

Unions and the Wage-Productivity Gap

M A D E L I N E Z A V O D N Y

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GROWTH IN REAL (INFLATION-ADJUSTED) AVERAGE HOURLY WAGES IN THE UNITED STATES SLOWED DURING THE 1970S AND REMAINED STAGNANT UNTIL THE MID-1990S. THE GROWTH RATE OF LABOR PRODUCTIVITY, MEASURED AS THE CHANGE IN OUTPUT PER HOUR WORKED, ALSO DECELERATED DURING THE 1970S AND UNTIL 1996 REMAINED BELOW THE GROWTH RATES POSTED DURING THE 1950S AND 1960S.¹ ALTHOUGH BOTH REAL WAGES AND PRODUCTIVITY HAVE BEEN GROWING AT RELATIVELY SLOW RATES, SOME MEASURES INDICATE THAT EARNINGS HAVE FAILED TO KEEP UP WITH PRODUCTIVITY GROWTH DURING THE LAST TWO DECADES (BOSWORTH AND PERRY 1994).

The slowdown in real wage growth is important to workers and their families. If earnings are not increasing faster than prices, workers' purchasing power is not rising. As wage growth has stagnated, increases in the average family's income have also remained moribund. From 1973 to 1996, the real income of the median family in the United States rose from \$40,400 to \$43,200, an average annual growth rate of only 0.3 percent. Over the 1949–73 period, in contrast, real median family income rose at an average annual rate of 3.2 percent.² Levy (1998) notes that living standards and consumption have risen faster than wages since 1973 because a higher proportion of the population is earning income working outside the home, prompting consumption per family to grow faster than income per worker, and because households are taking on more debt. Neither of these trends can continue forever, however, so at some point the rise in living standards will slow unless wage growth picks up.

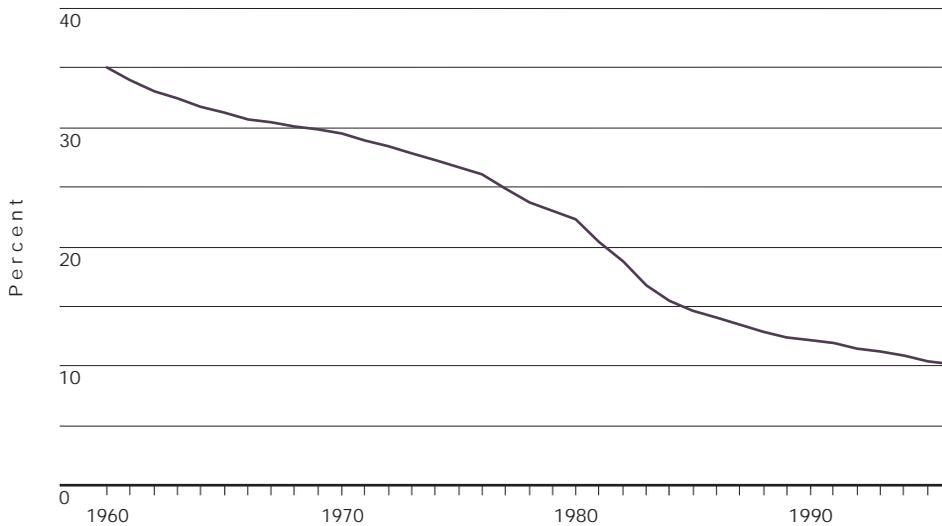
The failure of growth in real wages to match productivity gains since the 1970s also has critical implications for workers. Labor productivity is defined as the real value of output produced per hour worked. Over the long run, the rate of increase in labor productivity deter-

mines how fast wages can grow because firms' ability to raise wages is tied to increases in the value of production. Historically, increases in real wages have roughly kept pace with improvements in labor productivity. However, the relationship between growth of real earnings and productivity appears to have weakened in the 1970s. Although productivity growth was anemic over the 1973–96 period, real wage growth was even weaker. If real wage gains had matched the average annual rate of productivity growth during this period, average hourly earnings in the private sector would have been \$16.05 in 1996 instead of the actual value of \$11.82.

A decline in the unionization rate may partially underlie the wage-productivity gap. The percentage of workers in the nonfarm business sector who are members of a union has declined substantially since the 1960s, reaching a low of about 10 percent in 1996 (Chart 1). If it is true that unions exert pressure on firms to boost wages when productivity increases, the fall in the unionization rate may have contributed to the failure of real wage growth to keep up with productivity gains.

This article explores the trends in productivity, pay, and the unionization rate and examines whether the

CHART 1 Unionization Rate, 1960–96



Sources: Data for 1960–78 are based on U.S. Department of Labor (1980, Tables 72, 162, and 165). The percentage of private nonagricultural workers organized is calculated as in Freeman and Medoff (1984). Data for 1980 are from Gifford (1982). Data for 1983–96 are from U.S. Department of Labor (1984–97). Data for missing years are linearly interpolated.

decline of unions has contributed to the failure of growth in real wages and compensation to match gains in productivity. Analysis of data on value added and on compensation and wages per hour within the manufacturing sector indicates that real wage and compensation increases more closely match productivity gains in industries with higher unionization rates. However, the decline in the unionization rate does not explain a significant part of the rise in the wage-productivity gap in the manufacturing sector.

Trends in Productivity and Compensation

Productivity growth began slowing in the mid-1960s and slowed further during the early 1970s. The standard measure of productivity in the nonfarm business sector is output per hour, which is constructed by dividing gross domestic product (GDP) by hours at work and correcting for inflation using the implicit GDP deflator, which is compiled primarily from producer prices.³ Productivity growth in the nonfarm business sector slowed from an average annual rate of 2.2 percent from 1948 to 1973 to 1.0 percent from 1973 to 1996.⁴

Several hypotheses have been advanced to explain the slowdown in productivity growth, including the ener-

gy price shocks of the 1970s, a decline in the capital-to-labor ratio, and a shift from manufacturing to services. The role of these factors in the slowdown remains a source of debate among economists (see, for example, Jorgenson 1988; Kozicki 1997; Wolff 1996). In addition, some economists have argued that productivity growth is underestimated, particularly in nonmanufacturing sectors, and this mismeasurement has increased over time (for example, Griliches 1994). However, Baily and Gordon (1988) and Sichel (1997) find that mismeasurement in nonmanufacturing sectors has led to only a slight underestimate of productivity growth since the 1970s.

Growth in real average earnings and, more generally, compensation has also slowed. Wages and salaries (earnings) per hour in the nonfarm business sector, after correcting for inflation using the personal consumption expenditures (PCE) deflator, slowed from an average annual growth rate of 2.4 percent from 1948 to 1973 to 0.4 percent from 1973 to 1996. Total compensation, which includes the cost to employers of benefits such as paid leave, employer contributions to Social Security, pensions, and health insurance as well as wages, has grown slightly more quickly than wages alone in recent years. This trend reflects the fact that benefits as a share of

1. The growth rates of both wages and productivity accelerated slightly in 1996 and have remained above the rates achieved from the 1970s to the early 1990s.
2. This figure is the author's calculation based on real median family income as reported by Levy (1998).
3. The nonfarm business sector (also called the nonfarm private sector) does not include government or agriculture.
4. The author's calculations for the 1948–73 period are based on data from U.S. Department of Commerce (1986, Tables 6.2 and 6.11). Calculations for 1973–96 are based on data from U.S. Department of Commerce, (1974–97, Tables 1.8 and 6.9).

total compensation have risen from less than 5 percent of compensation in 1948 to almost 16 percent in 1996. Nonetheless, growth in total compensation slowed from an average annual rate of 2.8 percent over the 1948–73 period to 0.6 percent over the period from 1973 to 1996.⁵

The growth rates of wages and total compensation are even lower if the consumer price index (CPI) is used to correct for inflation. Bosworth and Perry (1994) show that the average annual growth rate of hourly compensation from 1973 to 1993 is 0.2 percentage points lower if compensation is deflated using the CPI instead of the PCE deflator. Regardless of whether hourly wages and

total compensation per hour are deflated using the CPI or the PCE, however, the slowdown is apparent.

As the overall trends suggest, increases in real earnings and total compensation have not kept pace with productivity gains. Chart 2 shows productivity, real earnings per hour, and real compensation per hour in the nonfarm business sector from 1960 to 1996. Each mea-

sure is indexed to its 1960 value. The chart indicates that the gap between real hourly earnings and productivity in the nonfarm business sector has been widening since the early 1970s, or, stated differently, real wages have grown more slowly than has productivity. Increases in real compensation per hour have more closely matched productivity gains than have wages and salaries alone, but compensation increases have lagged behind productivity gains since the mid-1980s.

The extent of the gap between productivity and compensation varies across industries. Chart 3 shows the change in the gap between growth in productivity and in real compensation per hour over the 1977–96 period for eight sectors. Over the twenty-three-year period, productivity increased, in the mining sector, for example, by about 57 percentage points more than compensation; productivity in the mining sector increased 65 percent while compensation rose about 8 percent in real terms, resulting in productivity increases that far outpaced real compensation gains. The changes in the difference between growth in productivity and in real earnings per hour are similar to those shown in Chart 3 but tend to be slightly larger because growth in compensation has exceeded growth in earnings in most industries.

Productivity increased faster than compensation from 1977 to 1996 in all the major sectors except finance, insur-

ance, and real estate (FIRE) and services. One potential explanation for this difference is that productivity increases may have been underestimated in the FIRE and services sectors. The gap between productivity and compensation growth in FIRE and services may actually be more similar to the other sectors than Chart 3 suggests if productivity gains in FIRE and services are underestimated and the gap between growth in productivity and compensation is therefore underestimated. A second potential explanation is that the unionization rate remained almost unchanged in the FIRE and services sectors, whereas it declined substantially in almost all the other sectors.

Absent better data, the role of mismeasurement in explaining the wage-productivity gap cannot be resolved.⁶ Data on unionization rates, however, are available, allowing an analysis of the relationship between the unionization rate and the wage-productivity gap, taking productivity data as given.

The Role of Unions

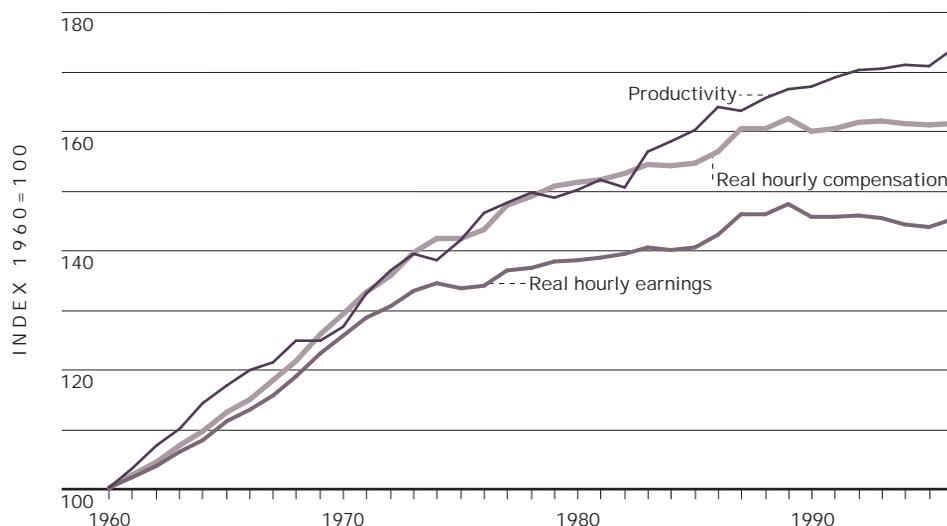
Unions are generally believed to use their bargaining power to raise wages for their members. In the 1960s, union members earned about 25 percent more than nonunion workers after adjusting for differences in industry, education, and other observable characteristics (Moore and Raisian 1983; Pencavel and Hartsog 1984). The union wage premium appears to have fallen over time, declining to about 15 percent in the 1970s and 1980s, but remains positive (Linneman, Wachter, and Carter 1990).⁷ In addition, union members tend to receive higher benefits than do nonunion workers (Freeman and Medoff 1984).

There are several potential reasons why union members tend to earn more than nonunion workers. Union members may be more skilled than nonunion workers, and their higher productivity may result in higher wages. The union wage premium may reflect unobservable skill differences between union and nonunion workers and not be the result of unionization per se. However, studies that control for unobservable dimensions of skill by focusing on individuals who move between union and nonunion jobs find evidence of a statistically significant union wage premium (Card 1996; Freeman 1984; Jakubson 1991).⁸ Another potential explanation for the union wage premium is that unions tend to be more prevalent in less competitive industries, which may earn economic rents or monopoly profits and have a greater “ability to pay” workers higher wages than more competitive industries. In support of the rent-sharing hypothesis, Rose (1987), for example, finds that the union wage premium in the trucking industry fell by more than 20 percentage points when the industry was deregulated in the late 1970s and early 1980s.

The unionization rate has clearly declined over the past few decades, as Chart 1 indicates. The fraction

Over the long run, the rate of increase in labor productivity determines how fast wages can grow because firms' ability to raise wages is tied to increases in the value of production.

CHART 2 Productivity and Compensation, 1960–96



Sources: Author's calculations based on data for the nonfarm business sector from U.S. Department of Commerce (1974–97; 1986). Compensation and earnings are deflated using the PCE deflator, and productivity is deflated using the implicit GDP deflator.

of workers who are members of a union in the nonfarm private sector peaked at about 35 percent in the mid-1950s and remained relatively stable until the mid-1960s (Dickens and Leonard 1985). The unionization rate declined gradually during the late 1960s and 1970s, and the decline accelerated during the 1980s. In 1996, only about 10 percent of workers in the nonfarm business sector were union members.

A number of factors appear to have contributed to the decline in the unionization rate. For one thing, the number of new union members has been declining, suggesting that workers' desire to join a union has fallen and/or management's opposition to the creation of unions has risen. The percentage of unorganized workers taking part in a union certification election in a given year and the percentage of workers in certification elections voting in favor of a union have both declined (Dickens and Leonard 1985). In addition, employment in industries that have historically employed a high fraction of union members, such as manufacturing, mining, and transportation, has fallen relative to employment in less unionized sectors, such as services and FIRE. However, the empirical evidence suggests that sectoral shifts can-

not account for most of the decline in the unionization rate (Dickens and Leonard 1985; Freeman 1988).

The fall in the unionization rate may have weakened the ability of unions to raise wages for their members. Howell and Wolff (1991) find that there is a positive relationship between the unionization rate in an industry in 1970 and industry wage growth over the 1970–85 period and that industries with declining unionization rates during the period experienced lower wage growth than did industries with rising unionization rates.

The decline in the unionization rate appears also to have contributed to a rise in earnings inequality. During the 1980s, differences in earnings between groups of workers with varying skill/education levels began widening. For example, male college graduates aged twenty-five to thirty-four earned about 13 percent more, on average, in 1979 than did male high school graduates in the same age group; in 1987, young male college graduates earned 38 percent more than high school graduates (Levy and Murnane 1992). In the 1990s more educated workers have continued to experience wage gains relative to less educated workers (Bernstein and Mishel 1997). Unions tend to reduce wage dispersion

5. The author's calculations for 1948–73 are based on data from U.S. Department of Commerce (1986, Tables 6.4, 6.5, and 6.11). Calculations for 1973–96 are based on data from U.S. Department of Commerce (1974–97, Tables 6.2, 6.3, and 6.9).

6. Baily and Gordon (1988) provide an excellent discussion of productivity mismeasurement.

7. Some studies—for example, Ashenfelter (1978) and Moore and Raisian (1983)—indicate that the union wage premium rose or remained constant from the late 1960s to the late 1970s.

8. However, the estimated union wage premium is generally smaller when unobservable attributes are controlled for than when only observable attributes, such as education and age, are controlled for.

CHART 3
Unionization Rate and Difference between
Productivity and Compensation Growth, 1977-96



Note: The left vertical axes measure the cumulative percentage point difference between productivity growth and real hourly compensation growth.

Source: Unionization rates are from Kokkelenberg and Sockell (1985) for 1977-81 and from U.S. Department of Labor (1984-97) for 1983-96. The unionization rates for 1982 are linearly interpolated. Author's calculations of the difference between productivity and compensation growth are based on productivity and compensation data from U.S. Department of Commerce (1974-97).

across skill levels by raising the earnings of less-skilled workers who are union members (Danziger and Gottschalk 1995).⁹ DiNardo, Fortin, and Lemieux (1996) find that deunionization caused earnings inequality among men to rise because relatively unskilled male workers slipped from the middle of the earnings distribution to the lower end of the distribution as the proportion of such men who are union members fell. Freeman (1993) finds that the decline in the unionization rate explains about one-fifth of the increase in wage inequality among men during the 1980s.

Unionization may affect productivity as well as wages. Unionization can increase productivity at a workplace by influencing the ratio of capital to labor, workers' motivation, or workers' contribution to the production process (Mefford 1986). If unions raise the cost of labor, then firms will seek to raise the ratio of capital to labor as labor becomes more expensive relative to capital. This substitution of capital for labor tends to raise output per hour worked. Another reason that unionization may raise productivity is cited in the "efficiency wage" theory, which posits that workers who are paid higher relative wages are more productive. The union wage premium may motivate union workers to produce more than lower-paid nonunion workers. Also, belonging to a union may give workers a "collective voice" that provides a vehicle for suggesting improvements to production processes that increase productivity (Freeman 1976).

Alternatively, unionization may lower productivity at a firm. Unions may impose strict work rules that limit management's ability to enact efficient production processes. Unions may also establish seniority provisions, strict job ladders, and restrictions on firing workers that lower labor productivity (Mefford 1986). The empirical evidence on the effect of unions on productivity is mixed, with studies generally reporting either small positive or small negative effects (Addison and Hirsch 1989).

Previous Research on the Wage-Productivity Gap

Although there is a large body of literature on the effect of unions on wages and productivity, little attention has focused on the role of deunionization in the rise in the wage-productivity gap. Previous studies of the effect of unions on wages suggest that the larger the decline in the unionization rate in an industry, the larger the decline in wage growth within the industry. If the unionization rate has little effect on productivity, as previous research indicates, changes in the

unionization rate may have little effect on industry productivity gains. A decline in the unionization rate within an industry would then lead to lower wage growth without affecting productivity growth, or the gap between productivity growth and wage growth would increase as the unionization rate fell.¹⁰

Ferguson (1996) finds support for the hypothesis that the decline in unions contributed to the increase in the wage-productivity gap. Using data on 150 industries from 1978 to 1986, he finds that the relationship between productivity gains and wage increases weakened after 1981 and that a decline in the unionization rate within industries may explain as much as one-fourth of the post-1981 increase in the wage-productivity gap. In addition, the ability of unions to protect members' wages from changes in economic conditions appears to have deteriorated. Declining employment within unionized industries and declining returns to unionization also contributed to the post-1981 rise in the gap between wages and productivity. Changes in import penetration do not appear to be related to the change in the gap over time.

Unionization can increase productivity at a workplace by influencing the ratio of capital to labor, workers' motivation, or workers' contribution to the production process.

The Wage-Productivity Gap within Manufacturing

This article examines the empirical relationship between the unionization rate and the difference between changes in productivity and changes in compensation and wages in the manufacturing sector. If the decline in unions partially underlies the wage-productivity gap in manufacturing, then the difference between productivity growth and compensation or wage growth should be smaller in industries with higher initial unionization rates; industries with smaller declines in unionization rates should also have a smaller wage-productivity gap than industries with larger declines in unionization. Testing these hypotheses with data from 1974 to 1994 in the manufacturing industry helps avoid the issue of productivity mismeasurement as productivity is generally believed to be measured more accurately in the manufacturing sector than in nonmanufacturing

9. However, unions can also contribute to earnings inequality within skill levels by raising the earnings of union members relative to those of similarly skilled workers who are not unionized.

10. If unions lower productivity, then a decline in the unionization rate should raise productivity growth and increase the gap between productivity gains and compensation growth.

TABLE 1 Data Summary

Variable	Description	Mean	Standard Deviation
$GAP_{it, t-5}$	Difference between growth in real value added per hour and growth in real hourly wages	0.148	0.210
	or		
	Difference between growth in real value added per hour and growth in real compensation per hour	0.148	0.196
$UNION_{it-5}$	Unionization rate at beginning of interval	0.316	0.155
$UNION_{it, t-5}$	Percentage change in unionization rate	-0.154	0.201
$EMPLOY_{it, t-5}$	Percentage change in total employment	-0.046	0.137
$CAPITAL_{it, t-5}$	Percentage change in real capital stock	0.090	0.144
$IMPORTS_{it, t-5}$	Percentage change in import penetration ratio	0.307	0.579
$EXPORTS_{it, t-5}$	Percentage change in export penetration ratio	0.253	0.480

sectors such as services and FIRE.¹¹ The analysis examines changes over five-year intervals because differences between year-to-year growth in productivity and compensation may contain more noise than longer-run differences. The five-year differences examined here are 1974–79, 1979–84, 1984–89, and 1989–94.

Variable Definition. This article examines both the wage-productivity gap and the compensation-productivity gap. The wage-productivity gap is the difference between the five-year percentage change in productivity (measured as real value added divided by total hours of production workers) and the five-year percentage change in average hourly earnings of production workers (corrected for inflation using the PCE deflator). The compensation-productivity gap is the difference between the five-year percentage change in productivity and the five-year percentage change in compensation per hour (measured as compensation divided by total hours of production workers and corrected for inflation using the PCE deflator).¹² The variables rise as productivity gains outstrip wage and compensation increases.

Two variables are used to measure the extent of unionization: the unionization rate at the beginning of the five-year period and the percentage change in unionization over the five-year interval.¹³ If unions exert pressure on firms to raise wages and total compensation when productivity increases, the unionization rate should be negatively associated with the wage-productivity gap and the compensation-productivity gap. In addition, the change in the unionization rate should be negatively

associated with the wage-productivity gap and the compensation-productivity gap if a decline in unionization causes wage and compensation growth to be smaller than productivity growth.

Changes in employment and capital stock are also likely to affect the wage-productivity gap in an industry. Compensation is likely to increase faster in growing industries than in declining industries, so the percentage change in total employment should be negatively associated with the wage-productivity gap. Firms with higher levels of capital tend to have higher labor productivity, so industries with larger increases in the stock of capital may have larger increases in the wage-productivity gap.¹⁴

The degree of international competition that an industry faces may influence the wage-productivity gap. Industries that are more exposed to imports may pay lower wages than other industries in order to be competitive with foreign producers, and industries that are more export-oriented may pay higher wages than industries that are less export intensive. Increases in the import penetration ratio, defined as the ratio of imports to total domestic shipments plus imports, are expected to be positively correlated with the wage-productivity gap, and increases in the export penetration ratio, defined analogously, are expected to be negatively correlated with the wage-productivity gap.¹⁵ Summary statistics for the variables are shown in Table 1.

Methodology. The regression used to measure the relationship between the wage-productivity gap or the compensation-productivity gap and the covariates is

$$\begin{aligned}
GAP_{it,t-5} = & \alpha + \beta_1 UNION_{it,t-5} + \beta_2 \Delta UNION_{it,t-5} \\
& + \beta_3 EMPLOY_{it,t-5} + \beta_4 \Delta EMPLOY_{it,t-5} \\
& + \beta_5 CAPITAL_{it,t-5} + \beta_6 \Delta CAPITAL_{it,t-5} \\
& + \beta_7 EXPORTS_{it,t-5} + T_t + \varepsilon_{it}
\end{aligned}$$

where i indexes industries and t indexes years. The notation $t, t-5$ indicates that a variable measures the change between year t and five years earlier. The variable T is a set of year fixed effects; these dummy variables capture changes in the wage-productivity gap that are common to all industries across a five-year interval. The year fixed effects control, for example, for changes in aggregate economic conditions, such as changes in the national unemployment rate and in GDP. The equation is estimated using ordinary least squares (OLS) with data on sixty-two manufacturing industries in the wage-productivity gap regression and sixty-five industries in the compensation-productivity gap regression.¹⁶

Results. The results shown in Table 2 indicate that the difference between productivity gains and wage or compensation increases is smaller in industries with higher initial unionization rates. The estimated coefficients imply that if the unionization rate at the beginning of a five-year period were to fall by 1 percentage point, the difference between productivity growth and wage growth over the next five years would increase by 0.23 percentage points, holding other factors constant. Similarly, a 1 percentage point decline in the initial unionization rate is associated with a 0.21 percentage point increase in the difference between productivity growth and compensation growth over the next five years. The results suggest that industries that experienced larger percentage declines in unionization also

experienced larger increases in the wage-productivity gap, but the estimated coefficients on the variable measuring the change in unionization are not statistically significant. These results are consistent with the hypothesis that compensation increases more closely match productivity gains in more highly unionized industries but provide less support for the hypothesis that the decline of unions has contributed to the rise in the wage-productivity gap.

The other results are largely as expected. The difference between growth in productivity and in compensation is negatively associated with the change in employment, indicating that the wage-productivity gap grows as industries decline. An increase in industry exports is associated with a decline in the wage-productivity gap while a change in import penetration does not affect the wage-productivity gap. The most surprising result was that increases in capital are negatively associated with the wage-productivity gap. Productivity was expected to rise more quickly than compensation as capital increased because the increase in capital would raise output per hour, but the data suggest that workers benefit in industries with larger increases in capital stock.

The decline in the unionization rate appears to have played at most a minor role in the rise in the gap between productivity and wages or compensation.

11. However, some economists, such as Denison (1989), contend that productivity growth may be overstated in the manufacturing sector.
12. The data on value added and total hours and compensation of production workers are from the National Bureau of Economic Research's NBER-CES/Census Manufacturing Industry Productivity Database as described in Bartelsman and Gray (1996) and available online at <http://www.nber.org/nberprod>. Value added is corrected for inflation using the industry-specific price deflator for the value of shipments. The data, which are at the four-digit SIC code level, are aggregated into sixty-five industries at the two- or three-digit SIC-code level for which unionization rates are available. The average hourly earnings of production workers are from Bureau of Labor Statistics (<http://stats.bls.gov>) and are available for only sixty-two of those sixty-five industries.
13. Unionization rates are based on data from the Current Population Survey, a household-level survey available online at <http://www.bls.census.gov/cps/cpsmain.htm>. Because the number of individuals working in a specific industry who are included in the survey in a given year may be small, the unionization rates are nonoverlapping three-year moving averages. The unionization data for 1974 and 1979 are from Kokkelenberg and Sockell (1985). Unionization rates for other years are calculated by the author based on the Current Population Survey merged outgoing rotation group files available online at <http://www.nber.org/data-on-cd.html>.
14. The data on total employment and real capital stock are from the NBER-CES/Census Manufacturing Industry Productivity Database as described in Bartelsman and Gray (1996) and available online at <http://www.nber.org/nberprod>.
15. The data on industry imports and exports are from the NBER Trade Database as described in Feenstra (1996, 1997).
16. This analysis assumes that unionization rates are independent of the wage-productivity gap and the compensation-productivity gap or that differences in the growth rates of productivity and wages or compensation do not affect unionization rates. In other words, the potential endogeneity of unionization rates is not addressed here.

TABLE 2 Regression Results

Covariate	Wage-Productivity Gap	Compensation-Productivity Gap
$UNION_{it-5}$	-0.230 (0.088)	-0.214 (0.082)
$UNION_{it, t-5}$	-0.077 (0.063)	-0.094 (0.059)
$EMPLOY_{it, t-5}$	-0.240 (0.115)	-0.270 (0.105)
$CAPITAL_{it, t-5}$	-0.113 (0.101)	-0.064 (0.093)
$IMPORTS_{it, t-5}$	-0.025 (0.021)	-0.020 (0.020)
$EXPORTS_{it, t-5}$	-0.052 (0.028)	-0.050 (0.026)
Adjusted R-squared	0.154	0.157
Number of observations	248	260

Note: Standard errors are in parentheses. Regressions also include year fixed effects.

Conclusion

The unionization rate in the private sector has declined dramatically over the last few decades. At the same time, wages and total compensation have failed to keep pace with productivity gains. An analysis of data on productivity, compensation, and unionization in the manufacturing sector over the 1974–94 period indicates that more-unionized industries experience smaller increases in the wage-productivity gap. This finding may suggest that the lower unionization rates today account for the failure of increases in wages

and compensation to match productivity growth. However, the wage-productivity gap and the compensation-productivity gap do not rise significantly faster in industries with declining unionization rates. The decline in the unionization rate, therefore, appears to have played at most a minor role in the rise in the gap between productivity and wages or compensation. A resurgence of unions might help workers reap more benefits from productivity gains, but it appears unlikely that an increase in the unionization rate alone would cause compensation increases to fully match productivity gains.

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