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THE DECLINE OF COLLECTIVE BARGAINING AND THE EROSION OF MIDDLE-CLASS INCOMES IN MICHIGAN

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In Michigan between 1979 and 2007, the last year before the Great Recession, the state’s economy experienced substantial growth and incomes rose for high-income households. But middle-class incomes did not grow. The Michigan experience is slightly worse than but parallels that of the United States as a whole, where middle-class income gains were modest but still far less than the income gains at the top. What the experience of Michiganders and other Americans makes clear is that income inequality is rising, and it has prevented middle-class incomes from growing adequately in either Michigan or the nation.

The key dynamic driving this income disparity has been the divergence between the growth of productivity—the improvement in the output of goods and services produced per hour worked—and the growth of wages and benefits (compensation) for the typical worker. It has been amply documented that productivity and hourly com-

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pensation grew in tandem between the late 1940s and the late 1970s, but split apart radically after 1979. Nationwide, productivity grew by 69.1 percent between 1979 and 2011, but the hourly compensation of the median worker (who makes more than half the workforce but less

than the other half) grew by just 9.6 percent (Mishel and Gee 2012; Mishel et al. 2012).¹ In other words, since 1979 the typical worker has hardly benefited from improvements in the economy's ability to raise living standards and, consequently, middle-class families' living standards have barely budged since then. This phenomenon has occurred across the nation, including in Michigan.

This divergence between pay and productivity and the corresponding failure of middle-class incomes to grow is strongly related to the erosion of collective bargaining. And collective bargaining has eroded more in Michigan than in the rest of the nation, helping to explain Michigan's more disappointing outcomes.

Research three decades ago by economist Richard Freeman (1980) showed that collective bargaining reduces wage inequality, and all the research since then (see Freeman 2005) has confirmed his finding. Collective bargaining reduces wage inequality for three reasons. The first is that wage setting in collective bargaining focuses on establishing "standard rates" for comparable work across business establishments and for particular occupations within establishments. The outcome is less differentiation of wages among workers and, correspondingly, less discrimination against women and minorities. A second reason is that wage gaps *between occupations* tend to be lower where there is collective bargaining, and so the wages in occupations that are typically low-paid tend to be higher under collective bargaining. A third reason is that collective bargaining has been most prevalent among middle-class workers, so it reduces the wage gaps between middle-class workers and high earners (who have tended not to benefit from collective bargaining).

Collective bargaining also reduces wage inequality in a less-direct way. Wage and benefit standards set by collective bargaining are often followed in workplaces not covered by collective bargaining, at least where there is extensive coverage by collective bargaining in particular occupations and industries. This spillover effect means

that the impact of collective bargaining on the wages and benefits of middle-class workers extends far beyond those workers directly covered by an agreement.

The main findings of this report on the role of collective bargaining, in Michigan and the United States, are the following:

- The typical household's income rose cumulatively just 7.3 percent from 1979 to 2010 in the United States, while in Michigan it fell 11.2 percent. Correspondingly, Michigan's middle class had incomes 13 percent above the nation in 1979 but 6 percent below in 2010.
- Overall income growth in both Michigan and the nation was sufficient for low- and middle-income families to do far better, but an increasing share of economic growth has been captured by those with the most income. For instance, the nation's top 5 percent saw their incomes expand by roughly 56 percent from 1979 to 2010; in Michigan the top 5 percent had an even greater income growth of 60.5 percent. That is, income inequality grew more in Michigan than in the rest of the nation.
- At the heart of the matter is that hourly wages and benefits have not improved much for a typical worker in spite of the fact that the output of goods and services produced (i.e., productivity) has increased greatly. The 9.6 percent growth in median hourly compensation among U.S. workers from 1979 to 2011 contrasts sharply with productivity growth of 69.1 percent during the same period. In Michigan, productivity grew by 34.9 percent, and real hourly compensation of the median worker fell by roughly 10 percent. In both the nation and in Michigan a substantial gap has emerged between the ability of the economy to provide higher wages and its actual propensity to do so.
- The divergence between the growth of productivity and the wages of the typical worker simply reflects

collapsed wage standards and workers' inability to obtain their fair share of a growing economic pie. The erosion of collective bargaining is a major driver of this phenomenon, as it leads to weaker labor standards for all workers. Weaker wage growth and the greater increase in income inequality in Michigan reflect the greater erosion of collective bargaining there than in the nation. In Michigan the share of the workforce covered by a collective bargaining agreement fell from roughly a third in 1983 to about 18 percent in 2011, while in the nation the erosion was from about 23 percent to 13 percent. Collective bargaining coverage fell more in Michigan within the private sector, including in construction and in manufacturing, than overall, but it fell in public employment as well.

- The erosion of collective bargaining has had a particular adverse impact on the wages of Michigan blue-collar workers, whether covered by a collective bargaining agreement or not, as wage stagnation has prevailed among those covered and those not covered by collective bargaining.
- Income inequality rose far faster in Michigan than it did on average in the nation. In fact, Michigan's growth in income inequality was faster than in all but seven states from 1979 to 2009 (latest data). The states with the largest erosion of collective bargaining (Michigan, Ohio, and Pennsylvania) are all in the top tier of states for growth of income inequality, along with the states where some high-income households have benefited from the large income increases generated in the financial sector (New York, Connecticut, and New Jersey). This apparent correlation between eroded collective bargaining and growing income inequality is due to the real world impact of collective bargaining on the wages of all workers, not just those directly covered by collective bargaining.
- Collective bargaining affects the wages and benefits of those not directly covered by an agreement when employers meet standards set by collective agreements

or at least improve their compensation and labor practices beyond what they would have provided in the absence of collective bargaining. A more general mechanism through which collective bargaining has broadly affected pay and practices is the institution of norms and established practices that become more generalized throughout the economy, thereby improving pay and working conditions for the entire workforce.

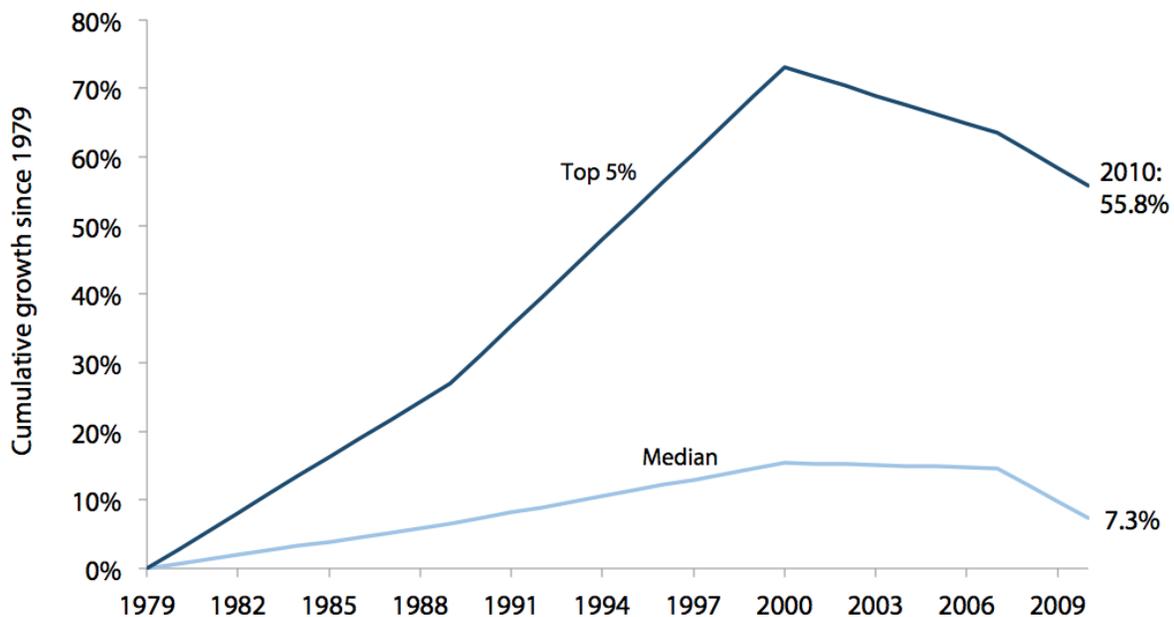
- A recent study found that the erosion of collective bargaining accounted for a third (33.9 percent) of the growth of male wage inequality from 1973 to 2007, most of which (20.2 percent) was the result of fewer workers being covered while the rest (13.7 percent) was due to the erosion of collective bargaining's impact on workers not directly covered by an agreement and the associated lower standards. Among women the decline in collective bargaining coverage had a smaller direct impact (9.2 percent), but the diminished ability of collective bargaining to set labor standards generated about a fifth (20.4 percent) of the growth of wage inequality among women overall.
- Collective bargaining provides higher wages for those directly affected, and the boost to wages is greatest for workers in the middle of the wage distribution and, generally, for non-college-educated workers. This pattern means that collective bargaining lessens wage inequities, helping the most those with the least power in the job market. Accordingly, collective bargaining has boosted wages more for minority workers and lessened the wage gaps between minorities and other workers.

Middle income stagnation: A story of wages lagging productivity

The 2000s has been a challenging time for the middle class. First, the business cycle from 2000 until 2007 was the first one where the income of the typical (median) working-age household was lower at the end of the recov-

FIGURE A

Cumulative income growth for the median and top 5% of U.S. households, 1979–2010



Source: Author's analysis of Current Population Survey Annual Social and Economic Supplement *Historical Income Tables*

ery in 2007 (\$61,355 in 2011 dollars) than before the downturn in 2000 (\$63,535). Then, the Great Recession knocked incomes down even further (to \$55,640). For this reason the 2000s has been labeled the “lost decade.”²

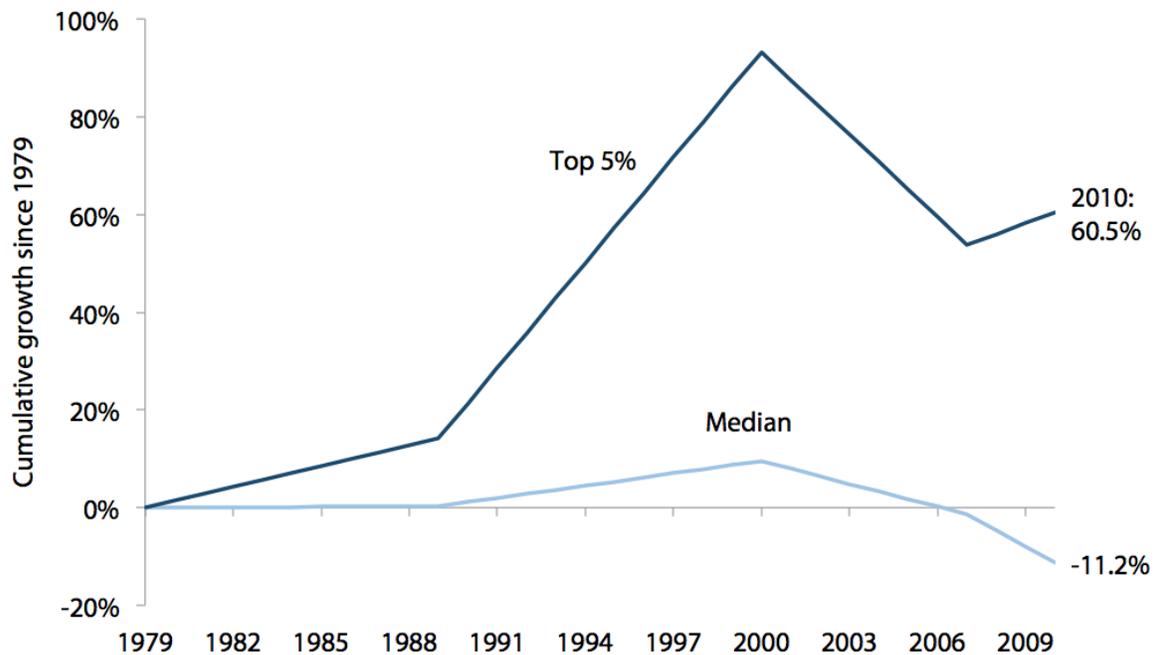
The decade was “lost” primarily for two reasons. The first is that the high unemployment in the current recession meant that fewer household members were working, and many of those who were working did so with fewer hours and at lower wages. The weak recovery from 2002 through 2007 also prevented the income gains one would expect in a recovery to materialize. The second problem is that for the last 10 years there has been no improvement in the inflation-adjusted wages and benefits for the typical worker or for workers with either a high school or a college degree. That is, even in the last recovery, from 2002 to 2007, as well as during the recession, the inflation-adjusted wages and benefits grew not at all for nearly all workers. Given that productivity improved since 2000 (up roughly 22 percent nationally, 11 percent in Michigan), it was economically feasible and reasonable to

expect that workers would see wage and benefit improvements. Corresponding to this divergence between wages and productivity growth has been the continued growth of income inequality such that higher income groups received the lion’s share of income growth. This story played out in Michigan as well as in the nation as a whole—and not just in the 2000s but also in the preceding two decades.

Figures A and B chart the cumulative growth of household income for the top 5 percent of households by income and for the median household (the household in the “middle,” which has income greater than half the other households but also less than the other half) for the United States and for Michigan.³ Household income includes all of a household’s “money income” as defined by the Census Bureau: the wages earned by all the employed household members plus any interest, dividend, and rent income plus any government cash transfers such as Social Security or unemployment insurance. These figures chart the income growth between

FIGURE B

Cumulative income growth for the median and top 5% of Michigan households, 1979–2010



Source: Author's analysis of Current Population Survey Annual Social and Economic Supplement microdata

what are called “cyclical peaks,” the years of low unemployment (i.e., the peaks of business cycles) such as 1979, 1989, 2000, 2007, and the latest year for which there are data, 2010.

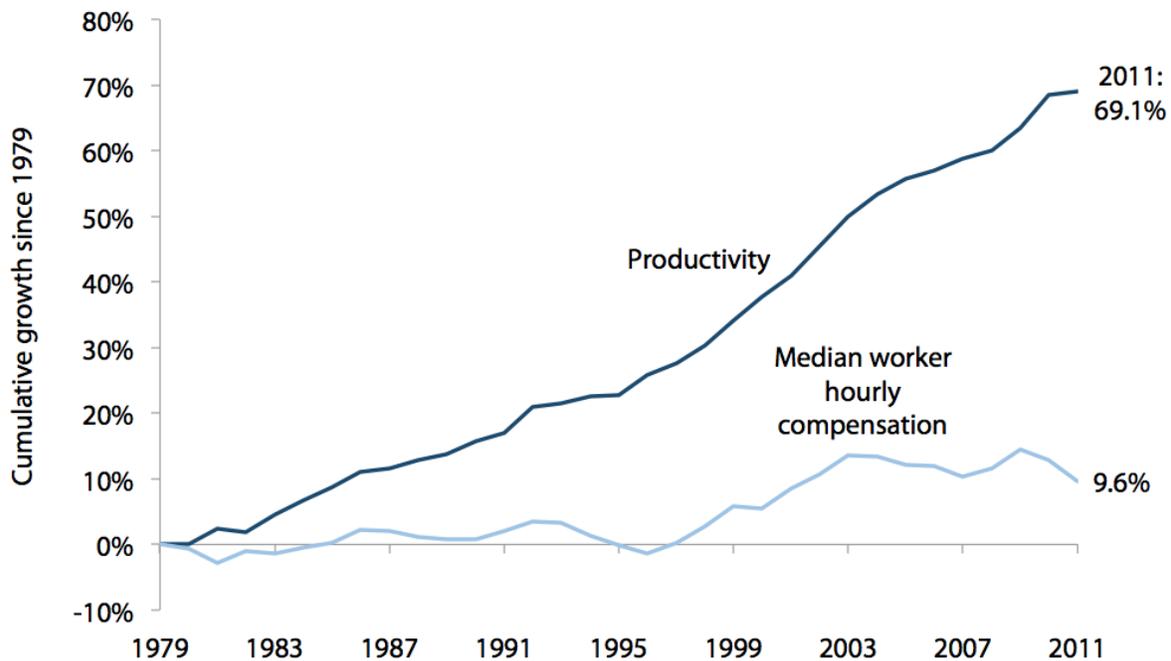
The results in Figure A show that since 1979 the best-off 5 percent of households in the United States saw their incomes grow by 55.8 percent while the median household gained far less, just 7.3 percent. For Michigan (Figure B) the data show that the top 5 percent gained 60.5 percent in income while the median household lost ground, falling 11.2 percent since 1979. Clearly the period since 2000 has been a rough one in Michigan. But even in the period from 1979 to 2000 the income gain for the median household was slight, just 9.5 percent, while the income gain for the top 5 percent was nearly 10 times as much, at 93.2 percent. Michigan’s middle class had incomes 13 percent above the nation in 1979 but 6 percent below in 2010.

The same data used in Figures A and B can also demonstrate the rise in income inequality by examining the ratio of the incomes of the top 5 percent to the median household’s income. In 1979, this ratio was far greater in the nation as a whole, when the top households had 4.01 times as much income as the median household. In Michigan, the gap was remarkably smaller, with the top households enjoying 3.08 times as much income. By 2010, however, the income gap had grown significantly, but especially in Michigan: The income ratio in Michigan was 5.66 in 2010, close to the U.S. income ratio of 5.93. A more comprehensive measure of income inequality, the Gini coefficient (discussed below), confirms this finding.

One of the key dynamics generating income inequality is that the wages and benefits of the typical worker have not grown along with improvements in overall productivity (the growth of the output of goods and services produced per hour worked) since 1979.⁴ This dynamic stands in stark contrast to that of the preceding decades, when pro-

FIGURE C

Cumulative productivity and median hourly compensation growth in the United States, 1979–2011



Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, gross state product data from Moody's Analytics, and Bureau of Economic Analysis National Income and Product Accounts

ductivity and the wages and benefits of a typical worker grew in tandem.⁵ As shown below, one of the important developments that led to this change was the sharp erosion of collective bargaining.

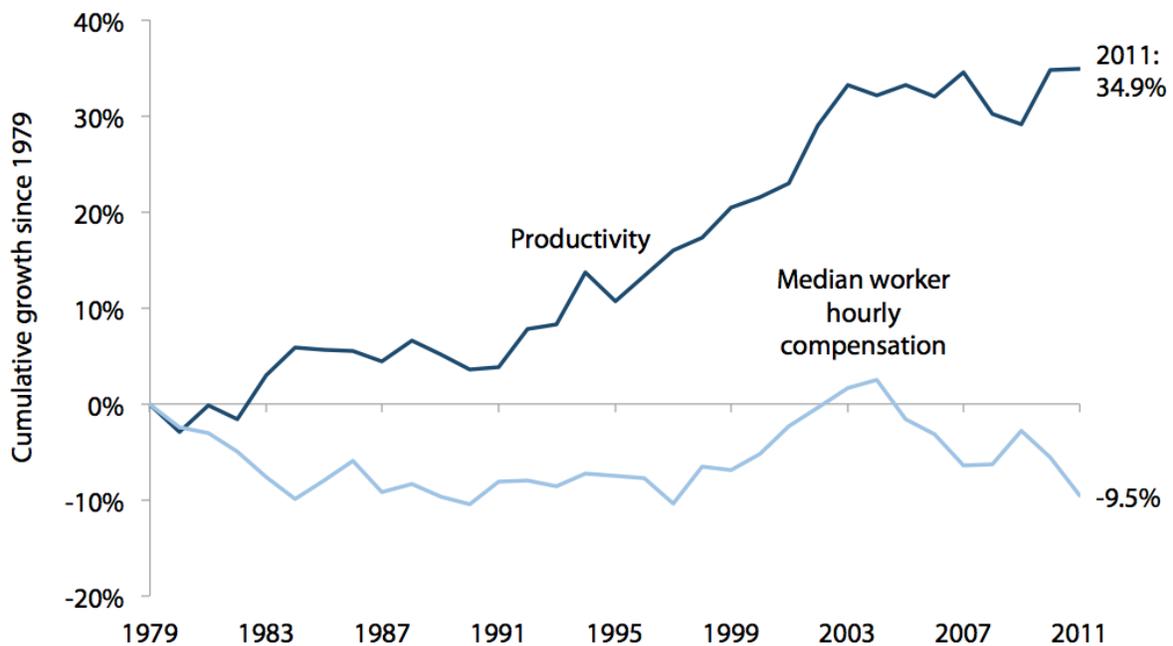
Figures C and D chart the growth of productivity and hourly compensation (wages and benefits) for the median, or typical, worker for the United States and Michigan. Between 1979 and 2011 productivity rose 69.1 percent in the United States (Figure C) while median hourly compensation grew far less, by just 9.6 percent.⁶ Productivity in Michigan grew 34.9 percent from 1979 to 2011, less than in the nation, and the hourly compensation of the median worker fell by 9.5 percent. The more rapid decline of manufacturing in Michigan than in the nation probably explains the lower productivity growth: The loss of a high-productivity sector lowers overall productivity. Higher productivity provides the economic potential for raising wages and benefits as more goods and services are

available and the economy expands. The U.S. experience shows, however, that this potential for higher living standards does not necessarily translate into improved living standards for the typical worker and his or her family if contrary forces intervene.

In Michigan, as in the nation as a whole, the disappointing growth of median hourly compensation reflects disappointing wage growth but also an erosion of employer-provided health and pension coverage. Table 1 presents data on the share of private-sector workers with these benefits between 1979 and 2010. To obtain a sufficient sample size for state-level data, the data cover three years at a time: the years selected include the earliest data available, 1979–1981; the years at the end of the last recovery, 2005–2007; and the most recent data, 2008–2010. The share of workers in the United States receiving health insurance coverage through their employers has eroded sharply, from 69.9 percent in 1979–1981 to just 54.0 per-

FIGURE D

Cumulative productivity and median hourly compensation growth in Michigan, 1979–2011



Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, gross state product data from Moody's Analytics, and Bureau of Economic Analysis National Income and Product Accounts

TABLE 1

Employer-provided health and pension coverage, 1979–2010

| | Health coverage* | | Pension coverage* | |
|---------------------------------------|------------------|----------|-------------------|----------|
| | U.S. | Michigan | U.S. | Michigan |
| 1979–1981 | 69.9% | 75.4% | 49.8% | 59.7% |
| 2005–2007 | 55.2 | 58.7 | 43.6 | 49.8 |
| 2008–2010 | 54.0 | 54.8 | 43.6 | 48.9 |
| <i>Change, 1979–1981 to 2008–2010</i> | -15.9 | -20.6 | -6.3 | -10.8 |

* Private-sector wage and salary workers age 18–64 who worked at least 20 hours per week and 26 weeks per year

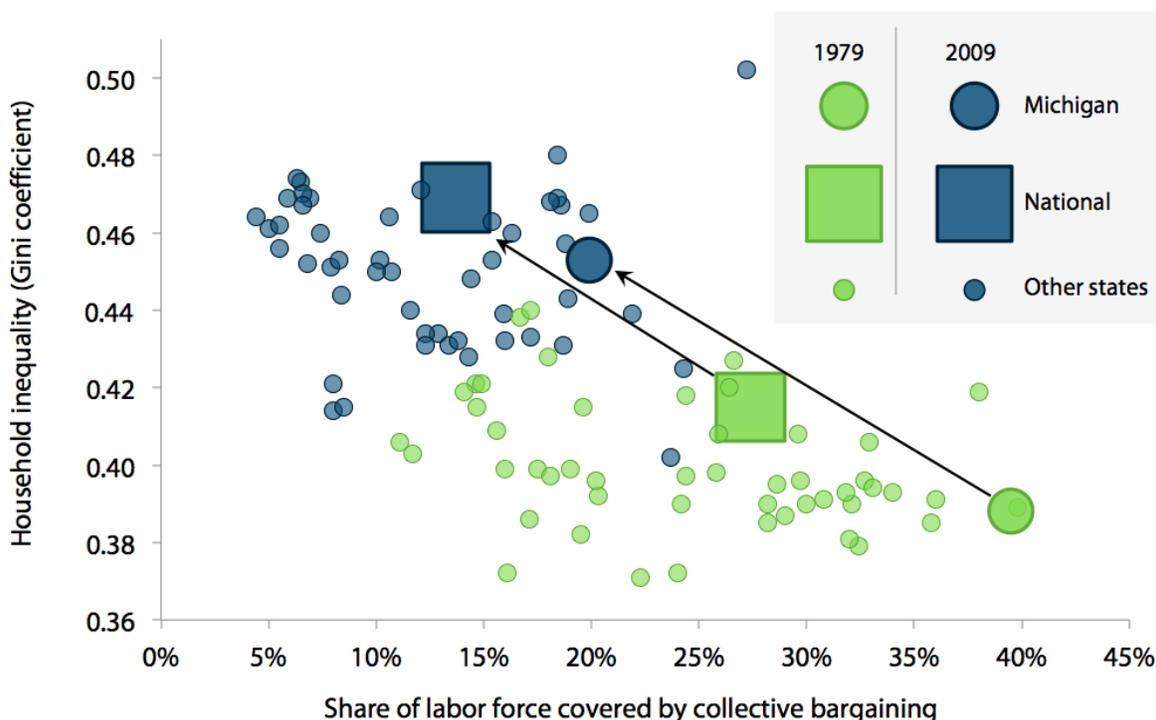
Source: Author's analysis of Current Population Survey Annual Social and Economic Supplement microdata

cent in 2008–2010. Michigan started out with greater health coverage than the rest of the nation in 1979–1981, at 75.4 percent, but in 2008–2010 its share was comparable to that of the rest of the nation, at 54.8 percent.

The pension coverage in Table 1 describes a worker as having pension coverage if the employer provides either a defined-benefit plan (a “traditional” pension plan that provides guaranteed benefits for as long as you live) or a defined-contribution plan such as a 401(k), where an

FIGURE E

Changes in collective bargaining coverage and income inequality, 1979–2009



Note: The higher the Gini coefficient, the higher the inequality.

Source: Gordon (2012) analysis of U.S. Census Bureau (2010), Hirsch and Macpherson (2003), and updates from the *Union Membership and Coverage Database*

employer provides a fixed contribution into an account. As is well known, a defined-contribution plan is inferior to a traditional plan from the point of view of a worker. Unfortunately, the share of workers with a traditional pension has fallen substantially, while the share of workers with only a defined-contribution plan has risen (Mishel et al. 2012, Chapter 4). In spite of the growth of 401(k) plans, the share of workers with any employer-provided pension plan has fallen. The drop in the nation was from 49.8 percent to just 43.6 percent. The drop in pension coverage was larger in Michigan (down 10.8 percentage points) than in the United States (down 6.3 percentage points), though Michigan workers still enjoy greater pension coverage than U.S. workers overall. This erosion of health and pension coverage is another example of

Michigan workers losing more ground than workers in the rest of the nation.

Figure E shows the evolution of income inequality in the United States and each state, including Michigan, along with the erosion of collective bargaining coverage over the 1979–2009 period. On the vertical axis is income inequality (measured by the Gini coefficient), such that a higher value indicates greater income inequality.⁷ The horizontal axis represents coverage under a collective bargaining agreement. Each state’s location on the chart is indicated by a lighter-shaded circle for 1979 and a darker-shaded circle for 2009 values. The chart highlights Michigan, whose values are represented by a larger circle, lighter shaded for 1979 and darker shaded for 2009. The chart also highlights the national average, which is represented by the squares.

The story illustrated by Figure E is simple. The darker circles representing the states in 2009 are higher up and to the left, capturing values with high income inequality and low collective bargaining coverage. The lighter circles representing the states in 1979 are all lower and further to the right, representing values with lower levels of income inequality and greater collective bargaining coverage. The progression from the lighter- to darker-shaded circles indicates that as states lost collective bargaining coverage they experienced much higher levels of income inequality. Michigan in 1979 had the most extensive collective bargaining coverage and relatively low income inequality, but by 2009 (the darker-shaded circle), collective bargaining coverage in Michigan was severely reduced (cut in half, actually), and income inequality had grown considerably.

The phenomenon of eroded collective bargaining and growing income inequality is illustrated in Figure E for the United States overall as well as Michigan. The states where income inequality grew the most are a mix of those where residents benefited from the expansion of financial-sector incomes, such as Connecticut, New Jersey, and New York, and the states where the erosion of collective bargaining was greatest, such as Pennsylvania, Ohio, and Michigan.

The evidence that eroding collective bargaining leads to higher income inequality is not just based on the correlation portrayed in Figure E. A long history of research demonstrates this relationship, and we turn to that now.

The impact of collective bargaining

The percentage of the U.S. workforce covered by collective bargaining was stable in the 1970s but fell rapidly in the 1980s and continued to fall in the 1990s and the early 2000s, as shown in **Figure F**. The erosion was more rapid in Michigan and more rapid than the overall rate in each major sector, such as manufacturing, construction, and the public sector, as shown in **Table 2**. For instance, in Michigan the share of the workforce covered by a col-

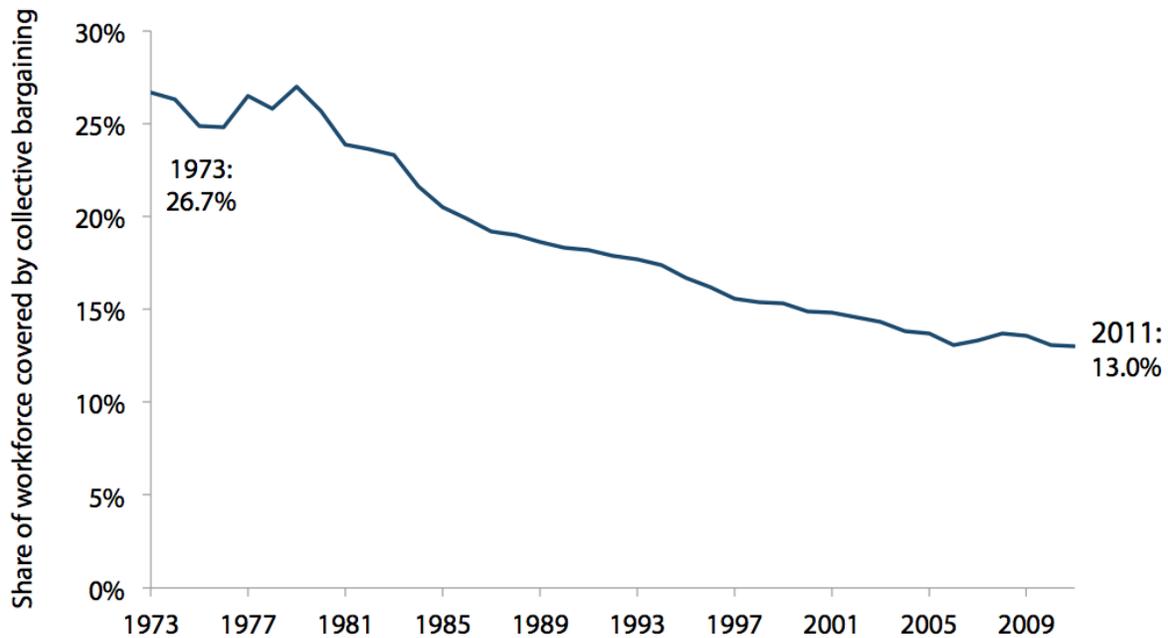
lective bargaining agreement fell from roughly a third in 1983 to 18.3 percent in 2011, while in the nation the erosion was from 23.3 percent to 13.0 percent. In manufacturing, coverage under collective bargaining in Michigan fell from 48.8 percent to 20.4 percent from 1983 to 2011, a shrinkage of 28.4 percentage points compared with the national drop of 19.3 percentage points. The share of Michigan blue-collar workers covered by collective bargaining has fallen steeply, from 54.5 percent in 1984 to just 26.3 percent in 2011, a drop of about 28 percentage points (**Figure G**). Blue-collar collective bargaining declined more in Michigan than in the nation as a whole, where it fell about 25 percentage points (measured, because of data availability, over a longer period from 1978 to 2011).

This falling rate of collective bargaining has lowered wages, not only because some workers no longer receive the higher wage set in bargaining but also because there is less pressure on other employers to raise wages (the spillover effect of collective bargaining setting labor standards). The possibility that the power of collective bargaining to lift wages has weakened adds a qualitative shift to the quantitative decline. This erosion of bargaining power is partially related to a harsher economic context because of trade pressures, the shift to services, and ongoing technological change. However, analysts have also pointed to other factors, such as employer militancy and changes in the application and administration of labor law, that have combined to weaken collective bargaining's impact.

As explained at the outset, the erosion of collective bargaining can be expected to have generated greater wage inequality for three reasons: There is less wage inequality among workers directly covered by collective bargaining; the benefits of collective bargaining close the wage gap between middle-class workers and higher earners; and collective bargaining raises the wages and benefits of middle-class workers broadly in industries and occupations where collective bargaining is strongest.

FIGURE F

Collective bargaining coverage rate in the United States, 1973–2011



Source: Author's analysis of Hirsch and Macpherson (2003) and updates from the *Union Membership and Coverage Database*

TABLE 2

Collective bargaining coverage, U.S. and Michigan, 1983–2011

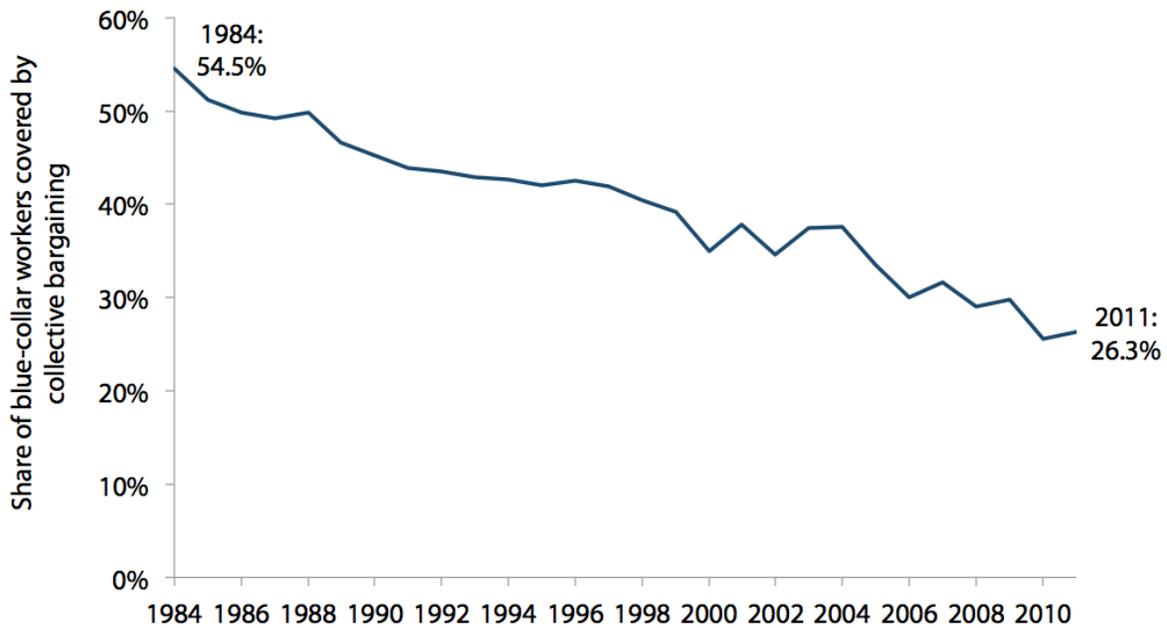
Share of workers covered by a collective bargaining agreement

| | U.S. | | | Michigan | | |
|------------------------|-------------|-------------|---------------|-------------|-------------|---------------|
| | 1983 | 2011 | Change | 1983 | 2011 | Change |
| Industry sector | | | | | | |
| <i>All</i> | 23.3% | 13.0% | -10.3 | 32.8% | 18.3% | -14.5 |
| <i>Private</i> | 18.5 | 7.6 | -10.9 | 27.3 | 12.4 | -14.9 |
| <i>Construction</i> | 29.4 | 14.9 | -14.5 | 39.5 | 19.8 | -19.7 |
| <i>Manufacturing</i> | 30.5 | 11.2 | -19.3 | 48.8 | 20.4 | -28.4 |
| <i>Public</i> | 45.5 | 40.7 | -4.8 | 61.2 | 55.0 | -6.2 |
| | 1978 | 2011 | Change | 1984 | 2011 | Change |
| Occupation | | | | | | |
| <i>Blue collar</i> | 43.1% | 17.8% | -25.4 | 54.5% | 26.3% | -28.2 |

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata and updates of Hirsch and Macpherson (2003) from the *Union Membership and Coverage Database*

FIGURE G

Blue-collar collective bargaining coverage rate in Michigan, 1984–2011



Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata

There are several ways that collective bargaining's impact on wages goes beyond the workers covered by collective bargaining agreements and extends to wages and labor practices more broadly. For example, in industries, occupations, and regions in which a strong core of workplaces are covered by collective bargaining, employers will frequently meet collective bargaining standards or at least improve their compensation and labor practices beyond what they would have provided in the absence of a strong presence of collective bargaining.

A more general mechanism through which collective bargaining has affected pay and compensation practices beyond the workers directly affected is the institution of norms and established practices that become more generalized throughout the economy, thereby improving pay and working conditions for the entire workforce. These norms and practices have particularly benefited the 70 percent of workers who are not college educated. Many fringe benefits, such as pensions and health insurance, were first provided in collective bargaining settings and

then became more generalized. Grievance procedures, which provide due process in the workplace, have been adapted to many workplaces beyond those where collective bargaining takes place. Wage setting under collective bargaining, which has gained exposure through media coverage, has frequently established standards for what workers expect from their employers. Until the mid-1980s, in fact, many sectors of the economy followed the patterns set in collective bargaining agreements. As collective bargaining has weakened, especially in the manufacturing sector, the ability to set broader patterns has diminished. However, collective agreements remain a source of innovation in work practices (e.g., training, worker participation) and in benefits (e.g., child care, work-time flexibility, sick leave).

A recent study has focused attention on the direct and indirect (spillover) impact on wages and wage inequality of declining collective bargaining in industries in particular regions. **Table 3** presents the results of this study, which examined the direct impact of less coverage under

collective bargaining, as well as the indirect impact of falling coverage by collective bargaining agreements in an industry within particular regions (using 18 industries and four regions) on the wages of other workers similarly located. The impact of these factors is assessed on both between-group wage inequality (this is the wage difference between workers with different education levels and experience) and within-group wage inequality (inequality of wages among workers of similar education and experience, for instance). Among men, wage inequality (measured by the variance of log wages, which reflects the dispersion of wages in a year) grew 0.102 between 1973 and 2007, 0.055 from higher between-group wage inequality and 0.046 from higher within-group wage inequality. The biggest impact of declining collective bargaining was on within-group inequality (as collective bargaining declined, similar workers started having increasingly dissimilar wages) because of the increasing inequality among workers not covered by collective bargaining. The direct impact of declining coverage under collective bargaining accounted for 20.2 percent of the growth of male wage inequality, and the impact of declining collective bargaining coverage within particular industry/region groups explained another 13.7 percent of the growth of wage inequality. Overall, eroded collective bargaining can explain about a third (33.9 percent) of the growth of male wage inequality from 1973 to 2007. Among women the decline in collective bargaining had little direct impact (9.2 percent) on within-group inequality, but the diminished ability of collective bargaining to set labor standards (as women experienced the decline in specific industry/region clusters of collective bargaining) had a large impact, explaining more than half the rise of within-group wage inequality among women. This erosion of the broader role of collective bargaining generated about a fifth (20.4 percent) of the growth of wage inequality among women overall.

We now turn to examining the dynamics that generate lesser wage inequalities where collective bargaining is strong. **Table 4** presents estimates of the collective bar-

gaining advantage computed to reflect differences in hourly wages between those workers covered and not covered by collective bargaining but who are otherwise comparable in experience, education, region, industry, occupation, and marital status. The collective bargaining advantage is presented as the extra dollars per hour and the percentage-higher wage earned by those covered by a collective bargaining contract. This methodology yields a collective bargaining advantage of 13.6 percent overall—17.3 percent for men and 9.1 percent for women.

Sizable differences exist in the collective bargaining advantage across demographic groups, with blacks and Hispanics having collective bargaining advantages of 17.3 percent and 23.1 percent, respectively, far higher than the 10.9 percent advantage for whites. Consequently, collective bargaining raises the wages of minorities more than of whites (the wage effect of collective bargaining on a group is calculated as the collective bargaining rate times the collective bargaining advantage), helping to close racial/ethnic wage gaps. Hispanic and black men tend to reap the greatest wage advantage from collective bargaining, and minority women have a substantially higher collective bargaining advantage than their white counterparts. Asians have a collective bargaining wage advantage somewhat higher than that of whites.

Immigrant male workers obtain a collective bargaining advantage comparable to that of other male workers, whether they have immigrated relatively recently (within 10 years) or further back in time. Recent immigrant women have a higher collective bargaining advantage than other women, 16.2 percent versus 9.1 percent, but immigrant women who have been in the United States more than 10 years have a collective bargaining advantage comparable to that of other women.

Table 5 provides information on the collective bargaining advantage for various nonwage dimensions of compensation such as health insurance, pensions, and paid time off. The first two columns present the characterist-

TABLE 3

Impact of decline in collective bargaining on wage inequality, 1973–2007

| | Change in wage inequality* | | |
|---|----------------------------|--------------|--------------|
| | Between-group | Within-group | Total growth |
| A. Male wage inequality trends | | | |
| <i>Change in wage inequality</i> | 0.055 | 0.046 | 0.102 |
| <i>Direct collective bargaining (CB) effect</i> | 0.002 | 0.018 | 0.021 |
| <i>CB impact on uncovered wages and standards</i> | -0.017 | 0.031 | 0.014 |
| Share of inequality growth explained** | | | |
| <i>Direct CB effect</i> | 3.2% | 40.3% | 20.2% |
| <i>CB impact on uncovered wages and standards</i> | -30.1 | 66.0 | 13.7 |
| <i>Total CB effect</i> | -26.9 | 106.3 | 33.9 |
| B. Female wage inequality trends | | | |
| <i>Change in wage inequality</i> | 0.051 | 0.047 | 0.098 |
| <i>Direct CB effect</i> | -0.003 | 0.004 | 0.001 |
| <i>CB impact on uncovered wages and standards</i> | 0.036 | 0.024 | 0.019 |
| Share of inequality growth explained** | | | |
| <i>Direct CB effect</i> | -5.2% | 9.2% | 1.7% |
| <i>CB impact on uncovered wages and standards</i> | -10.9 | 50.6 | 18.7 |
| <i>Total CB effect</i> | -16.1 | 59.8 | 20.4 |

* Change in variance of log wages

** From original source, which used nonrounded data

Source: Author's analysis of Western and Rosenfeld (2011, Table 2)

ics of compensation for those covered and not covered by collective bargaining. The differences between the compensation packages are presented in two ways, unadjusted (simply the difference between the first two columns) and adjusted (for differences in characteristics other than collective bargaining status, such as industry, occupation, and establishment size). The last column presents the collective bargaining advantage, the percentage difference between compensation set by and not set by collective bargaining, calculated using the adjusted difference.

These data show that a collective bargaining advantage exists in every dimension of the compensation package. Workers covered by collective bargaining are 28.2 percent more likely to be covered by employer-provided health insurance, and their insurance is better: an 11.1 percent higher share of single-worker coverage is paid by the employer, and for family coverage the employer-paid share is 15.6 percent higher; deductibles are \$54, or 18.0 percent, less for workers covered by collective bargaining; and workers covered by collective bargaining are 24.4

TABLE 4

Collective bargaining advantage by demographic group, 2011

| Demographic group | Collective bargaining coverage* | Collective bargaining advantage** | |
|--|---------------------------------|-----------------------------------|---------|
| | | Dollars | Percent |
| Total | 13.0% | \$1.24 | 13.6% |
| Men | 13.5 | 2.21 | 17.3 |
| Women | 12.5 | 0.67 | 9.1 |
| White | 13.3% | \$0.76 | 10.9% |
| Men | 14.1 | 1.79 | 14.9 |
| Women | 12.5 | 0.18 | 7.0 |
| Black | 15.0% | \$2.60 | 17.3% |
| Men | 15.8 | 3.05 | 20.3 |
| Women | 14.4 | 2.25 | 14.8 |
| Hispanic | 10.8% | \$3.44 | 23.1% |
| Men | 10.8 | 4.77 | 29.3 |
| Women | 10.7 | 2.06 | 15.7 |
| Asian | 11.1% | \$1.54 | 14.7% |
| Men | 9.9 | 1.53 | 16.6 |
| Women | 12.4 | 1.61 | 12.9 |
| New immigrants (less than 10 years) | | | |
| Men | 5.4% | \$0.49 | 16.0% |
| Women | 7.0 | 2.74 | 16.2 |
| Other immigrants (more than 10 years) | | | |
| Men | 10.4% | \$2.13 | 16.7% |
| Women | 12.7 | 0.57 | 8.8 |

* Union member or covered by a collective bargaining agreement

** Regression-adjusted collective bargaining advantage controlling for experience, education, region, industry, occupation, and marital status

Note: Observations with imputed wage data are omitted.

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata

percent more likely to receive health insurance coverage in their retirement.

Similarly, 71.9 percent of workers covered by collective bargaining have employer-provided pensions, compared with only 43.8 percent of other workers. Thus, workers

covered by collective bargaining are 53.9 percent more likely to have pension coverage. Employers with collective agreements spend 36.1 percent more on defined-benefit plans but 17.7 percent less on defined-contribution plans. As defined-benefit plans are preferable for retirement security, these data indicate that

TABLE 5

Collective bargaining advantage for health, retirement, and paid leave benefits

| Benefit | Collective bargaining | | Difference | | Collective bargaining advantage |
|--------------------------------------|-----------------------|-------------|------------|-----------|---------------------------------|
| | Covered | Not covered | Unadjusted | Adjusted* | |
| Health insurance | | | | | |
| <i>Percent covered</i> | 83.5% | 62.0% | 21.5 | 17.5 | 28.2% |
| <i>Employee deductible</i> | \$200 | \$300 | -\$100 | -\$54 | -18.0% |
| <i>Employer share</i> | | | | | |
| Single plan | 88.3% | 81.8% | 6.5 | 9.1 | 11.1% |
| Family plan | 76.3% | 64.9% | 11.4 | 10.1 | 15.6% |
| <i>Retiree health coverage</i> | 76.6% | 59.8% | 16.7 | 14.6 | 24.4% |
| Pension | | | | | |
| <i>Percent covered</i> | 71.9% | 43.8% | 28.1 | 23.6 | 53.9% |
| <i>Employer costs (per hour)</i> | | | | | |
| Defined benefit | — | — | — | \$0.39 | 36.1% |
| Defined contribution | — | — | — | -0.11 | -17.7% |
| Time off | | | | | |
| <i>Vacation weeks</i> | 2.98 | 2.35 | 0.63 | — | 26.6% |
| <i>Paid holiday/vacation (hours)</i> | — | — | — | 22.2 | 14.3% |

* Adjusted for establishment size, occupation, industry, and other factors. Adjusted difference is used to calculate premium.

Source: Buchmueller, DiNardo, and Valletta (2001) and Mishel and Walters (2003)

workers covered by collective bargaining are more likely to have the better form of pension plans.

Workers covered by collective bargaining also get more paid time off. Their three weeks of vacation amount to about three days (0.63 weeks) more than other workers receive. Including both vacations and holidays, workers covered by collective bargaining enjoy 14.3 percent more paid time off.

Table 6 provides a more refined analysis of the collective bargaining advantage by comparing the employer costs in collective bargaining settings with other settings in comparable occupations and establishments, i.e., factories or offices. (Data are based on a survey of firms, whereas Table 5 used a survey of workers.) Specifically, the estim-

ated collective bargaining advantage controls for the sector (public or private) in which the establishment is located, the establishment's size, full-time or part-time status of its employees, and its detailed industry and region. Workers covered by collective bargaining are 18.3 percent more likely to have health insurance, 22.5 percent more likely to have pension coverage, and 3.2 percent more likely to have paid leave. Employers with collective agreements pay more for these benefits both because the benefits they provide are better than those offered by other employers and because employers with collective agreements are more likely to provide these benefits. For instance, employers with collective bargaining agreements pay 77.4 percent more in health insurance costs per hour, 24.7 percent more because of the

TABLE 6

Collective bargaining impact on paid leave, pension, and health benefits

| Benefit | Paid leave | Pension and retirement | Health insurance |
|--|------------|------------------------|------------------|
| Collective bargaining impact on benefit incidence | 3.2% | 22.5% | 18.3% |
| Collective bargaining impact on benefit cost per hour | | | |
| Total impact | 11.4% | 56.0% | 77.4% |
| From greater incidence | 3.4 | 28.4 | 24.7 |
| From better benefit | 8.0 | 27.7 | 52.7 |

Source: Pierce (1999) and Mishel and Walters (2003)

greater incidence and 52.7 percent because of the better benefit.

This analysis also shows that employers with collective bargaining agreements pay 56.0 percent more per hour for pension plans, 28.4 percent from a greater incidence of providing pensions and 27.7 percent from providing better pensions. Similarly, workers covered by collective bargaining have 11.4 percent greater costs for their paid leave, mostly because of the more extensive paid leave (the 8.0 percent “better benefit” effect).

The effect of the erosion of collective bargaining on the wages of a segment of the workforce depends on the degree to which collective bargaining has eroded and the degree to which the collective bargaining advantage among that segment of the workforce has declined. **Table 7** shows the degree to which collective bargaining and the collective bargaining wage advantage have declined by occupation and education level over the 1978–2011 period (1979 data were not available). These data, which are for men only, are used to calculate the effect of weakened collective bargaining (less representation and a weaker impact on wages) over the period on the wages of particular groups and the effect of eroded collective bargaining on wage inequality across occupations and by education. The focus, in particular, is on the role of eroded collective bargaining on the widening wage differ-

entials between blue-collar and white-collar occupations and between high school and college graduates.

Collective bargaining coverage fell dramatically among blue-collar and high-school-educated male workers from 1978 to 2011. Among the high-school-graduate workforce, collective bargaining fell from 37.9 percent in 1978 to 14.9 percent in 2011, or by more than half. This decline obviously weakened the effect of collective bargaining on the wages of high-school-educated workers. Because high school graduates covered by collective bargaining earned about 22 percent more than equivalent workers in 1978 (a premium estimated for this analysis, but not shown in the table, that declined to 17 percent in 2011), collective bargaining raised the wage of the average high school graduate (the “collective bargaining wage effect”) by 8.2 percent in 1978. Collective bargaining had a 0.9 percent impact on male college graduate wages in 1978, meaning that collective bargaining had the net effect of narrowing the college/high school gap by 7.3 percentage points in that year. The decline in collective bargaining coverage (and the lower collective bargaining wage advantage) from 1978 to 2011, however, reduced the collective bargaining wage impact for male high school workers to just 2.6 percent in 2011 while hardly affecting college graduates. Thus, collective bargaining closed the college/high school wage gap by only 2.0 percentage points in 2011. The lessened ability of collective bargaining to narrow this wage gap (represent-

TABLE 7

Effect of collective bargaining decline on male wage differentials, 1978–2011

| | 1978 | 1989 | 2000 | 2011 |
|--|------------------|------------------|------------------|------------------|
| Percent of workers covered by collective bargaining | | | | |
| <i>By occupation</i> | | | | |
| White collar | 14.7% | 12.1% | 11.2% | 10.3% |
| Blue collar | 43.1% | 28.9% | 23.1% | 17.8% |
| Difference | -28.4 | -16.7 | -11.9 | -7.5 |
| <i>By education</i> | | | | |
| College | 14.3% | 11.9% | 13.1% | 12.1% |
| High school | 37.9% | 25.5% | 20.4% | 14.9% |
| Difference | -23.6 | -13.6 | -7.4 | -2.9 |
| Collective bargaining wage effect* | | | | |
| <i>By occupation</i> | | | | |
| White collar | 0.2% | 0.0% | -0.2% | -0.2% |
| Blue collar | 11.5% | 6.7% | 4.3% | 3.5% |
| Difference (change in differential) | -11.3 | -6.8 | -4.5 | -3.6 |
| <i>By education</i> | | | | |
| College | 0.9% | 0.5% | 0.9% | 0.6% |
| High school | 8.2% | 5.5% | 3.1% | 2.6% |
| Difference (change in differential) | -7.3 | -5.0 | -2.3 | -2.0 |
| | 1978–1989 | 1989–2000 | 2000–2011 | 1978–2011 |
| Change in wage differential** | | | | |
| <i>White-collar/blue-collar</i> | 5.0 | 4.2 | 0.9 | 10.1 |
| <i>College/high school</i> | 13.0 | 8.0 | 2.8 | 23.9 |
| Change in collective bargaining wage effect | | | | |
| <i>White-collar/blue-collar</i> | -4.6 | -2.3 | -0.9 | -7.7 |
| <i>College/high school</i> | -2.3 | -2.5 | -0.3 | -5.1 |
| Decline in collective bargaining advantage contribution to change in wage differential*** | | | | |
| <i>White-collar/blue-collar</i> | -90.5% | -55.2% | -91.8% | -76.1% |
| <i>College/high school</i> | -17.8 | -30.7 | -10.2 | -21.2 |

* Collective bargaining effect is the "collective bargaining advantage" (estimated with simple human capital model plus industry and occupational controls) times collective bargaining coverage; negative values in the difference row show how much collective bargaining narrowed the wage gaps between white- and blue-collar workers and college- and high-school-educated workers.

** Log wage gaps estimated with a simple human capital model

*** Change in collective bargaining wage effect on wage differential divided by overall change in differential

Source: Author's update of Freeman (1991) using Current Population Survey Outgoing Rotation Group microdata

ted by the drop from a 7.3 percent to a 2.0 percent narrowing effect) contributed to a 5.1 percentage-point rise in the college/high school wage differential from 1978 to 2011 (shown in the “Change in collective bargaining wage effect” portion of the table), an amount equal to 21.2 percent of the total rise in this wage gap (shown in the next panel). In other words, the decline in collective bargaining can explain roughly a fifth of the growth in the college/high school wage gap among men between 1978 and 2011.

The weakening of collective bargaining’s wage impact had an even larger effect on blue-collar workers and on the wage gap between blue-collar and white-collar workers. The 43.1 percent collective bargaining rate among blue-collar workers in 1978 and their 26.6 percent collective bargaining wage advantage (not shown in the table) boosted average blue-collar wages by 11.5 percent, thereby closing the blue-collar/white-collar wage gap by 11.3 percentage points in that year. The collective bargaining impact on this differential declined as collective bargaining and the collective bargaining wage advantage declined, such that collective bargaining reduced the blue-collar/white-collar differential by 3.6 rather than 11.3 percentage points in 2011, a 7.7 percentage-point weakening. This lessened effect of collective bargaining can account for 76.1 percent of the 10.1 percentage-point growth of the blue-collar/white-collar wage gap between 1978 and 2011, and the lessened effect was primarily driven by the enormous decline of collective bargaining among blue-collar men, from 43.1 percent in 1978 to just 17.8 percent in 2011. In that 30-year-plus period collective bargaining among blue-collar workers lost much of its ability to set wage patterns and standards. The impact of this decline in collective bargaining is underestimated here because it does not take account of the collective bargaining impact on other (not directly affected) workers’ wages.

Collective bargaining reduces wage inequalities because it raises wages more at the bottom and in the middle of the

wage scale than at the top. Lower-wage, middle-wage, blue-collar, and high-school-educated workers are also more likely than high-wage, white-collar, and college-educated workers to be covered by collective bargaining. These two factors—the greater collective bargaining coverage and the larger collective bargaining wage advantage for low- and mid-wage workers—are key to collective bargaining’s role in reducing wage inequalities.

The larger collective bargaining wage advantage for those with low wages, in lower-paid occupations, and with less education is shown in **Table 8**. For instance, the collective bargaining wage advantage for blue-collar workers in 1997, 23.3 percent, was far larger than the 2.2 percent collective bargaining wage advantage for white-collar workers. Likewise, the 1997 collective bargaining wage advantage for high school graduates, 20.8 percent, was much higher than the 5.1 percent premium for college graduates. The collective bargaining wage advantage for those with a high school degree or less, at 35.5 percent, was significantly greater than the 24.5 percent advantage for all workers.

Table 8 also presents a comprehensive picture of the impact of collective bargaining on wage inequality by drawing on the estimated collective bargaining wage advantage for the different fifths of the wage distribution. The table presents the results of three different studies, and each demonstrates that the collective bargaining advantage is higher among lower-wage workers than among the highest-wage workers. This wage advantage can be seen in the last row, which shows the percent by which the advantage of the bottom 40 percent exceeds that of the top 40 percent of earners; the results range from about 140 percent to nearly 223 percent. These numbers illustrate that collective bargaining generates a less unequal distribution of wages in the sector covered by agreements by raising the wages of low- and middle-wage workers more than those of higher-wage workers. That is, lower-wage workers benefit more than higher-wage workers from coverage by a collective bargaining

TABLE 8

Collective bargaining wage advantage for subgroups

| Benefit | Percent covered by collective bargaining | Collective bargaining advantage | | |
|--------------------------------------|--|---|-------|--------|
| Occupation | | | | |
| <i>White collar (1997)</i> | 11.6% | 2.2% | | |
| <i>Blue collar (1997)</i> | 20.8 | 23.3 | | |
| Education | | | | |
| <i>College (1997)</i> | 10.4% | 5.1% | | |
| <i>High school (1997)</i> | 23.6 | 20.8 | | |
| <i>All (1992, 1993, 1996)</i> | n.a. | 24.5 | | |
| <i>High school or less</i> | n.a. | 35.5 | | |
| | | Collective bargaining advantage estimates | | |
| Wage distribution (1989) | Percent covered | 1 | 2 | 3 |
| <i>Lowest fifth</i> | 4.9% | 17.2% | 20.6% | 24.2% |
| <i>Second fifth</i> | 8.9 | 21.8 | 16.8 | 34.6 |
| <i>Middle fifth</i> | 14.0 | 20.6 | 13.7 | 30.8 |
| <i>Fourth fifth</i> | 20.3 | 15.5 | 10.7 | 24.5 |
| <i>Top fifth</i> | 19.1 | 12.4 | 6.1 | 6.1 |
| <i>Average effect</i> | | 19.0% | 11.9% | n.a. |
| <i>Percent bottom 40% to top 40%</i> | 35.0% | 139.8 | 222.6 | 192.7% |

Source: Mishel et al. (2003), Table 2.3a; Gundersen (2003), Table 5.1 and Appendix C; premium estimates by fifth from Gittleman and Pierce (2007), Schmitt (2008), and Card, Lemieux, and Riddell (2002); collective bargaining coverage by fifth from Schmitt (2008)

agreement. The countervailing factor, however, is that the rates of coverage under collective bargaining are lower for low-wage workers than for other workers.

Conclusion

The last decade has produced no improvement in the real wages of a broad range of workers, including those with either a high school or college degree. It has also produced a widening divergence between overall productivity and the wages or compensation of the typical worker. In addition, wage inequality has continued to grow between

those at the top and those in the middle. This continues trends established in the 1980s and 1990s and is true in Michigan and the rest of the nation.

Declining collective bargaining coverage has played a key role in these trends. Today, 13.0 percent of workers are covered by collective bargaining in the United States and 18.3 percent in Michigan—roughly half the share of the early 1980s. This reduction has limited the number of jobs with the wage and benefit advantages provided by collective bargaining; weakened workers' ability to bargain for higher wages, more comprehensive benefits, and

better working conditions; and limited the “spillover effect” wherein firms raise wages and benefits to compete with firms where workers enjoy the benefits of collective bargaining. Together with other policies, the erosion of collective bargaining has strengthened the hands of employers and undercut the ability of low- and middle-wage workers to have good jobs and economic security.

If we want the fruits of economic growth to benefit the vast majority, we will have to adopt a different set of guideposts for setting economic policy, as the ones in place over the last several decades have served those with the most income, wealth, and political power. Strengthening collective bargaining and its important role in setting standards for all workers is a good place to start.

Endnotes

1. The median hourly compensation growth cited in the text is based on the data used in Figure C. The median hourly compensation growth reported in Mishel and Gee (2012) is slightly less, 7.0 percent. The difference is that the Mishel and Gee (2012) data adjust health care benefits by a health care deflator, but the data used in Figure C and D do not, because that adjustment is not possible with state-level data.
2. See Mishel et al. (2012). Household income data are from the Census Bureau and are for households with the head of household under age 65.
3. These household income calculations are from the Census Bureau’s Annual Social and Economic Supplement to the Current Population Survey. See table and figure notes for more details.
4. Income inequality grew because there was a growth in the inequality of income received from work (labor income such as wages and compensation), growth in the inequality of income received from owning financial assets (capital income), and an expansion of capital income relative to labor income. The productivity/pay divergence captures the inequality of labor income and the shift of labor to capital income. See Mishel et al. (2012), chapters 2 and 4.
5. See Mishel et al. (2012), Chapter 4.
6. The median hourly compensation data used in Figure C differ slightly from those used in Mishel et al. (2012) in order to make the data comparable to those available for each state. The difference is not in the underlying median wage data but in the adjustment for fringe benefits to obtain compensation.
7. The Gini coefficient is from the Census Bureau at <http://www.census.gov/prod/2010pubs/acsbr09-2.pdf> for the year 2009 and at <http://www.census.gov/hhes/www/income/data/historical/state/state4.html> for the year 1979. Collective bargaining coverage is from www.unionstats.com, prepared by Barry T. Hirsch and David A. Macpherson.

Table and figure notes

Figure A. Cumulative income growth for the median and top 5% of U.S. households, 1979–2010. The figure is based on Current Population Survey Annual Social and Economic Supplement data available from the Census Bureau at <http://www.census.gov/hhes/www/income/data/historical/household/>. Data on the top five percent are from Table H-3, “Mean Household Income Received by Each Fifth and Top 5%,” and median income data are from Table H-17, “Households by Total Money Income, Race, and Hispanic Origin of Householder.”

Figure B. Cumulative income growth for the median and top 5% of Michigan households, 1979–2010. Data presented are from computations of the microdata of the Census Bureau’s Annual Social and Economic Supplement to the Current Population Survey. The data are converted into real dollars using the consumer price index for urban consumers, research series (CPI-U-RS) and presented as cumulative percent growth since 1979. For further detail see Appendix A in Mishel et al. (2012).

Figure C. Cumulative productivity and median hourly compensation growth in the United States, 1979–2011. Productivity data are based on gross state product (output) data from Moody’s Analytics and an estimate of hours worked based on payroll employment and hours data. Specifically, productivity is calculated as

output divided by the number of hours worked. There are no data on work hours available by state so the estimate is based on nonagricultural payroll employment, adjusted to reflect growth in hours per payroll employee. The adjustment is based on the relationship between the growth of total hours in the economy (unpublished data available from the Bureau of Labor Statistics) and total nonagricultural payroll employment. This adjustment is applied to the state and national payroll data to obtain an hours trend. Median hourly compensation data are computed from Current Population Survey Outgoing Rotation Group microdata used to obtain median hourly wages by state and an adjustment to convert to compensation. Median wages are converted to compensation by multiplying by a ratio of compensation to wages using Bureau of Economic Analysis NIPA data available for each state and the nation. Both series are presented as cumulative percent growth since 1979.

Figure D. Cumulative productivity and median hourly compensation growth in Michigan, 1979–2011. See note to Figure C.

Figure E. Changes in collective bargaining coverage and income inequality, 1979–2009. Income inequality in this scatterplot is measured by the Gini coefficient (where a coefficient closer to 1 represents greater inequality). The Gini coefficient data are from Colin Gordon's analysis of Census Bureau data at <http://www.census.gov/prod/2010pubs/acsbr09-2.pdf> for the year 2009 and from Current Population Survey *Historical Income Tables for States*, Table S-4, "Gini Ratios by State," at <http://www.census.gov/hhes/www/income/data/historical/state/state4.html> for the year 1979. Collective bargaining coverage data are from www.unionstats.com, produced by Barry T. Hirsch and David A. Macpherson.

Figure F. Collective bargaining coverage rate in the United States, 1973–2011. Collective bargaining coverage data are from the Union Membership and Coverage Database at www.unionstats.com, produced by Barry T. Hirsch and David A. Macpherson.

Figure G. Blue-collar collective bargaining coverage rate in Michigan, 1984–2011. Computations are from Current Population Survey Outgoing Rotation Group microdata.

Table 1. Employer-provided health and pension coverage, 1979–2010. This table presents percentages of the workforce that have health insurance and pensions provided by their employer where the employer pays for at least some part of the coverage. The data presented are averages over three years in order to have a sufficient sample size for Michigan. Data are tabulations of the Current Population Survey Annual Social and Economic Supplement microdata for private-sector wage and salary workers age 18–64 who worked at least 20 hours per week and 26 weeks per year.

Table 2. Collective bargaining coverage, U.S. and Michigan, 1983–2011. This table presents a more detailed presentation, broken out into industry sector, of the collective bargaining coverage shown in Figure F. Data are from Current Population Survey Outgoing Rotation Group microdata and www.unionstats.com, produced by Barry T. Hirsch and David A. Macpherson.

Table 3. Impact of decline in collective bargaining on wage inequality, 1973–2007. Data are from the author's analysis of Western and Rosenfeld (2011, Table 2).

Table 4. Collective bargaining advantage by demographic group, 2011. "Collective bargaining coverage" is tabulated from Current Population Survey Outgoing Rotation Group microdata. "Collective bargaining advantage" values are the coefficients on collective bargaining coverage in a model of log hourly wages with controls for education, experience as a quartic, marital status, region, industry (12) and occupation (9), race and ethnicity, and gender where appropriate. For this analysis we only use observations that do not have imputed wages. This is because the imputation process does not take collective bargaining status into account and therefore biases the estimated advantage toward zero.

Table 5. Collective bargaining advantage for health, retirement, and paid leave benefits. Table is based on Table 4 in Mishel and Walters (2003), which draws on Buchmueller, DiNardo, and Valletta (2001). See Chapter 4 of *The State of Working America, 12th Edition* (Mishel et al. 2012).

Table 6. Collective bargaining impact on paid leave, pension, and health benefits. Table is based on Table 3 in Mishel and Walters (2003), which draws on Pierce (1999), Tables 4, 5, and 6. See Chapter 4 of *The State of Working America, 12th Edition* (Mishel et al. 2012).

Table 7. Effect of collective bargaining decline on male wage differentials, 1978–2011. This analysis replicates, updates, and expands on Freeman (1991), Table 2. The year 1978, rather than 1979, is the earliest year analyzed because we have no collective bargaining coverage data in our 1979 sample. “Percent of workers covered by collective bargaining” is the share of workers covered by a collective bargaining agreement. The “collective bargaining advantage” for a group is based on the coefficient on collective bargaining coverage in a regression of hourly wages on a simple human capital model, with major industry (12) and occupation (9) controls in a sample for that group. The change in collective bargaining advantage across years, therefore, holds industry and occupation composition constant. Freeman’s analysis assumed the collective bargaining advantage was unchanged over time. We allow the collective bargaining advantage to differ across years so changes in the “collective bargaining effect” on wages (the collective bargaining wage advantage times collective bargaining coverage) are driven by changes in collective bargaining coverage and the collective bargaining wage advantage. The analysis divides the percentage-point change in the collective bargaining effect on wage differentials by the actual percentage-point change in wage differentials (regression-adjusted with simple human capital controls plus controls for other education or occupation groups) to determine the “Decline in collective bargaining advantage contribution to change

in wage differential” among men, which, as a negative percent, indicates contribution to the growth of the wage gaps. See Chapter 4 of *The State of Working America, 12th Edition* (Mishel et al. 2012).

Table 8. Collective bargaining wage advantage for subgroups. The analysis builds on Mishel and Walters (2003), Table 2.3A; and Gundersen (2003), Table 5.1 and Appendix C. Collective bargaining advantage estimates by fifth are from Schmitt (2008); Card, Lemieux, and Riddell (2002); and Gittleman and Pierce (2007). Collective bargaining coverage by fifth is from Schmitt (2008). See Chapter 4 of *The State of Working America, 12th Edition* (Mishel et al. 2012).

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