An Economic and Business History of Worksharing: The Bell Canada and Volkswagen Experiences

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In December 1993 Bell Canada and Volkswagen AG (Germany) announced plans to reduce their work week from five to four days. In both cases hour cuts were negotiated to avoid massive layoffs; at both firms earnings were cut, although not proportionately.[2] The similarities ended there, however. At Bell hour cuts were met by lower productivity and higher absenteeism, and the firm admitted that the pattern of four days work was too rigid to accommodate variations in demand. At VW productivity increased, absenteeism declined, and its Wolfsburg plant now operates more than 150 schedules to accommodate the needs of workers and customers. And while in April 1994 Bell resumed working its normal 38-40 hour work week, making plans to downsize and use layoffs to reduce its workforce, VW, as set out in its most recent contract of December 1995, continues to work 28.8 hours per week and to introduce further flexibility in hours of operation.

The Bell and VW cases are telling illustrations of the widespread use of worksharing and short time in Europe and its neglect in North America.[3] What

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[2] Bell Canada is a large telecommunications company employing 45,000 workers mainly in Québec and Ontario. Worksharing was introduced initially to save 5,000 jobs. Average wages fell by eight to ten percent. Worksharing was introduced at VW to save 30,000 of its 100,000 jobs in Germany. Annual income was reduced proportionately, but monthly income remained roughly constant. Prior to the December 1993 agreement VW workers had received an additional month of pay per year – the thirteenth month – but under the worksharing agreement this amount was spread over the entire year. The statistics in this paragraph are based on interviews with members of VW management and works council held in June 1995. The comparison between Bell and VW is elaborated in Huberman and Lacroix [1996].

[3] In the recent industrial relations literature worksharing is often defined as agreements between workers and firms to reduce hours to save jobs in the face of a temporary decline in demand; short time generally refers to firms' policy of cutting hours temporarily where earnings are supplemented by unemployment benefits. These conventions will be followed here. Nineteenth century sources rarely mention "worksharing," generally preferring the terms "short time" and "short hours." Some forms of nineteenth century short time were supplemented by local authorities, such as Poor Law Assistance in Great Britain.

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explains these different experiences? A popular explanation attributes different work patterns to unemployment insurance rules and regulations [Burdett and Wright, 1989; Bernanke and Powell, 1986]. In North America only the fully unemployed receive benefits (that is, part-timers or workers on reduced hours are excluded from compensation). But in Europe short-time compensation is paid to workers on reduced hours. There are problems with this line of reasoning. First, at VW, as at Bell, workers on reduced hours were not subsidized. Second, there are offsetting institutional arrangements that make short time relatively unattractive in Europe. Unemployment compensation and assistance for workers who are completely laid off are more generous in Europe than North America; moreover European employers' contributions are not experience-rated, thereby weakening their incentive to workshare.

I do not dispute that at the margin more generous local, state, or federal compensation would have a positive impact on short-time work, but this cannot be the whole story. Short hours and worksharing have been practiced continuously in many European countries since the nineteenth century, if not earlier. When unemployment insurance legislation was written in the first decades of the twentieth century it incorporated many of the characteristics or features of short-time work already in place, including the subsidization of hours lost. But in the United States and Canada worksharing practices, although not uncommon in the mid- to late-nineteenth century, grew even less popular by the mid-1920s, that is before the introduction of unemployment insurance legislation which ignored short-time work almost completely. The point is that not all labor markets are alike and modern institutional arrangements are manifestations of particular histories.

The experiences of VW and Bell need to be situated in this context. The process of cutting hours is not costless because both workers and firms expend resources to adjust to it. However, through a learning process European workers and firms have accumulated knowledge and experience about worksharing. Owing to its history, the fixed costs of adjustment, as well as negotiation and transition costs, are lower in Europe. An historical explanation also contributes to our understanding of the limits of transferring policy across countries. If labor market institutions – like UI – are endogenous, it would seem unlikely that transferring German-like labor legislation would have any significant impact in North America where the history of short-time or worksharing is limited.[4]

Worksharing: The Nineteenth-Century Heritage

In the first factories that were established in Manchester and surrounding towns in Lancashire in the late eighteenth century, workers mixed leisure and effort on the job.[5] Pre-factory work habits were difficult to break and in some cases, like metal manufacture in Birmingham, irregular hours of

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[4] A similar point is made by Abraham and Houseman [1993].

[5] For the British experience, this paper draws on material in Huberman [1996].

work persisted late into the century [Hopkins, 1982].[6] But in the leading sector, textile manufacture, employers began to make investments in fixed capital equipment, such as steam engines and longer and bigger spinning machines, and as competition intensified they demanded longer and more regular hours of work. The representative textile factory operated at 69 hours at the beginning of the century, increasing its hours to 72 by 1830. Legislation to reduce hours was incremental. By mid-century textile firms still worked between 58 to 60 hours (10½-11 hour work days, Monday to Friday and 3-7 hours on Saturday). A standard 9 hour work day was in place by 1914; and the 8 hour day by the early twenties [Bienefeld, 1972].

Why did it take so long for the normal work week to be reduced? It is difficult to believe that contemporaries did not know that long hours of work were harmful to the health and hence productivity of workers. It may be speculated that firms maintained long hours because they had difficulty monitoring the effort of their workers, and the long day ensured to some degree that goods were produced. An alternative explanation is that in the early stages of industrialization firms and workers had not made a commitment to each other. The early labor forces were heterogeneous, employing men, women, and children of nearly all ages. Firms appeared to be indifferent to the benefits of building up a stable and qualified labor force, whereas workers were unsure about their role in and uncertain about the possible benefits of industrial work.

Beginning around 1825 or so in Lancashire, that is after about one generation of factory work, both sides of the labor market began to recognize the benefits of long-term attachments [Huberman, 1996].[7] Workers had severed their link with the countryside and without the benefits of pensions or other forms of assistance when they were sick, old, or unemployed, they sought long-term attachments. From firms' perspectives the high turnover policy proved to be costly. In the textile industry, spinning skills were essentially learned on the job and older workers trained newer recruits who were also their assistants. Long-term attachments encouraged workers to develop organizational competencies, allowing firms to reap the full benefits of learning by doing and amortize their training costs and related investments in firm-specific skills.

Short time or worksharing during cyclical downturns became an important vehicle in preserving long-term attachments [Boot, 1990]. During trade declines, instead of a normal work week of 56 hours or so, firms cut back production, usually by about two hours a day. This amounted to a cut in production time of about 20 percent. Although hours of work remained long, there is no doubt that short time during recessions gave workers some time off to rest for the ensuing period of recovery and full-time work.

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[6] The notion of a fixed work week and a standard weekend is a recent phenomenon that only became established in Britain in 1890 or so. Other countries, like France, were even slower to adopt the fixed work week and the *semaine anglaise* was widely scorned by both workers and firms [Cross, 1989].

[7] Dupree [1995] found similar evidence in her study of the Staffordshire Potteries.

There are examples of cotton-textile firms that continued to work at full time during periods of trade decline. Not only did they work long hours but they also paid lower wages. These firms, however, earned poor reputations in the labor market and they most likely recruited low quality workers. How were reputations enforced? Short-time agreements between firms and workers were not written down and they could not be brought to a third party like the courts. In the textile districts of Lancashire agreements were self-enforced by blacklists [Huberman, 1995]. Notices were placed in local newspapers that announced firms breaking the norm of short time during trade declines. Over time, enforcement costs declined because population movements into the towns tapered off and workers and firms developed long-term relationships. Workers and employers lives' intersected in the factory and in the wider community, and in this way activities of each party could be monitored by the other. But enforcement declined as well because both workers and firms acted according to social norms of acceptable behavior, rather than because they have reckoned precisely all the consequences. Each principal feared violating the standard for fear of being ostracized, while those who did the ostracizing did so because they feared that if they did not ostracize those who violated the norms of behavior, they themselves would have been ostracized or have suffered the penalty of social censure. In Manchester the social norm was do as the Mancunians do, and this meant short-time working.

Hours of work in Germany evolved similarly. After the Napoleonic Wars the shortage and turnover of skilled labor posed a persistent problem [Lee, 1978]. To preserve attachments and to elicit worker investment in skills, firms encouraged apprenticeship schemes; they also worked short time. Krupp initiated short time during trade recessions to give workers an incentive to undertake investments in human capital and build organizational competencies [McCreary, 1968]. By mid-century the German economy was well stocked with skilled labor. Mirroring developments in Britain, the management techniques and work organization of craft production resurfaced in German large industry after 1870 [Dornseifer and Kocka, 1993, pp. 245-6]. The German cotton textile industry, for example, was more highly capitalized than England's, but traditional work patterns and hours were preserved into the early twentieth century [Lenger, 1988; Ritter and Tenfelde, 1992]. The traditional mode of training, the apprenticeship program, remained intact; it may in fact have expanded.

The U.S. experience with worksharing has recently been explored by Carter and Sutch [1992].[8] Based on a detailed study of Connecticut manufacturing, they found that hours worked declined by more than 30 percent during the recession of 1893-94. Even those firms that reduced employment sharply relied heavily upon short time as well. But there are important differences between the European and North American cases, even at this early stage. In Britain and Germany short time was common at large

[8] See also Atack and Bateman's [1995] study of hours of operation using the censuses of manufacturing for 1870 and 1880. They found that the percent of downtime in 1870 was 17.8; in 1880, 15.5.

firms employing skilled workers, but in Connecticut it was more pronounced at large firms employing unskilled labor. Skilled workers in the United States were highly mobile; many firms in fact stole skilled workers from each other [Steinfeld, 1991, p. 162].[9] Moreover, apprenticeship programs in North America were not well established and workers quit without notice [Elbaum, 1989]. At this stage in their development American workers neither invested in skills nor built organizational competencies; rather they used mobility to improve their circumstances. Labor demand decisions matched labor supply choices. American employers were disinterested in having contract law applied to training, because it would have limited employers prerogative to fire and discipline at will. Relative to British employers, U.S. firms were more likely to offer short-term contracts and discharge workers before their termination [Jacoby, 1982]. As a result, American firms began investing in technologies and work processes that demanded fewer skilled workers [Lazonick, 1990].

Standardization of Work Hours and Worksharing in the Interwar Years

By the early twentieth century short time in England was widely practiced [Chapman and Hallsworth, 1909]. Employers saw it as a means to protect their investments in skilled workers; trade union associations routinely supplemented short-timers in order to keep workers in the trade [Gilson, 1931, p. 166]. Although the initial unemployment insurance leglislation of 1907 did not cover cyclical industries, such as cotton and mining, in subsequent revisions to the law short-timers became eligible for compensation. Despite some restrictions [Thomas, 1988, p. 136], short time was widespread in Britain during the crises of the 1920s and 1930s.[10] Indeed the Government appealed to firms to workshare [Royal Commission, 1931]. In Lancashire, where short time in the 1920s was seen to be chronic, hours of operation were cut by about 25 percent in 1929 [Whiteside, 1985; Whiteside and Gillespie, 1991].[11]

Developments in Germany were similar.[12] In his detailed study of hours of work and unemployment of trade union members during the 1920s, Woytinsky [1931] reported that on average 25 percent of unionized workers were on short time during 1925 and 1926. The 1927 Unemployment Act in

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[9] While this practice was not unknown in Europe, employers often colluded to prevent firms from raiding each other. One explanation is that the relatively stable population flows in many industrial communities in Europe after 1850 helped enforce these arrangements. The cutlery trade of Solingen [Lloyd, 1908] followed this practice.

[10] The system did have its critics. Keynes [1981] in his recommendations on rationalizing the textile industry was extremely critical of short-time working because it allowed uncompetitive firms to survive.

[11] There is some disagreement about short-time working in Britain in the 1930s. Using unemployment data, Feinstein [1972] reported its diminishing importance; Gregory, Ho and McDermott [1988] had difficulty reconciling these estimates with other studies and raised some questions about the reliability of the unemployment data.

[12] French unemployment insurance legislation also recognized the tradition of *partage du travail* [Salais, Baverez and Renaud, 1986].

Germany regularized short time working, granting funds to workers on reduced hours. As in Britain the goal was to standardize payments across unionized and non-unionized industries. Summarizing the benefits of the act, Weigart [1934, p. 57] wrote: "[P]art-time employment is not penalized; instead it is encouraged."

The Weimar republic also made works councils compulsory at medium- and large-sized enterprises [Müller-Jentsch 1995]. Throughout its history the council has played a key role in negotiating and administering hours of work at the firm and plant level, and monitoring and obtaining information about workers' and firms' activities, thereby filling the role played by British newspapers in the nineteenth century. Workers who broke with short-time conventions found it difficult to find employment elsewhere; firms that did not honor commitments about short time had difficulty in recruiting workers.

In the United States and Canada worksharing waned in popularity before the advent of unemployment insurance legislation. Fearful of the high labor turnover that plagued the economy immediately after the end of the World War I, and in response to the slowing down of immigration into the country and the growing union presence, large firms began instituting personnel or human resource departments that were given full authority over labor-management relations. Influenced by the work of the Industrial Fatigue Board on the relation between long and uneven hours and fatigue, personnel officers became proponents of a fixed or standard work week of 40-44 hours. Standardization of hours facilitated the task of managers in supervising and monitoring the flow of throughput in enterprises that were increasingly more complex networks and dependent upon assembly production [Gordon, Edwards, and Reich, 1982; Lazonick, 1990; Jacoby, 1993]. Thus, in large enterprises with rigid job assignments the substitutability of employees for hours per worker declined.

Along with a fixed work week, personnel departments sponsored seniority arrangements, internal job ladders, and promotions based on tenure. Seniority rules appear to be associated with the rise of mass production industries even before 1914 [Jacoby, 1993]. They initially were administered by foremen as a means to bolster loyalty while preserving the benefits of a trained workforce [Willard, 1985, p. 244]. Frequently the principle was abused, and with the rise of professional managers and the concomitant decline of the foreman, unions were able to enforce their demand that seniority be protected in collective agreements. Seniority was seen to be as equitable and as secure as any worksharing rule because it established the claims of current job holders to future job opportunities. For employers, seniority provisions tied workers more closely to the firm, allowing companies to realize some of the incentive effects of an internal labor market. Earnings were related to tenure, and by raising the cost of dismissal, firms could expect higher levels of effort.[13]

[13] Seniority thus raised the present value of jobs. As in efficiency wage models [Weiss 1990], short time reduced the value of these jobs and would imply that higher wages were required to prevent shirking.

Unions in principle were not opposed to worksharing and into the 1930s there are examples of collective agreements that established work-sharing schemes. In the shoe industry in Massachusetts the collective agreement specified that jobs had to be shared or rotated among all workers who had been employed by a firm for at least five weeks. But the arrangement was temporary. A number of firms responded by repeatedly laying off workers just before they reached the 5-week mark [Keyssar, 1986, p. 442]. Cohen [1990, pp. 244-5] found similar malfeasance in her study of Chicago in the interwar years. Western Electric, she observed, was one of the few companies who implemented worksharing equitably during the depression, but at U.S. Steel "employees saw [worksharing] as invitation to foremen to play favorites even more than they had in the 1920s." At Bethlehem Steel available work during the depression was shared only among "efficient and loyal workers;" the rest were laid off [Jacoby, 1985, p. 212]. Increasingly workers were gaining exposure to firms who used short time arbitrarily and without any commitment to securing employment for all, and in response to President Hoover and employer groups who vigorously promoted worksharing in 1931 and 1932, many unions denounced the proposals as expedient devices to "share the misery." Thus, even before World War II unions were claiming that worksharing arrangements were merely forced concessions and they fought to have contracts specify fixed work days or work weeks [Briggs, 1987]. Evidence on actual work hours during the depression is consistent with these business and union histories. For a select group of U.S. steelmills, Bertin, Bresnahan, and Raif [1996, pp. 255-6] found that worksharing or labor hoarding between 1929-35 was minimal. They concluded that although "job sharing seems to have occurred principally at the larger firms and plants...[it] was not an economically important phenomenon."[14] The evidence for Canada is similar [Green and MacKinnon, 1994].

North American policy makers were aware of the availability of short-time compensation for unemployed workers in Europe when U.S. and Canadian UI legislation were written. But the Canadian legislation, despite being heavily influenced by the British model, made no reference to worksharing, highlighting the lack of demand for it among the parties. The U.S. experience evolved differently because John R. Commons and his students, who played key roles in writing federal and state legislation, saw UI as a means to smooth employment over the business cycle (reducing seasonality), and to this end they introduced experience rating, a system which penalizes firms that have had a history of layoffs [Baicker, Goldin and Katz, 1997]. It was intended that experience rating would give firms an incentive to hoard labor, thereby acting as an alternative mechanism to worksharing or short time. Some states, like Wisconsin, did make provision for unemployment compensation to part- and short-timers, but the maximum level of combined wages and benefits they could earn could not exceed the benefits received if they were laid off

[14] Most of the hour reduction in the industry was due to firms shutting down and exiting. This finding raises issue with Bernanke and Powell [1986].

completely [Blaustein, 1993; Common and Andrews, 1936; Nelson, 1969]. At the federal level, President Roosevelt did show genuine interest in worksharing and hour codes stipulated by the NIRA in the mid-1930s were intended to compel firms to cut hours instead of workers. But surveying the results, Jacoby [1985, p. 237] concluded that "despite the flurry of activity...the reforms instituted in the NIRA's wake did not reach far beyond the industry's progressive minority."

In sum, by the 1930s labor market arrangements in North America and Europe had diverged. Although the standard work week was established on both continents, and the average work week was in some cases longer in Europe than in North America, firms in the former offered workers lengthy employment by working short time; in the latter firms used the principle of seniority to extend attachments. These labor market arrangements were regularized and codified in European unemployment insurance legislation and in North American union contracts.

Learning by Doing at VW and Bell: The Legacy of Worksharing

In the classic model of learning-by-doing, productivity on a given technology increases at a diminishing rate as workers become more familiar with it. There are as well dynamic aspects to learning. Learning by doing models imply that the probability a technology or organizational change will be exploited and improved rises with the intensity of its use. There are feedback mechanisms in this process that may lead to significant externalities.

Short time or worksharing is a type of organizational change. Firms need to adjust work schedules and coordination costs increase. Moreover, firms may have invested in technologies that presume full-time work, and they will incur downtime costs. Workers also need to expend resources to adjust to reduced hours. They must adjust their work-leisure schedules at the workplace and at home. In a dynamic context these costs may be less important. Through a learning process both sides of the labor market accumulate experience. Firms may introduce flexible work teams, organizations, and technologies that permit adjustable work schedules. Workers make home and life-style choices that accommodate reduced hours. In a dynamic context in which learning takes place and which generates positive feedback mechanisms, worksharing need not raise costs. It may simply be an alternative way to organize work in the face of a downswing.

VW has a long tradition of worksharing. During the war auto firms generally worked a shorter work week owing to shortages of parts; in the 1950s, VW was the leader among German firms introducing a reduced work week [Tolliday, 1995]; and in the crisis years in the 1970s and 1980s the firm resorted to a short-time policy. During these periods, short-timers were often supplemented by UI. Both sides of the labor market have adapted to this policy. The works council, workers' voice in co-management decisions, monitors these arrangements and ensures that all workers are fairly treated. In response, management has maintained a no-layoff commitment to its core workforce.

Management and labor have also learned from their own experiences and that of the other party. Workers view short time as a period to upgrade their skills and they are willing to undertake these investments because of VW's no-layoff policy. Management has taken the initiative to use the increase in flexible hour arrangements to adjust technologies and work organization, without restructuring its basic plant model.[15] Its Wolfsburg plant remains the model of the Fordist assembly line.

The Bell Canada experience evolved differently. Until deregulation opened the telecommunications industry to competition, the company had remained relatively insulated from the business cycle. As a result, the tenure of its workers is long and they earn considerably above the average manufacturing wage. Their positions are protected by a collective agreement and their wage scale and promotion is based on seniority. Employees have regularly supplemented their income by overtime work. Only recently have they faced the possibility of layoffs or reduced working time, and when the union sounded out is membership in late 1993 on the possibility of worksharing arrangements, only 15 percent supported it.[16] Having little or no experience with hour cuts, workers' reluctance to go on reduced time was understandable. They would have had to adjust at many margins: at home, on the journey between work and home, and on the job where, they maintained, the intensity of work would have increased. When the firm and the union agreed to reduce hours, employees acted strategically: they reduced effort and absenteeism increased. As for the firm and its managers, they had to expend additional resources rescheduling activities of its work teams. Productivity in certain areas of activity did improve during the experiment's last month. Representatives of the firm acknowledge that because of its steep learning curve the experiment needed more time in its implementation before assessing its full effect. Representatives also concede that if follow-up surveys were now conducted, workers would show a stronger preference for reduced hours because they have had time to adjust. Still there is no further talk of worksharing. Without institutional support and lacking past practice, both management and the union have resorted to a fixed and rigid work week and are reconciled to invoking layoffs based on an inverse seniority rule as set out in the collective agreement.

Conclusion

Although worksharing was common in Europe and North America prior to World War II, its characteristics differed. Short time in Europe had its origins in craft production, and particularly in Germany it fostered investments in general and specific skills. If firms and workers abandoned short time they would have needed to develop alternative ways of investing in skill formation. Short time evolved into the standard response to preserving labor force attachments even well before the introduction of formal unemployment

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[15] These changes have been the source of tension.

[16] The total sample was 11,534 workers.

insurance schemes and union contracts. In the United States and Canada, in contrast, craft workers were known for their mobility across firms and regions. The greater mobility impacted on the willingness of workers and firms to invest in skills and short time in these circumstances was seen as a luxury.

Multiple equilibria existed. Consider two different employment regimes. In the European model workers are confident that firms would honor their commitments about worksharing. Faced by a shock in demand, firms cut hours equitably and workers resist exiting, continuing instead to invest in firm-specific skills. Worksharing is a repeated outcome. In North America, on the other hand, workers have no certainty about firms' commitment to workshare. The history of short time or worksharing is fragile at best and workers fear the possibility of a ratchet effect [reduced hours leading to permanently lower wages or inequitable layoffs]. Thus, in North America worksharing is not a stable equilibrium.

Bell and VW are models of two different employment regimes. The worksharing contract at VW is the offspring of repeated negotiations in Germany over hours; institutions and work organization complement the practice of flexible hours and thereby help preserve it. Bell's layoff contract has its origins in an industrial relations' history that is guided by a mistrust of worksharing. This approach has implications for policy. In North America attempts to modify unemployment insurance rules to encourage short time may alter behavior at the margin, but as long as the parties have no repeated experience with worksharing, it is difficult to believe that worksharing will be an alternative to layoffs.

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