁹The rate of growth in productivity has declined from an average about 2.8% per year in the 1948–1972 period to about 1.2% per year since 1973 (Bureau of Labor Statistics website data). The trend is often attributed to the shift in the industrial mix toward the service sector and to the rise in energy prices (Kozicki 1997).

In summary, changes in the wage premium associated with a college degree are more strongly implicated in the growth in wage inequality than either the baby boom or women's labor force entry. While inequality grew rapidly within age and sex groups, it grew more rapidly between education groups than within them. This leaves the question of causality open, however. The observed trends in the education premium are equally consistent with a microeconomic argument that emphasizes the role of skill-biased technological changes in raising the relative demand for highly educated workers, and with a macroeconomic argument that emphasizes the role of trade and immigration in lowering the relative demand for less educated workers. The evidence for the microeconomic argument is weak, and a number of the most recent studies have mounted compelling critiques of this argument at both the theoretical and empirical levels (cf Howell et al 1988 for a critical review of this literature). The macroeconomic argument is ultimately a story of economic restructuring and political resources, and this is what we turn to next.

CHANGES IN DEMAND: ECONOMIC RESTRUCTURING

While the demographics of the labor force changed substantially during the postwar boom years, changes of similar magnitude were also occurring in the structure of the labor market. The restructuring took two forms: continuing decline in manufacturing employment leading to the emergence of a "service economy" (Fuchs 1968), and a rise in market-mediated employment relations—outsourcing, subcontracting, and temporary, contingent, and part-time work contracts. In the popular press it is these factors, more than the demographic trends, that are linked to the perception of changing economic fortunes. A poll would probably show that most people associate the "baby-boom problem" with the looming social security crisis, and women's (paid) work with the changes in family structure. By contrast, the decline of the "rust belt" and the prospect of being "downsized" would probably strike a chord that resonates with many people who feel that their economic security, and their children's economic future, are increasingly at risk.

Deindustrialization

The trend toward growing employment in the service sector and shrinking employment in the manufacturing sector is a remarkably long and stable one. Figure 4 shows the relative employment shares of the goods-producing and service-producing sectors from 1950 to 1997 (Bureau of Labor Statistics 1998). By the end of this period, the share of employment in the manufacturing industry proper (the largest industry in the goods-producing sector) had declined to 15%, making it smaller than the retail trade industry, while the size of the serv-

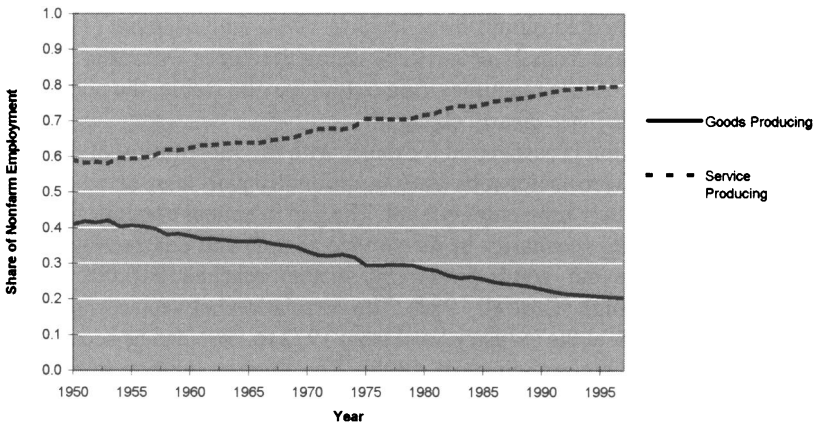


Figure 4 The lines represent the share of total nonfarm employment in the goods and service producing sectors from 1950 to 1997. Data are from the Bureau of Labor Statistics, series EES0000001, and are available at <http://www.bls.gov/top20.html>.

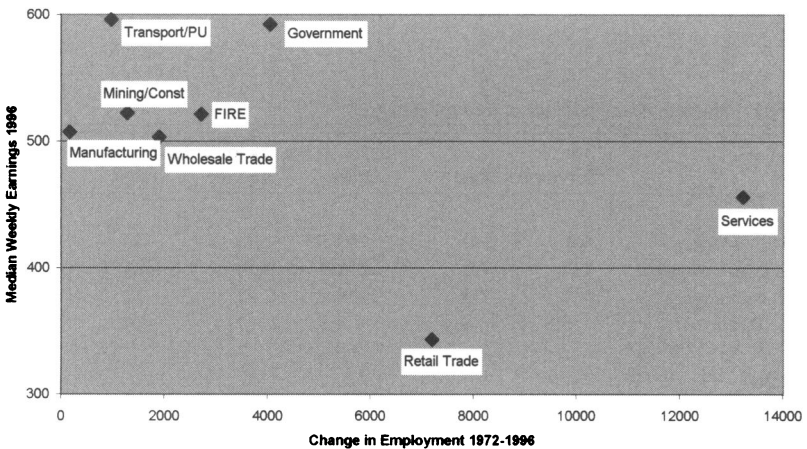


Figure 5 The 1996 median weekly earnings in each industry are plotted as a function of the growth in employment in that industry from 1972-1996. Data are from the Bureau of Labor Statistics, as reported in (Meisenheimer 1998).

ice industry proper had risen to 29%. This does not imply that the United States now produces fewer goods, as a concomitant trend has been a steep rise in productivity in the manufacturing sector (Kozicki 1997). The net result is that national manufacturing output has remained essentially stable. Kutscher & Per-

sonick (1986) record a small decline from 36.8% to 34.5% in manufacturing's share of gross duplicated output from 1959 to 1984, while Mishel (1989) reports a slight increase from 21.6% to 22%, using the Gross Domestic Product from 1948 to 1987. While manufacturing output may be stable, the population of jobs—and wages—has clearly changed.

Deindustrialization is associated for many with the substitution of bad jobs for good ones. Service sector jobs have traditionally paid less, offered fewer benefits, and more part-time employment. The gap in annual earnings between expanding industries (primarily in the service sector) and contracting industries (primarily in the goods-producing sector) reached \$10,000 in the 1980s—a postwar high (Costrell 1988). The correlation between earnings and employment growth at the industry level from 1972 to 1996 can be seen in Figure 5 (taken from Meisenheimer II 1998). The inverse relation is striking: Higher wage industries are all growing much more slowly than the two lowest wage industries. (The X-axis here measures the change in number of persons employed, rather than the per cent or share change). The two fastest growing industries, services and retail trade, are also distinguished by lower rates of health and pension benefits, and higher rates of part-time work, as can be seen in Table 1 (adapted from Meisenheimer 1998).

Table 1 Selected characteristics of jobs by industry^a

	Services	Retail	Other	% lower (or higher)	
				service	retail
Wages^b					
Median wage	456	343	542.3	-16	-37
1st decile wages	217	191	251.8	-14	-24
9th decile wage	1050	774	1134.9	-7	-32
90:10 ratio	4.8	4.1	4.5	7	-10
Benefits^c					
Health benefits	49.0	38.4	71.5	-31	-46
Pension benefits	35.2	25.7	56.8	-38	-55
Sick leave	55.1	35.3	61.3	-10	-42
Disability	31.4	22.3	48.2	-35	-54
Job Security					
Involuntary PT	5.0	9.4	2.4	108	292
Contingent work	7.4	3	4.7	59	-36

^aData taken from (Meisenheimer 1998)

^b1996 March CPS, full time workers only

^c1993 April CPS

With 80% of all jobs in the “service producing” sector, however, this sector is also fairly diverse. As a result the dispersion of wages in this sector is higher than in the goods producing sector. Low end service industries, like retail trade, provide wages that are 30% below average while high end services, like those found in the finance, insurance, and real estate sectors, offer wages that are about 8% higher on average. Within the service industry proper, the 90:10 earnings ratio is 7% higher than in other industries.

A rising share of employment in the service sector would thus be expected to generate trends consistent with the observed stagnation in wages and growing inequality. The stagnation effects have generally been supported by empirical studies (Costrell 1988) and reinforced by studies of the wage penalties experienced by displaced workers (see also the references cited in Bluestone & Harrison 1982, Ch. 3; Farber 1993), but the inequality effects of deindustrialization have not been consistently supported. Initial findings ranged from no significant effect (Raffalovich 1990), to effects that account for about 20% of the change in earnings dispersion (Tilly et al 1986). One source of the mixed findings is the use of different measures, sample restrictions, and time periods. In general, however, changes in the industrial mix have met the same analytic fate as compositional shifts in supply: Inequality was found to be growing within the sectors, not simply between them (Lawrence 1984, Grubb & Wilson 1989, Blackburn 1990). Perhaps in response to these inconsistent findings, the literature on deindustrialization increasingly shifted to regional studies (Carlino 1989, Rodwin & Sazanami 1989, Rodwin & Sazanami 1991, Grant & Wallace 1994). A recent study finds large effects of deindustrialization on growth in earnings inequality at the state level (Bernard & Jensen 1998).

Deindustrialization’s contribution to current wage trends thus seems to be an unresolved question. The “good jobs-bad jobs” debate has increasingly taken a different path. In contrast to the idea that some industries provide good jobs with stable employment and high wages, while other industries provide bad jobs with low wages and no mobility, the demand-side research literature now recognizes that these employment strategies are being used together, not only within industries, but even within firms.

Employment Relations

The postwar years of earnings growth and equalization emerged during a unique period in American industrial history. The period was marked by the development of a system of employment relations often referred to as the “internal labor market” (Doeringer & Piore 1971). The key characteristic of an internal labor market is a formal hierarchy of jobs within firms that are filled primarily by internal promotion rather than through external recruitment. The resulting system serves to buffer employment relations—including decisions

about wages, job mobility, and training—from the volatility of external market pressures. This substitution of organizational control for market mechanisms is a topic that has generated many of the classic works on the boundary between sociology and economics [Williamson 1975, Chandler 1977, Kerr 1977, Dunlop 1993 (1958)]. The origins of the system are sometimes traced to firms themselves, acting to “rationalize” the uncertainties of employment and productivity (Doeringer & Piore 1971) and to reduce transaction costs associated with the agency problem (Williamson 1975, Burawoy 1979). Others emphasize the role of unions in seeking better working conditions for their members (Jacoby 1985). A further impetus for change was the Federal Government, which enacted key employment legislation to meet the need for national economic planning and stable production during the two world wars (Baron et al 1986). In any case, the system was never wholeheartedly embraced by US managers (Jacoby 1990).

In stylized form, the internal labor market was characterized by the lifetime job. Workers started at one company, stayed with it, and were guaranteed job security and yearly raises. In return, employers obtained control over labor supply and a committed workforce, or at least a negotiated truce with labor. For jobs higher in the skill hierarchy, the system also provided customized training, since workers learned on the job and therefore brought firm-specific knowledge and tested skills to each new position (Piore & Sabel 1984, Kochan et al 1986).

The terms of this trade-off deteriorated for American employers in the mid-1970s. Cost reduction became an important basis of competition, and internal labor markets were a natural target. Cost reduction requires flexibility in who is hired, for how long, for how much, and for which tasks. To get this flexibility, some firms have adopted high-performance work systems that can benefit their employees as well as productivity (Piore & Sabel 1984, Pfeffer 1994). Other employers, however, are now more willing to rely instead on the external labor market, as the high-performance systems require significant initial investments in technology and training. With the changes in corporate financing and governance in the wake of banking deregulation, the “shareholder revolution” has skewed the incentives toward short-term growth in dividends, rather than long-term reinvestment of profits (for a review, see Applebaum & Berg 1996). The wave of “downsizing” that took place during the late 1980s and 1990s heralded this change. For the first time, employment losses finally reached deep into the white collar occupations (Cappelli 1992), though some question the extent of the change (Gordon 1996). There are many good reviews of this literature (Appelbaum 1987, Pfeffer & Baron 1988, Colclough & Tolbert 1992, Harrison 1994, Osterman 1994, Cappelli 1995).

In one of the first systematic studies of the growth in “market-mediated” employment relations, Belous (1989) documented a dramatic rise in the

number of contingent workers during the 1980s. While the total labor force grew by 14% during this period, the number of agency temporary workers grew by 175%, part-time employment grew by 21%, employment in the business service sector—the primary provider of subcontracted human services—grew by 70%, and self-employment grew by 19%. Overall, the contingent workforce grew from about 25–28% of the workforce to 30–37% of the workforce during the decade (depending on the definition). Belous used standard employment categories from the Bureau of Labor Statistics to define contingent workers in his study, not all of which are mutually exclusive. This has led to some criticism that he overestimates the size of the contingent workforce.

A number of studies since Belous have wrestled with the definition of “contingent worker” in the attempt to develop better measures.¹⁰ This has resulted in a wide range of estimates for the size of the contingent workforce. The most conservative definitions suggest that contingent workers comprised at most 5% of the workforce by 1995 (Polivka 1996a,b; see also Abraham 1990), while a survey of employers suggests a figure of 17% (EQW 1995). At the same time, nearly 80% of firms reported making use of flexible staffing arrangements, excluding the use of part-time workers, which is even more widespread (Mishel & Bernstein 1995:229, Houseman 1997). While agencies specializing in office temporary workers accounted for two thirds of the total temporary employment in 1972, this had fallen to 55% in 1982 (Abraham 1990). Increasingly, firms are turning to temporary workers to staff other specialized, non-clerical positions.

The growth in market-mediated employment has revived speculation regarding the emergence of a core/periphery structure in the labor market—this time within rather than between firms (or industries) (Belous 1989). To meet the dual needs of a stable and reliable workforce in positions that are central to organizational performance, and the flexibility to deal with rapid change induced by global competition, large firms may simply adopt a dual strategy: retaining the key elements of the internal labor market for a (now much reduced) set of core employees, and using flexible staffing arrangements for all other functions. Cappelli (1995) reviews the European literature on this topic and concludes that the evidence for it is weak.

Workplace studies do shed some light, however, on the technology debate. In contrast to the notion that new computer-based technologies have a universal upskilling effect on jobs, these studies suggest that the effect is more polarizing. On the one hand, changes in telephone technology make it possible to centralize customer service operations in large, low-wage call centers that re-

¹⁰This debate parallels in many ways the debates over measuring the size of the workforce employed in internal labor markets [e.g., Smith (1988) and Oi (1983)].

semble a modern-day assembly line. On the other hand, changes in computer networking have transformed the typical bank branch worker from a recording clerk into a sales-oriented investment analyst. Thus, technology may have played a role in growing inequality, but not in a skill-biased way (Capelli 1993, Hunter & Lafkas 1998).

Much of the work on changes in the nature of employment relations is based on case studies rather than national surveys. The natural unit of analysis is the firm, rather than the worker, which makes many of the more widely used surveys inappropriate for linking changes in firm structure to changes in employment outcomes. To the extent that firm-level changes are driving the overall trends in earnings, however, this is a key area for future research. It is also one that sits squarely on the traditional boundary between sociology and economics.

INSTITUTIONAL FACTORS: THE POLITICS OF THE WAGE-EFFORT BARGAIN

Supply and demand are powerful forces, but they operate in a larger political context. Political decisions determine the extent and types of regulatory constraints placed on market forces, as well as the redistributive measures adopted “post fisc.” While market explanations dominate research on rising inequality, institutional conditions have received some consideration. The focus, however, has been narrow, restricted largely to the two major wage-setting institutions: the minimum wage and unions. There is also evidence for the effect of monetary policy on labor market outcomes. Much of this work focuses on the link between inflation rates and unemployment, rather than earnings inequality (but cf Galbraith 1998). Inflation and unemployment, however, are not neutral with respect to their distributional consequences (see e.g. Campagna 1974:362–65). Central banks are the main institution through which monetary policy is made and implemented, making them an important, and perhaps underappreciated, player in the distribution of earnings. We will not attempt to review the literature on these issues here. A good comparative historical survey of monetary institutions is provided by Eichengreen (1996); recent papers by Hall & Franzese (1998) and Iversen (1998) study how central banks and labor market institutions jointly influence unemployment.

The Minimum Wage

The federal minimum wage was frozen at \$3.35/hour from 1980 to 1990. As a result, the real dollar value fell by about 30% over the decade, the largest and longest continuous decline in the postwar period (cf Figure 1.2 of Card & Krueger 1995). Establishing the impact of the minimum wage on earnings is

complicated because less than 10% of the working population is typically directly affected by changes in the minimum wage.¹¹

Even if only the direct effects are considered, however, the 1990 increase is estimated to have reduced the previous decade's growth in wage inequality by about 30%, with no negative effects on employment (Card & Krueger 1995:297). Blackburn et al (1990) estimate that about 17% of the growth in the gap between the wages of college graduates and high-school dropouts may have been driven by the freeze in the minimum wage.

Minimum wages also have an indirect ratcheting effect on the overall wage structure—as wages above the minimum are changed to retain the relative ranking of occupational positions within hierarchies. While Card & Krueger find that this effect is only evident among wages in the first decile, the declines in this decile play a large role in the recent growth in inequality. A recent paper, using distributional methods, finds that the rise and fall of the minimum wage over the 1970s and 1980s explain about 25% of the changes in wage dispersion for men and over 30% for women (DiNardo et al 1996).

The typical minimum wage earner is often portrayed as a teenager working for spending money. It turns out that this portrayal is not accurate. More than 70% of those affected by the minimum wage hikes in 1990 and 1991 were adults, predominantly women and minorities. Over 35% were the sole wage-earner in their family, which is only slightly lower than the 41% figure for all workers. On average, minimum wage earners provided 45% of the family's annual earnings, compared to 65% for all workers (all figures from Ch. 9 in Card & Krueger 1995).

The decade-long freeze in the minimum wage coincided with the dramatic decline in the real earnings among those at the bottom of the distribution, both in terms of timing and in terms of magnitude. The evidence is fairly consistent in supporting a causal role.

Unions

A large research literature shows the equalizing effect of labor unions on the earnings distribution, so the decline in unionization also provides a plausible account of the rise in earnings inequality.¹² In 1970, unions represented about 27% of all wage and salary earners in the United States; by 1993 only 15% of

¹¹Those affected include both those earning the current minimum, and those earning more than the current minimum but less than the future minimum.

¹²While neoclassical theory claims that unions raise inequality between organized and unorganized workers (Friedman 1962), there is strong evidence that the reverse is true. Unions compress earnings within firms, standardize wage rates across firms, and raise the pay of low-wage workers (Freeman & Medoff. 1984, ch. 5). These equalizing effects overshadow inequality due to the union wage premium. In addition, the effects of unionization spill into the economy as a whole, as nonunion firms bring wages into line with collective agreements to defuse demands for union representation (Leicht 1989).

workers were unionized (Visser 1996). Although union organization fell steadily from a highpoint of 35% in the mid-1950s, the decline accelerated through the 1980s. Union representation fell most sharply among men, in the private sector, and in manufacturing industries (OECD 1991). Because unions tend to raise the average wage and compress the distribution of wages, the basic trends in observed wages are consistent with those predicted by a fall in unionization rates: stagnation or decline in median wages coupled with increased wage dispersion.

Empirical studies have used several methods to estimate the effect of falling unionization on the increase in wage dispersion. The most common method uses aggregate differences between union and non-union wage distributions to derive the effects of compositional shifts in workforce coverage. Using a simple reweighting, Freeman (1993) calculates that a 10% decline in union density would explain roughly half of the observed growth in earnings variance among blue-collar workers from 1978 to 1988. More sophisticated compositional adjustments control for a wide range of covariates (and in one case, unobserved heterogeneity) and produce estimates that range from about 10% (for 1981–1988; Dinardo & Lemieux 1996) to 20% (for 1973–1993; Card 1998). These estimates are smaller in part because the analyses are based on earnings dispersion for all male workers. An alternative approach is to use longitudinal data on job displacement to estimate the wage loss (or gain) associated with moving from a unionized to a non-unionized position. The estimates here suggest that when a job change is accompanied by the loss of union status, the wage penalty is on the order of 20% after controlling for other covariates (for US workers, Freeman 1993; for Canadian workers, Kuhn & Sweetman, 1998). Because unionized workers typically have more to lose from displacement, Kuhn & Sweetman estimate that about 75% of the total wage losses were experienced by the 13% of workers who lost union coverage when they changed jobs. The dispersion in both post-transition wages and wage losses is also higher for transitions into non-unionized jobs. Using these methods, Freeman estimates that overall declining union density accounts for about 21% of the rise in wage inequality.

A final method employs the international variation in union density to estimate its effect on wage dispersion. Using simple correlations between union density and several different estimates of country-specific variance in log earnings across industrialized nations during the 1980s, the bivariate R^2 ranges from 35% to 64% (Freeman, 1993). The bivariate correlation between the change in earnings inequality from 1978 to 1987 and the 1979 union density is -0.61 . While these figures are simple descriptive correlations, they are consistent with the evidence from other methods.

Few studies examine the impact of unionization trends on women, in large part because women are less likely to hold a unionized job. Studies that do,

however, find that the changes in unionization among women have had little effect on their wage dispersion. (Asher & DeFina 1997, DiNardo et al 1996, Card 1998)

Overall, these findings suggest that the decline in union density may account for about 20% of the overall rise in male wage inequality, and as much as 50% of the rise for male blue-collar workers. As with other potential explanatory factors, however, there is also evidence of increasing earnings inequality among union members (Freeman 1993, Dinardo & Lemieux 1996, although cf Bratsberg & Ragan 1997).

GLOBALIZATION

By highlighting the role of the nation state, globalization would appear to hold strong interest for sociological approaches to inequality. Dependency theorists have studied how globalization impoverishes countries at the periphery of the world economy, however, and inequality in the core countries has received little attention. As with most work on current trends on US inequality, research on the link between globalization and the labor market is dominated by economists.

In economics, globalization describes transnational flows of people, goods and services, and capital. Immigration to the United States, trade with developing countries, foreign investment, and outsourcing are all thought to lower demand for low-wage US workers. As a result, wages fall at the bottom of the earnings distribution and inequality rises. In contrast to dependency theory, recent economic studies examine how economic ties between North and South, and East and West undermine the prosperity of workers in wealthy countries.

Trade

The consequences of trade for inequality are often considered alongside the effects of immigration (Abowd & Freeman 1991, Borjas et al 1992, Borjas & Ramsey 1993, Borjas 1997). Like immigration, imports from less developed countries (LDCs) embody relatively large amounts of less-skilled labor. Increasing consumption of LDC imports thus increases the implicit supply of less-skilled labor, forcing down the wages of local less-skilled workers. While this factor content approach is common in labor economics, some trade economists instead emphasize the role of prices. In a price analysis, LDC imports force down the price of local import-competing goods, which in turn reduces the pay of less-skilled workers in import-competing industries (Cline 1997:35–46 summarizes the theory). The empirical intuition remains the same: Imports from low-wage countries reduce the wages of less-skilled workers in the United States.

Trends in trade superficially support the effects of globalization. From 1960 to 1990, US manufacturing imports increased more than threefold as a propor-

tion of gross domestic product (GDP), and by around fivefold as a proportion of manufacturing GDP. These gross trends conceal the growing role of LDC producers. Between 1978 and 1990, manufacturing imports as a proportion of GDP increased by 35%, while LDC imports increased by 75%. In this period, the share of imports from developing countries had grown 7 percentage points to account for 36% of all imports (Sachs & Shatz 1994:10). By 1998, the four largest LDC exporters to the United States—Taiwan, Mexico, Korea, and China—earned more than \$200 billion from US sales.

Despite these trends, evidence for trade effects is mixed. Research falls into two main categories: A majority of studies find neutral or small effects while a few report large trade effects (review essays include Deardorf & Hakura 1994, Burtless 1995, Cline 1997). The leading proponents of large trade effects are Leamer (1993, 1994) and Wood (1994, 1995). Leamer (1994) uses data from 3- and 4-digit industries in 13 OECD countries to forecast the impact of NAFTA on the wages of low-skill US workers. Imports to OECD countries are concentrated in industries with low-skill workers, placing downward pressure on their wages. With this association between trade and wages, Leamer estimates that NAFTA will produce an annual earnings loss of around \$1900 per low-skill worker, but a \$6000 gain for each skilled worker. These forecasts more than account for the total increase in the US skilled/low-skill wage differential in the 1980s (Cline 1997:115). Wood's (1994) analysis also holds trade responsible for rising inequality. He begins by estimating how much native labor would have been used to produce LDC imports. These factor contents are then adjusted to allow that LDC imports may have already driven domestic producers out of the market. Further adjustments are made for trade in services and trade-induced technical change. With these adjustments, LDC trade is estimated to have reduced the demand for unskilled labor in OECD countries by more than 20% in 1990 (Wood 1995, 66). Although the adjustments driving this estimate are controversially large and informed mostly by theory rather than data, they underline the difficulty of drawing causal inferences about the influence of trade on the labor market [see Burtless 1995 for a critical review of Wood 1994; cf also Wood's general response to critics (1995:68–72)].

Typical estimates of trade effects are much smaller than those produced by Leamer or Wood. Krugman is particularly prominent in rejecting an important role for trade in raising inequality (see also Lawrence & Slaughter 1993, Krugman & Lawrence 1994, Krugman 1995). In his account, trade cannot be important because it contributes minimally to US output and its effects are concentrated in manufacturing industries that make up a small share of total employment. A back-of-the-envelope calculation suggests that trade reduced wages by \$3.5 billion, against a total national income of \$5.5 trillion (Krugman & Lawrence 1994). Although an extensive literature finds larger—but still mod-

est—trade effects, few economists hold trade principally responsible for the rise in earnings inequality (key recent papers include Berman et al 1994, Sachs & Shatz 1994, Borjas 1997).

Despite this broad consensus, sharper measurement of production and worker characteristics casts some doubt on these results. For instance, Bernard & Jensen (1995) analyze data from 50,000 manufacturing establishments rather than the usual sample of 3-digit industries and estimate a large positive effect of exports on wages. Leamer (1994) finds that a common proxy for skill—the distinction between production and nonproduction workers—is unrelated to skill levels when detailed occupational codes are reviewed. These studies underline the preliminary character of existing research and suggest that future developments may involve greater disaggregation of skill and industry data.

Capital Flows

In contrast to research on trade and immigration, only a few studies have examined the link between capital flows and earnings inequality. Although public imagination was briefly captured by Ross Perot's "giant sucking sound" in the 1992 presidential campaign, academic research has been constrained by the limited relevance of available data. In theory, the effects of capital flows on inequality appear clear. As the movement of capital is liberalized, neighboring countries with low-wage labor will draw off investment, causing a fall in low-wage labor demand at home.

Capital flows can be divided into two broad categories, both of which affect the local wage structure. First, foreign direct investment captures spending on new plants and equipment overseas by US multinationals. Second, outsourcing describes the delegation of production to external suppliers. Foreign direct investment is unlikely to be the source of increasing US earnings inequality, as recent trends run in the wrong direction and the size of investment is small. Throughout most of the postwar period, the United States was the largest direct investor, accounting for nearly half of all OECD direct investment in the ten years from 1971. However, through the 1980s when earnings inequality rose substantially, both Japan and the United Kingdom surpassed US direct investment. Comparing the 1980s to the 1970s, the ratio of outward to inward investment shrunk by about 85% (Baldwin 1995). The overall magnitude of foreign direct investment is also very small compared to total investment. Net direct investment flows from 1980 to 1990 was only 0.73 of a percentage point of total gross fixed capital formation (Baldwin 1995:35). Most of these capital flows are among the wealthy OECD countries. Krugman (1994) estimates that in 1993—a peak year for emerging market investment—capital flows from advanced countries to LDCs equaled \$100 billion out of \$3.5 trillion in total in-

vestment. These figures suggest a net earnings loss in advanced countries of about 0.15% due to capital exports.

Feenstra & Hanson (1996) suggest that the impact of outsourcing may be larger than these direct investment effects. They argue that previous research underestimates the level of outsourcing because the usual definition—imports of materials by US firms—is too restrictive [cf Berman et al (1994) and Lawrence (1994)]. A broader definition includes all goods used in the production of, or sold under the brand name of, a US firm. With this definition, outsourcing grows at an increasing rate from the 1970s to the 1980s. A regression analysis of nonproduction workers' share of the wage bill in 450 4-digit industries shows the significant effect of outsourcing. Indeed, about a third of the annual change in this wage share is explained by outsourcing in the period 1979–1987. The use of industry data and reliance on nonproduction work as a measure of skill opens Feenstra & Hanson's work (1996) to criticisms leveled at the research on trade effects. Still, the study is distinguished by its attempt at precise measurement of outsourcing.

To summarize, the effects of capital flows have received relatively little attention, partly because they account for only a very small part of total investment. While outsourcing may capture some part of the total effect of trade and initial results are suggestive, aggregation of industry and skill categories has so far prevented a strong empirical test.

DISCUSSION

Capital is a social relation of production. Marx (1891:207)

The earnings distribution has undergone a set of rapid and dramatic changes over the past 25 years. Stagnation in real wages and a sustained rise in inequality fueled a collapse in the earnings of those at the bottom of the distribution. The effects at the median were not the same for all groups—most women made gains during the period—but the growing polarization in earnings was evident in all groups. Demographic shifts in the composition of the labor market, including the baby boom, the rise in women's labor market participation, and the growth in immigration were all plausible candidates for explaining the observed changes in the earnings structure. Empirical studies, however, have repeatedly documented at best a modest impact of these supply side factors. Education effects have been more consistently supported, but not explained. The penalty for not having a college degree has risen dramatically. While some have taken this as evidence of a technology-driven shift in demand for higher skilled workers, workplace studies suggest that the impact of technological change may be polarizing rather than simple upskilling. Demand was clearly restructured during this period, however, through both deindustrialization and the return to market-mediated employment relations. The empirical findings

regarding the impact of this economic restructuring on inequality are mixed, but the complexity of the measurement issues here plays a greater role in obscuring the view. National labor market institutions, in particular unions and the minimum wage, have also had an impact. While institutions are among the most contested explanatory factors for labor economists, they enjoy some of the most consistent support in the evidence. All of these dynamics, finally, are subject to the pressures of “globalization,” as the flows of capital, goods, and people across national boundaries modify the effective supply of and demand for specific kinds of labor, the resulting strength of traditional labor organizations, and the role of the monetary system in national politics.

So why has sociology ignored these trends? The issues could hardly be more central to our field, so it cannot be a matter of disciplinary irrelevance. There are perhaps several pieces to the answer. Sometime during the early 1970s, we ceded the study of earnings to the economists, retreating, perhaps, from the wave of neoclassical econometric formalism that overtook the study of wage determination. This left us with the more comprehensive but opaque measures like SES and occupational prestige. Even had we wanted to, it would have been impossible to develop a theory of SES or prestige determination that could have paralleled the theory of wage determination in neoclassical economics. The primary descriptive findings of stratification and mobility research, in any case, seemed to be that the American economic system was remarkably meritocratic, with achievement, rather than ascription, the dominant pattern. Problematic forms of inequality were then more narrowly located in persistent poverty and research was focused accordingly.

Economic sociology, on the other hand, continued to contribute an important critique of neoclassical models in the early 1970s by articulating the embeddedness of supply and demand factors in institutional contexts. A good selection of this work can be found in the edited volume *Sociological Perspectives on Labor Markets* (Berg 1981). The concept of a dual or segmented labor market played an important role in this literature, and eventually dovetailed with the study of systematic race and gender gaps in economic outcomes. While the segmented labor market literature foundered on the problem of defining the sectors, race and gender gap research flourished. Consistent with the institutional or structural imperative, sociologists who followed along this line specialized in the study of occupational segregation, often framing the research in terms of a challenge to the “human capital” paradigm in economics, or the mainstream stratification research tradition in sociology. In the process, however, important but difficult structural questions—what are the positions in the labor market and how are they constructed?—were replaced by relatively simpler allocation questions—who gets which positions?

The study of race and gender then itself evolved from the use of attribute categories as variables in an equation to a more fundamental set of questions

regarding the social construction of the categories themselves. So 25 years later, we find ourselves fighting disciplinary boundary battles with literature and the humanities, rather than economics. Perhaps it is not surprising that we missed the boat.

The story is not over, however. Debates over the causes and consequences of the changes in earnings are still largely unresolved. From a sociological perspective, it is no accident that the economic approach has provided few concrete answers. Many of the unresolved issues concern the role of nonmarket forces in shaping and filtering the impact of supply and demand. The integration of different spheres of social organization has always been a more natural task for sociology. This suggests several directions for a sociological research agenda on inequality that span the macro to micro continuum.

From a macrosociological perspective, the rise in US earnings inequality raises basic questions about large-scale social change. Three issues stand out. The first concerns the relationship between inequality and development in advanced capitalist societies. A central question for macrosociology would be whether the current rise in inequality marks a qualitative break from the Kuznets style leveling of the past century, or just a temporary hiccup. A second key issue concerns the salience of the nation-state in shaping the impact of globalizing market forces. While the volume of international trade, capital, and migration flows have increased significantly, their effects may be tempered by the strength of national political actors. The cost of an increase in the supply of low-wage labor, for example, could be paid either by shareholders in the form of lower profits, by workers in unemployment or lower wages, or by consumers in the form of higher prices. Unmediated market forces are a political outcome, not an inevitability. A third issue for macrosociology is to consider the impact of globalizing the economy without globalizing the polity. The result is much like having a country with a stock market, but no government. Under what conditions would such a system evolve, and could it persist? In sum, placing current inequality trends in a broad macrosociological context can shed light on the historical relevance of those trends and speak to more general questions about large-scale social change in an increasingly more connected world.

At the level of middle-range institutional explanation, sociology has a traditional dialogue with economics that is relevant to current trends. Empirical labor markets provide only weak approximations to the competitive models of economic theory. There is a rich institutional context to inequality that extends well beyond the immediate wage-setting forces of the minimum wage and collective bargaining. Systems of education and training, labor exchanges, social welfare, and the penal system all figure prominently as institutional sources of inequality in sociological research (e.g. Bourdieu & Passeron 1979, Esping-Andersen 1990, Janoski 1990, Sampson & Laub 1993). This partial list of in-

stitutional influences suggests a distinctively sociological perspective, where earnings inequality is shaped by structures of power and inequality that originate outside the marketplace. Trends in US incarceration are especially suggestive in this context. A common argument in economics claims that recent trends in global markets confront labor market policy makers with a choice between unemployment and low wages (Blank 1998; but cf. the critical review by Howell et al 1998). European welfare and industrial relations institutions represent one side of this tradeoff, with labor market rigidities that maintain high wages at the cost of high unemployment. The unregulated US labor market represents the other side of the tradeoff, with low unemployment at the cost of low wages at the bottom. This economic folklore is challenged, however, if the incarcerated populations are included in the calculations. The American penal system has grown rapidly since the 1970s largely due to mandatory drug sentencing policies, and by 1995 about 5% of the adult male population was under some kind of correctional supervision (Bureau of Justice Statistics 1997). Including the incarcerated population as unemployed raises the U.S. male unemployment rate by about 2 points but has virtually no effect on the unemployment rate in European countries, largely erasing the U.S.-European difference in joblessness (Western & Beckett 1999; Buchele & Christiansen 1998). With the penal system defined as a labor market institution, low unemployment in the United States can be seen to result, in part, from a large and coercive state intervention in the marketplace. Institutions are thus as fundamental to the operation of the ostensibly unregulated US labor market as they are to the centralized industrial relations regimes of Western Europe.

More traditional sociological interests in firms and networks are also important here. Sociologists "bringing the firm back in" (Baron & Bielby 1980) to the analysis of economic mobility and inequality could readily extend this approach to the restructuring of corporate governance, finance, and employment relations over the past two decades. As multinational firms increasingly direct the visible hand, what implications does this have for our traditional understanding of organizational structure on labor market outcomes? Sociologists also know about networks, and networks serve as an informal nonmarket mechanism for linking people to jobs, filtering information, and segmenting the effective impact of supply and demand. For example, social networks feature prominently in immigration (Massey 1987, Portes & Rumbaut 1996). In contrast to economic assumptions regarding the substitutability of immigrant labor, research on immigrant networks suggests that ethnic enclaves provide a relatively self-contained economic structure, resulting in little competition between immigrants and natives and small labor-displacing effects of immigration (Waldinger et al 1990, Sassen 1995).

Finally, at the microlevel, two populations are affected by these broad trends: persons and jobs. Sociology and demography bring a distinctive per-

spective here as well. The study of economic mobility remains the key to a sociological perspective on the fine-grained dynamics of inequality. Mobility links labor market structure to individual life history, providing insight into the processes that generate economic differentiation, and evidence of meritocratic or ascriptive regimes. To a large extent, empirical sociological research has been dominated by the study of *intergenerational* mobility (but see DiPrete 1993, DiPrete 1997), but *intragenerational* mobility was a critical concept in much of the original theoretical work on dual labor markets. At root, what distinguished the dual segments was the absence or presence of internal labor markets, and this concept was inherently tied to the mobility process. The analysis of cross-sectional wage-gaps in the past two decades has lost sight of this focus. As the link between firm restructuring and wage inequality begins to be made, it is natural that we return to individuals' work histories in order to analyze whether wage growth has deteriorated, whether the rate of job changing has increased, and how the sequence unfolds over the life course (Bernhardt et al 1998, 1999). Economic restructuring is also changing the population of jobs. A demographic approach to these population changes could help to formalize the analysis of the birth, death, and migration of jobs (Keyfitz 1985:199–200; Davis et al 1996).

Sociology has an important role to play in understanding the recent trends in economic inequality. It is not just a question of earnings, but of fundamental changes in politics, markets, and life chances. The integrated analysis of social institutions and social change is at the heart of our disciplinary theory, but at the margins of our contemporary empirical work in the United States. If we cannot resolve this problem, we risk ceding our core areas of intellectual inquiry to other fields.

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