

# Work-sharing approaches: past and present

*Short workweeks tied to jobless aid  
can be an alternative to layoffs,  
although the concept and circumstances today  
differ markedly from those of the 1930's*

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Short-time compensation (STC) is a program voluntarily entered into by an employer (and by the union, where present) whereby, in lieu of extensive layoffs due to economic conditions, some or all employees work a partial workweek (usually 4 days), and receive a partial, prorated unemployment benefit (usually for 1 day). For example, an employer would adopt a 4-day workweek for 6 months, rather than laying off 20 percent of the workers for that period. Because the unemployment benefit would replace about one-half of the lost wages, workers would get about 90 percent of their regular income. Few added costs are involved because about the same total amount of benefits is used as for layoffs, but they are spread among more people. The program is temporary—usually lasting 6 months, although in California, it can last up to a year if high unemployment prevails. Six States—California, Arizona, Oregon, Washington, Florida, Maryland—have amended their unemployment insurance benefits to permit short-time compensation for reduced workweeks.<sup>1</sup> A seventh State, Illinois, has a short-time compensation plan, but it is not part of the regular unemployment insurance trust fund. Canada has a similar program, and

most of Western Europe and Japan have some form of short-time compensation program.

Initial policy development on the concept in the United States began in 1974, in the Office of the Secretary of Labor, as the recession of that year worsened. However, work sharing, or reduced hours of work without the short time benefit, is not new—there was extensive experience with it in the Great Depression. Although work sharing in the Great Depression involved a much different set of economic circumstances than modern-day recessions, it is useful to understand the Nation's early experience with work sharing because it has left an emotional legacy of ambivalence that affects even today's perceptions of short-time compensation.

## **A comparative view**

For example, one feeling expressed is that work sharing was tried by President Herbert Hoover and is no better an idea now as short-time compensation than it was then as work sharing. The comparison is instructive. Critics felt that work sharing under Hoover represented an attempt to avoid fiscal or monetary Federal intervention as well as to avoid public assistance. Instead, voluntary employer action was encouraged in the form of work sharing, not only to spread the work but to do so without cutting hourly wages. (Hoover felt wage cutting would compound the problem.)

Such work sharing (usually imposed by the employer) subsequently came to be seen by labor as a poor alternative to President Franklin D. Roosevelt's later New Deal meas-

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ures. Short-time compensation, the current form of work sharing, is a supplement, not a replacement, for macroeconomic policy, transfer payments, and social insurance. There are other differences. President Hoover's work sharing, sometimes used through the early New Deal years, often involved working half time simply because output was so low. Short-time compensation does not permit employees to work fewer than 3 days a week and has typically involved 4 days. Work sharing was often at poverty-level weekly earnings: there was no minimum wage. Industrial wages are incomparably higher today. Work sharing was often in unorganized plants: the National Labor Relations Act had not yet been enacted, so unions had minimal power. Today, roughly half of all manufacturing sites, where work sharing has its greatest potential, are organized, and unions would have to agree to short-time compensation. And, of course, the Hoover approach did not include partial unemployment insurance, as does the current concept of short-time compensation.<sup>2</sup>

Despite these differences, work sharing under President Hoover did save jobs. It seems certain that manufacturing employment might have dropped more than it did in the short term if the workweek had not been sharply reduced from 44.2 to 38.3 hours during 1929–32.<sup>3</sup> This was a 13-percent drop, accompanying a 33-percent drop in employment. Because total production decreased by 48 percent, it seems evident that a larger downward adjustment of labor than 33 percent was needed in one form or another. In his memoirs, President Hoover said 2 million workers had been helped by either work sharing or private relief by employers.<sup>4</sup> Of course, weekly hours would have dropped regardless of President Hoover's efforts. However, it is unlikely that hours would have dropped so sharply. The lower fixed costs of that period facilitated work sharing, of course.

The fact that Federal-State unemployment insurance did not exist at that time not only had dire human consequences but also precluded the countercyclical use of unemployment insurance to offset part of the purchasing power lost by both the fully and partially unemployed.

### **Second depression effort**

The second big work-sharing effort came in mid-1933, 6 months into President Roosevelt's New Deal. The success of voluntary, private work sharing in providing some visible relief had led to demands for more of the same but without weekly pay reductions.

Where President Hoover had tried to prevent the loss of some jobs by persuading industry leaders to cut hours, President Roosevelt tried, with some success, to reemploy many of those who had lost jobs by cutting hours still further and establishing minimum wages. His goal was to increase purchasing power while spreading the increased work—in a deflationary, not inflationary, economy.

The National Industrial Recovery Act, enacted in 1933, was an attempt to increase production, prices, and employ-

ment by increasing labor protection and reducing price-cutting competition. The act created the National Recovery Administration and the Public Works Administration. The act lasted only 2 years, because it was ruled unconstitutional in 1935. Under the National Recovery Administration (NRA), which administered part of the law, business adopted voluntary codes, including minimum wages and maximum hours. These foreshadowed the Fair Labor Standards Act of 1938.

The NRA helped decrease the workweek to 34.6 hours in 1934—it was now 22 percent below pre-1929 levels. This figure reflected a reduction in hours in many low-wage, soft-goods firms from 50 to 60 hours to 40 to 48 hours, and even fewer in some higher-wage, durable goods industries. Higher hourly productivity from less fatigued workers, more efficient use of workers, and increased plant utilization (for example, two 8-hour shifts, rather than one 10-hour shift as output expanded) accompanied these hours cuts.

The ratio of jobs to production was increased in part because of NRA workweek reductions, which took effect in mid-1933. The ratio of employment to production was quite low in the pre-NRA upturn of March through June 1933 and much higher in a similar upturn in early 1934.

Thus, in May 1933, 2 months after a sharp upturn in production, the ratio of jobs to output was about .78. In February 1934, 2 months after an upturn in production, this ratio was about .93. This 19-percent increase in the number of jobs created per unit of output was due in good part to the 12-percent decrease in average weekly hours during this period.<sup>5</sup> (The output levels were also about the same in February 1934 and May 1933.)

Although it is a subject of debate, some economic historians credit the NRA with significant job creation due to work sharing, even while faulting it on other economic and constitutional grounds.<sup>6</sup>

### **Work sharing phased out**

However, the work-sharing effect faded as recovery continued. Because of weak enforcement of the NRA, its many exemptions, and finally its demise in 1935, average weekly hours had moved back up to 38.6 by 1937, reflecting hours well above 40 in some firms and much lower in others. Partly as a result, the accelerating increases in output between 1934 and 1937 were accompanied by decelerating increases in employment. While rapid increases in wages may have been one reason behind this increasing gap between output growth and employment growth, longer hours also seem to have contributed.<sup>7</sup>

By 1937, output was back up to its 1929 level, and employment was almost so; however, because of the steady growth of the labor force, about 21 percent of the nonfarm labor force were still unemployed in 1937. In the 1937–38 "Roosevelt" depression, weekly hours again dropped sharply. This occurred once again in 1945–46, as the United States demobilized. Since 1945, work sharing on such a national scale has not been used.

The Fair Labor Standards Act was not passed until 1938; like the NRA, it contained a work sharing measure in the form of an overtime penalty for weekly hours more than 40. The original 1938 ceiling was 44 hours; the 40-hour week was not phased in until 1940. The effect of work sharing was submerged by the oncoming full employment of World War II.

If work sharing had some beneficial effects during the Depression, why are there some negative memories of it, even under President Roosevelt? One reason is that neither the Hoover nor Roosevelt administrations used modern-day fiscal and monetary measures in a consistent way to deal with the massive unemployment they faced; as a result, work sharing in the 1930's was given a role it could not fulfill.

To some, President Hoover's work sharing attempts also symbolized cuts in earnings and the failure of voluntary, private sector-oriented policies to deal with the Great Depression; under the the early New Deal, work sharing symbolized to some the unconstitutional and big-business oriented approach of the NRA codes. Moreover, most of the early major experiments in work sharing occurred *before* passage of the Social Security Act of 1935, which brought with it mandatory unemployment insurance, and the 1935 Wagner Act (the National Labor Relations Act), which gave unions a legal framework for organization (although the NRA also provided the right to organize). With strong unions came strong seniority systems, not only to protect workers against arbitrary dismissal by employers, but to protect them *against unilaterally imposed work sharing*, for it was the practice of many employers not to guarantee a steady amount of work from 1 week to the next. Employees often showed up at their jobs only to be told there was no work that day. With unemployment insurance came the assurance that low-seniority workers would not starve if they were laid off, and that work sharing, which only "spread the misery," would no longer be needed.

The current use of work sharing, on a micro rather than a macro scale, is taking place within a framework of basic protections for workers, unlike earlier efforts. However, the full economic effects of short-time compensation, which is a preventive rather than a reemployment measure, in a completely different economy, more than 50 years later, have yet to be determined.

### **The revival of work sharing**

With the relatively low unemployment rates of the post-World War II era, work sharing was rarely discussed or used. It was not until the 1974-75 recession, at the time of the steepest downturn since the Depression, that work sharing began to be considered again.

In a paper in 1976, I wrote:

Two major conclusions can be drawn from a comparison of 1974-75 European with U.S. experience: (1) The portion of unemployment that takes the form of part-time unemployment is higher than in the United States. The result would seem to be decreased

social costs, increased purchasing power and greater equity, compared to the United States. (2) The number of U.S. workers who were put on part-time unemployment even in the absence of partial [unemployment insurance] benefits is nevertheless not trivial. This suggests that the potential for more work sharing is significant if European-type incentives were instituted.

These conclusions had been reinforced by the New York City Conference on "Alternatives to Layoffs" held in April 1975: representatives of labor, management, and academia reviewed alternatives besides work sharing and found them wanting.<sup>8</sup> Some firms reported mandatory cuts in pay, but there was resistance by labor. Cutting health and welfare benefits was ruled out. Voluntary furloughs were found effective by some firms, but they appealed mainly to younger, education-minded workers; older workers nearing retirement; and some working mothers. There was also disillusionment about early retirement, due to inflation.

Work sharing was found to be more effective than these other alternatives. However, the case studies presented at the conference showed that work sharing without government incentives was usually atypical.

In fact, an underlying crisis for the firm—whereby its very existence was threatened—was a common theme in bringing about work sharing. This was true of Pan Am and the *Washington Star* (the *Star* did go out to business eventually). Union leadership also had to be unusually good in terms of communication with rank and file. (Once unions were convinced the crisis was real, there were often unusual efforts by union leaders to get the rank and file to discuss alternatives to layoffs in meetings and votes.)

The firms were often marked by an unusual degree of labor-management cooperation, with management often opening its books. Pan Am went "beyond union contract requirements to develop worker involvement in difficult decisions."

Nor were the firms especially typical of the average work force. Highly skilled workers were often involved, such as Pan Am flight crews or Newspaper Guild members. It was in the company's interest that young, highly trained people not be lost. There was a team spirit—born of the flight cabin or city room—among the workers. Large numbers of women, many of them the family's second earners, may have also facilitated work sharing in firms such as the New York Telephone Company.

The question was how to create incentives to encourage work sharing in more typical layoff situations as well as in those with the unique chemistry described above.

The New York conference found that work sharing in the form of "a shorter workweek, or rotating and staggered shifts, or any other method by which average work hours are reduced" emerged as the "alternative to layoffs with the widest potential application to recession-based economic problems and to almost all types of business and industry." It also found, however, that work sharing is "not a panacea. Its use is limited by the necessity of providing a living

wage.” Thus, the conference found that anything more than a 20-percent reduction in hours would create too much hardship. Nor would it work when an entire shift must be eliminated, or conversely, only marginal reductions are contemplated—for example, work sharing would not succeed for 20 of 1,000 employees.<sup>9</sup>

### Short-time compensation in the 1980’s

The early 1980’s have been a period of anti-inflationary restraint, in which planned use of macroeconomic “fine-tuning” through countercyclical monetary and fiscal policy has been more limited than in the past. Even those who favor micro job-creation tools, such as public jobs programs, usually advocate targeting them to the structurally unemployed—the disadvantaged and long-term unemployed. The disillusion with countercyclical public policies may argue for at least experimenting with policies for the cyclically unemployed that are rooted in the private sector and based to some extent on redistribution of employment rather than solely on countercyclical economic stimuli and public spending.

Moreover, while past efforts to deal with cyclical unemployment have included large public jobs programs, expanded budgets, tax cuts, or new investment, these solutions have not usually had an early impact on recessions or acted as preventatives. To the extent that they have been successful, it has often not been until after, rather than before, layoffs occurred. Job saving has not been a feature of such policies, as it is of short-time compensation.

Equity is the major benefit of short-time compensation. The economic and social costs of full-time unemployment are distributed more evenly across all workers in a plant (or plant unit) rather than among a small minority of workers.

Some economists have argued that it is the total decline of hours of employment that counts, not its distribution. They see work sharing as a “diversion,” a waste of time and resources that could be spent on other countercyclical measures.

However, they may be ignoring the social costs of full-time unemployment, which increases the costs of public assistance, food stamps, and other transfer programs during a recession. Many studies suggest that full-time unemployment also increases the incidence of alcoholism, drug abuse, child abuse, and other social problems, which translate into additional public costs, human costs, and suffering. Distributing the same total hours of unemployment among many people on a 4-day workweek may decrease the social costs. It might also help public policy deal in a more rational way with the problem of health insurance for the unemployed, because workers now often lose their health insurance soon after layoff. And, if it were ever adopted on a wide scale, it might also redistribute work and income in a way that bolsters confidence and slows down the decline in consumption during a downturn.

Short-time compensation might also help provide a frame-

work for developing constructive activities, such as education and training, during a downturn. It is unrealistic to think that all workers in a work-sharing program would meaningfully enroll in education or training. However, it would be productive for some. The broad distribution of downtime among the work force would also enable employers to provide training on a part-time basis to any workers they feel need it, not just those laid off. (Such training would have to be voluntary on the part of workers, of course.) Public-private mechanisms under the Job Training Partnership Act might conceivably be used for potentially dislocated workers.

In general, the meshing of short-time compensation with retraining and education is an area deserving further thought. With hundreds of community colleges and technical schools now operating throughout the Nation, it is possible to imagine large numbers of workers who are put on 4-day weeks or 6-hour days for a 2- to 6-month period, using that time to attend classes.<sup>10</sup>

### Work sharing in Germany versus the U.S.

Some economists have expressed fear that use of work sharing will lead to a hoarding of underutilized labor and thus lower productivity. The following discussion suggests that short-time compensation may not only decrease layoffs but also may improve cyclical productivity. These examples are illustrative; more in-depth research is needed on these and other issues. The following tabulation shows percent changes in economic indicators for manufacturing and for the mechanical engineering sector in Germany, 1981–82:<sup>11</sup>

	<i>Manufacturing</i>	<i>Mechanical engineering</i>
Average hours .....	-1.0	-2.0
Employment .....	-4.5	-3.3
Total hours .....	-5.1	-4.9
Output .....	-2.4	-2.3
Output per hour .....	2.0	2.0

Because the mechanical engineering sector used short-time compensation more heavily than did manufacturing industries as a whole, we would expect mechanical engineering to show a much heavier use of short weeks and, thus, less decline in employment. Indeed, while mechanical engineering reduced total hours about the same percentage as did manufacturing, it reduced employment much less than manufacturing. Average hours declined twice as much in mechanical engineering, and mainly reflect changes in weekly hours.

Output per hour (productivity) increased by the same percent in both cases because total hours were cut back faster than output. In mechanical engineering, this productivity increase was partly because of work sharing augmenting layoffs.

Is the job-saving effect as dramatic as it seems at first glance? Mechanical engineering has more skilled workers than the average manufacturing industry, and is less labor

intensive. Cost savings from layoffs might be less feasible, making layoffs less likely. Moreover, employers face a greater risk of permanently losing skilled workers. So it is not clear that the mechanical engineering sector would have lost 2.0 percent more jobs in the absence of a 2.0-percent workweek reduction. Without short-time compensation, there might have been more hoarding of labor.

Nevertheless, the figures suggest significant job-saving effects from work sharing, without the productivity loss that hoarding of full-time, underutilized workers brings in the United States. The following tabulation shows percent changes in economic indicators for the mechanical engineering industry in Germany and its counterpart industry in the United States, nonelectrical machinery, 1974–75:<sup>12</sup>

	<i>United States</i>	<i>Germany</i>
Weekly hours.....	-1.9	-5.3
Employment.....	-7.5	-4.5
Total hours.....	-9.3	-9.5
Output.....	-13.8	-5.7
Output per hour.....	-4.9	4.3
Ratio of total hours to output.....	0.66	1.67

The U.S. industry did hoard more labor relative to Germany in the absence of short-time compensation.<sup>13</sup> Total hours did not decline as fast as output in the United States, whereas it decreased faster than output in Germany. Part of the reason was that average weekly hours decreased by 5.3 percent in Germany, compared with a 1.8-percent decline in the United States; when combined with the reduction in full-time employment, the totals were 9.3 percent for the United States and 9.5 percent for Germany. Thus Germany reduced total hours relatively more, even though it reduced the number of employees relatively less. Because output declined approximately 4.9 percent more than total hours in the United States, but 4.3 percent less than total hours in Germany, the change in output per hour was negative (-4.9) percent for the United States and positive (4.3 percent) in Germany during the 1974–75 period.

That this United States–Germany productivity gap is “artificially” widened during a downturn is evident from the fact that the U.S. rate of productivity increase was actually higher (4.0) in the overall growth period, 1969–77,

than the German rate (3.3) in an essentially comparable period, 1970–78.<sup>14</sup> These are the rates that measure the real differences in technology and other efficiencies between the same industry in the two countries. The 1974–75 gap, therefore, was partly because of the added flexibility in hours cuts afforded by heavy use of short weeks. (Comparative data for the 1982 downturn is not available.)

These data suggest that work sharing may bring with it more total hours of unemployment in Germany, even while decreasing layoffs, because employers can not only eliminate some jobs but also work some of the remaining employees on a part-time basis. However, some of Germany’s decrease in employees should be discounted because it reflects continuation of a longer-term trend of sharply shrinking employment in manufacturing, unlike in the United States. Also, Germany’s lack of experience-rated tax contributions by employers (different from that in the United States) may induce some added hours of unemployment because employers do not bear the added cost. All these factors may contribute to a “surplus” or induced unemployment effect, whereby not all hours of work sharing are substituted for jobs saved, but instead may be in addition to layoffs. Nevertheless, as long as there is some appreciable effect on layoffs, the social costs of such “surplus” work sharing may be small when compared with the benefits of fewer layoffs and higher cyclical productivity. The latter brings with it less increase in unit labor costs, and thus less increase in prices, which stimulates demand, speeding economic recovery.

This may even have implications in terms of international competition. The mechanical engineering industry is export-oriented. Short-time compensation probably helped German manufacturers in the mechanical engineering industry to compete with U.S. manufacturers in the nonelectrical machinery industry during the 1974–75 period. As demand declined, the Germans could muster both heavy work sharing and some reduction in force to maintain productivity, allowing them to retain skilled personnel without adding to the unemployment insurance taxes. U.S. manufacturers not only faced higher unemployment taxes for whatever layoffs occurred, but also had less flexibility to maintain productivity through work sharing as a supplemental labor adjustment tool.<sup>15</sup> □

—FOOTNOTES—

<sup>1</sup> See Fred Best and James Mattesich, “Short-time compensation systems in California and Europe,” *Monthly Labor Review*, July 1980, pp. 13–22. The Department of Labor’s evaluation of existing State programs is scheduled for completion in 1985, pursuant to the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97–248, Part III, Subtitle 6) which also requires the Department to give technical assistance to States with short-time compensation programs.

<sup>2</sup> Irving Bernstein, *The Lean Years: A History of the American Worker, 1920–33* (Boston, Mass., Houghton Mifflin, 1960), pp. 306–07 and 476–84, provides a detailed account of Herbert Hoover’s President’s Emergency Committee on Employment, which urged voluntary work sharing efforts.

<sup>3</sup> All historical data in this section are from the *Bicentennial Edition of Historic Statistics of the United States, Parts I and II* (Washington, U.S. Department of Commerce, Bureau of the Census, September 1975). Production data (FRB) is found on p. 667; labor force and unemployment data, pp. 126–27; manufacturing employment data, p. 137; earnings and hours data, p. 170; productivity data (National Bureau of Economic Research), p. 162; and Consumer Price Index data, p. 210. Data in these volumes are from the Current Population Survey and the Bureau of Labor Statistics unless otherwise noted.

<sup>4</sup> Herbert Hoover, *The Memoirs of Herbert Hoover: The Great Depression, 1929–41* (New York, MacMillan, 1952), p. 45.

<sup>5</sup>Data based on graph (p. 1020) in "Employment, hours, earnings and production under NRA," *Monthly Labor Review*, May 1934, pp. 1013-36. The article notes that "from July 1933 to March 1934 the production index declined 12 percent and yet the employment index increased 13 percent."

<sup>6</sup>"The President's 'Re-Employment Agreement' gave jobs to about 2,462,000 persons between June and October 1933 through reducing weekly hours of work. Industrial activity in this period declined, hence, the increase in employment was the result of shorter hours. However, the National Recovery Administration codes, after they substantially superseded the President's Re-Employment Agreement, added very little to the number of jobs between October 1933 and the first 5 months of 1935, in spite of a gain in manufacturing production of 14 percent . . . due to tolerances, exceptions and exemptions. In 64 percent of the codes, covering 61 percent of employees in codified industries, provisions permitted a workweek of 48 hours or longer for many of these workers. The abuse in the application of loosely drawn provisions reduced the reemployment." From Broadus Mitchell, *Depression Decade*, Vol. IX of *The Economic History of the U.S.* (New York, Rinehart, 1947), pp. 283-84.

<sup>7</sup>The ratio of the increase in manufacturing jobs to the increase in output was .79 in the 1933-35 NRA period; the ratio decreased to .68 in the 1935-37 post-NRA period. In both periods, output growth was about 28 percent, but in 1933-35, weekly hours decreased 3.9 percent, while in 1935-37, they increased 5.5 percent. (See footnote 3 for data sources.)

<sup>8</sup>Edith Lynton, "Alternatives to Layoffs," a paper prepared for a conference convened by the New York City Commission on Human Rights, April 3-4, 1975.

<sup>9</sup>See Robert Bednarzik, "Short workweeks during economic downturns," *Monthly Labor Review*, June 1983, pp. 3-11.

<sup>10</sup>Affirmative action, labor-management relations, and other potential benefits of short-time compensation are discussed in more detail in the book from which part of this article is excerpted, as are unanswered questions about possible costs or adverse effects of short-time compensation. Further research is needed on such benefits and costs. For example, the potential role of work sharing as a solution to preserving the affirmative action gains of minorities and women was enlarged as a result of the recent Supreme Court ruling that affirmative action could not be used as the basis for not laying off by seniority. Employers wishing to prevent layoffs from having a disparate impact on recently hired minority groups may have to use short-time compensation. But the question arises as to whether employers sometimes lay off lower seniority or less-skilled workers—perhaps disproportionately minority group members—before implementing short-time compensation. Suggestions have been made to prohibit such practices.

These and other issues are discussed in the chapter on which this article is based: replacement rates, effect on wage bill, use of countercyclical triggers, windfall effect, and the effect of the incentive to work. The book was supported in part by the German Marshall Fund of the United States.

<sup>11</sup>German data are based on published and unpublished data of Deutsche Bundesbank, transmitted to the Bureau of Labor Statistics on Apr. 14, 1983. Percentages apply to wage earners. Output per hour and average hours are the author's estimates. Change in average hours in a short period (that is, 1 year) are almost totally the result of shortened weekly hours.

<sup>12</sup>In the United States, the industry is SIC 35; in Germany, the industry is *Maschinebau*, MAB, DIW 32—Mechanical Engineering. Percentages apply to wage and salary earners. German data are from Deutsches Institut für Wirtschaft Forschung, Berlin, May 1980. U.S. data are unpublished BLS data.

<sup>13</sup>Research by John Duke and Horst Brand shows that productivity growth in the machine tool industry (part of the nonelectrical machinery sector) was slow in 1958-80 in good part because during downturns skilled workers were hoarded. For example, in 1974-76, output declined almost 10 percent faster than hours of work, resulting in a 10-percent decline in productivity. (See John Duke and Horst Brand, "Cyclical behavior of productivity in the machine tool industry," *Monthly Labor Review*, November 1981, pp. 27-34.) Employers in Germany can hoard skilled workers without using them full-time if output does not warrant it; that is, they hoard workers but not total hours of labor. This contributes to their better productivity. Also, Duke and Brand found cyclical declines probably aggravated the industry's perennial skill shortages because, despite hoarding, it took time to bring back laid-off workers or find replacements for those no longer available. This problem, too, is minimized by short-time compensation's effect in keeping more workers attached to the payroll, ready to move to full-time work in an upswing. In both the downturns of 1973-75 and the overall downturn period of 1979-82, two-fifths of Germany's decrease in total hours in manufacturing was composed of decreases in average weekly hours (the rest was decreases in employment), whereas in the United States, only one-fifth of the total decrease in hours in manufacturing was composed of the decline in average weekly hours. (See "International Comparisons of Manufacturing and Labor Cost Trends: Preliminary Measures for 1983," USDL News Release 84-245, May 31, 1984.)

<sup>14</sup>See footnote 12 for sources. Because accurate measurement of long-term productivity trends requires that the first and last years not be recession years, the time frames for the two countries slightly differ.

<sup>15</sup>See footnote 13.