

Job Loss and the Fraying of the Implicit Employment Contract

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Most workers have one employment contract that is explicit and another one that is implicit. The explicit employment contract specifies working hours, compensation, and job tasks. The implicit contract involves expectations about the extent to which the employment relationship is not just a payment for labor on the spot market but instead is likely to continue over time. The possibility of a longer-term commitment between an employer and its employees in turn has a number of implications: for example, whether firms will seek to avoid mass layoffs unless or until absolutely necessary; whether firms may cushion the wages and compensation of employees to some extent from broad swings in the economy; whether employees will show some degree of loyalty to the firm; and what kind of investments in human capital the firm will be willing to finance.

From the standpoint of the economic risks faced by households, one of the single biggest concerns is the risk of job loss—and in particular, the risk that employers may be doing less recently than they might have done in the past to shield employees from this risk. By its nature, the provisions of the implicit employment contract cannot be observed directly. However, it is possible to compile a range of evidence bearing on some of the central issues relating to why employers decide to trim jobs; why and how firms decide to lay off employees; job tenure and the length of time that a worker can expect to remain with an employer; how job loss affects workers in terms of subsequent wages and health; and the effects of job loss on short- and long-run corporate performance.

This paper will argue that, along a number of these dimensions, the nature of the worker-firm employment relationship may have changed substantially in recent years—a group of changes that as a whole have negatively affected the lives of workers and produced modest, if any, benefits for firms. This erosion of the implicit employment contract suggests that if

employers have become less involved with cushioning the blow of unemployment and avoiding layoffs where possible, then public policy might have a role to play in spreading the burden of a down labor market so that the burden is not borne so heavily by those who lose their jobs entirely.

### **The Employment Contract and Reasons for Layoffs**

The standard labor “spot market” model of the labor market described in textbooks assumes that wages are set equal to worker’s marginal products and are constantly updated depending on economic conditions. Examples of spot markets can be markets for day laborers or, perhaps less so, for temporary help services (Autor, 2001). A different view of the labor market is based on “contracts,” whereby the employer may help keep the worker from fluctuations and risk in the market (for example, Devereux and Hart, 2005). For examples of this literature, Okun (1981) and Bertrand (2004) discuss the “invisible handshake” where an “implicit” contract regarding compensation and work is made between the worker and the firm. Devereaux and Hart (2005) provide evidence that is consistent with spot labor markets in Britain. Kotlikoff and Wise (1985) consider the “spot” versus “contract” views of the U.S. labor market with particular emphasis on pensions. They find a large spike in values of pensions to individuals and doubt the existence of associated large changes in marginal products, evidence which they argue is inconsistent with the spot market model and favors the contract model.

To the extent that implicit labor contracts exist, firms may shield workers from economic vicissitudes by, for example, not readily laying them off except under extreme duress, and perhaps also insulating their wages and benefits at the cost of profits during downturns. (It

should be noted that keeping workers on during downturns may also in some cases be nothing more than profit-seeking behavior by a firm looking to avoid the substantial hiring and firing costs that some firms face.) Some also argue that the employment contract may also include reciprocal obligations from workers to firms. Loyalty from workers to firms would be very difficult to measure, but would be an interesting subject for (no doubt, interdisciplinary) future work.

It is often difficult to determine why a worker and a firm separated: Was it the worker's decision, the firm's decision, or some mixture of both? Job leaving can be voluntary for many reasons, including normal retirement, the lure of a better job, a family geographic move that necessitates a new job, and others. In addition, while being fired for "cause" is certainly not voluntary, it doesn't seem as if such cases should count as a fraying of the implicit labor contract. If we want to investigate a possible decline in employers' perceived obligations under implicit labor contracts, we might want to instead consider the prevalence of layoffs. Of course, there is a long list of euphemisms for this kind of job loss including "reductions in force," "adjustment," "resizing," "rightsizing," and "restructuring." Some of the work in this area uses evidence from the Displaced Workers Supplement to the Current Population Survey. According to the Bureau of Labor Statistics (2008), displaced workers are defined as "persons 20 years of age or older who lost or left jobs because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished." According to the usual government definition of this kind of job loss, the lost job must have been held at least three years. This minimum job tenure of three-years is interesting in light of the relatively large volume of "churning" in the labor market, which I will discuss further below.

Some evidence suggests that the labor market is more fluid than in the past. Average tenure of workers is falling and employees seem less “loyal” to particular employers. Further, journalistic stories like Tuna (2008) report that “lifetime employment, a hallmark at some employers in the US for generations appears to be disappearing.” These stories are backed up by academic studies like Cappelli (2005, p. 110), who notes: “For employees, economic downturns are now more catastrophic, because more workers are laid off more quickly with less chance of being rehired, while those who remain employed find their employment conditions worsening. But upturns are now more advantageous, as employers bid not only for entry-level help, as they have in the past, but also for experienced workers.” With the U.S. unemployment rate approaching 10 percent in the summer of 2009, labor market conditions are worse for the typical worker than they have been for a generation. According to the Bureau of Labor Statistics (2009), in June 2009, 2,763 “mass layoff actions” resulted in 279,231 workers losing their jobs. A “mass layoff” occurs when at least 50 people lose a job from the same employer. The data were taken from new filings for Unemployment Insurance. With one exception, the total of 279,231 jobs lost to mass layoffs in June 2009 is more than 100,000 workers higher than any other June number in more than a decade. (During the recession in June 2001, it was 250,359.)

Why do firms lay off workers? The past four decades have seen a quite substantial change in the reported reasons for job loss. Using a sample frame that included all firms that were ever in the *Fortune* 500 between 1970 and 2007, data on each job loss announcement described in the *Wall Street Journal* were recorded. For these 5,353 instances, the complete *Wall Street Journal* article was then read and a variety of information was collected. This information includes the primary, secondary, and tertiary reason for the layoff, the number of workers

affected, and whether white- or blue-collar workers were included.<sup>1</sup> There is anecdotal evidence that most layoffs by these firms are recorded in the *Wall Street Journal* as many announcements containing only a few workers are included in these articles (see Hallock, 1998, for a more detailed discussion). Although I cannot tell which other firms are making layoffs, I can estimate of the fraction of workers employed by these companies relative to employment in the United States. Using an independent sample of 727 large U.S. companies, I estimate that they employ 26.3 million workers. In 2009, 146.2 million people were employed in the U.S. economy. Thus, while the firms for which I have collected layoff information certainly do not employ the majority of workers in the United States, they do employ a sizeable minority, especially of private sector workers.

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Insert Table 1 Here

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The rows of Table 1 list 18 possible reasons why a firm in these data announced job reductions. The first column shows data for all years, and the subsequent four columns relate to specific decades: the 1970s, 1980s, 1990s, and 2000-2007. Clearly the category “slump in demand” is the most frequent reason given, overall and in each decade. However, substantial variation exists over time. To see this more clearly, in Figure 1, I have grouped the “reasons” into six general categories: “reorganization” (reorganization, restructuring, and in-house merger), “plant closing” (leaving market and plant closing), “slump in demand” (slump in demand, excess supply, and structural), “cost issues” (cost control, posting losses, increase earnings, and restore

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<sup>1</sup> In Billger and Hallock (2005) and Farber and Hallock (2009), my coauthors and I use the first 30 years of this 38-year data set. See those papers for more detail on the data construction.

profitability), “other” (increased competition, merger, bankruptcy, strike, and other), and “missing.” Note the scale is the same in each sub-figure, except for “slump in demand.” While these groupings are of course in some sense arbitrary, they do reveal some dramatic changes over time.

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Insert Figure 1 Here

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The “slump in demand” category follows the business cycle quite closely with spikes around the times of the recessions in the early 1980s and 1990s and during the end of the high-tech “bubble.” However, even taking these factors into account, job loss specifically due to “slump in demand” seems to be less prevalent than in the past. One possible interpretation of this finding is that firms are becoming less inclined to see layoffs as a result of a broad economic downturn and more inclined to view them as a natural competitive response that is sometimes needed even in good times as a response to changing economic conditions. In a similar spirit, announcements due to “reorganization” became progressively more prevalent during the 1980s and 1990s, when some have argued that stock market pressures led firms to try to be “lean” and encouraged firms to shrink employment. However, the number of announcements categorized as “reorganization” dropped quite a bit in the early 2000s. In some sense, this evidence is consistent with the fact that the implicit employment contract is changing or that layoffs are becoming more “routine.” It also could be that firms are offering different justifications for layoffs than they did in the past.

Perhaps the most striking pattern in the data (going back to Table 1) is the rise in the fraction of announcements due to “cost control” issues, which rises from 6.52 percent in the

1970s to 10.03 percent in the 1980s to 17.12 percent in the 1990s with a slight drop to 15.31 percent in the 2000s. This category undergoes the largest sustained secular increase over the four decades. It also may be consistent with changes in norms surrounding layoffs: letting workers go in order to control costs may not have been so acceptable three decades ago.

One might wonder about the quality of these “reported reasons” data. After all, the information likely came from a press release, and then was filtered through a reporter, and then through an academic researcher. To consider the quality of the “reasons” data culled from newspaper accounts and to investigate other issues, I interviewed 40 senior managers about how they felt about the accuracy of the reasons stated in the *Wall Street Journal* in relation to the actual reasons for job loss. Most respondents felt that the articles reported in the *Wall Street Journal* were not false, but that some type of “spin” was put on them. For example, one senior manager in a high tech firm said: “I never feel that the stated reasons are lies or incorrect. But I do feel that they are never complete . . . The PR guy’s job is to describe that the glass is half full.” However, some did feel that the reasons found in the paper were not very related to the actual reason for the announcement. A senior manager at a durable goods manufacturing firm said: “Should I have any confidence about what is said? No. Audiences are different. The *Wall Street Journal* is speaking to potential investors, so the spin is to make opportunities to buy the company stock.” A senior manager at a wholesale trade firm told me: “They won’t admit poor judgment. Some truth, but it doesn’t include ‘We screwed up’” (Hallock, 2006). It is also possible that the stated categories could also reflect herding— that is, if some set of firms states “foreign competition” as a reason for a layoff, others might say the same. Thus, the information content of the categories is not necessarily correct; the information on layoffs should be.



The distribution of these announcements, both when they are made during the year and when they are made during a week, suggests that layoff announcements have become more routine. As shown in Figure 2, in the 1970s, layoff announcements were commonly made either early in the year or late in the year, which is consistent with the idea that firms put off layoffs until the end of the year or after the end-of-the-year holidays when possible. However, by 2000-2007, job loss announcements seem to be timed more evenly throughout the year. During the 1970s and 1980s, layoff announcements were more common on Mondays and Fridays than during other days of the week. During the 1990s, Friday announcements were by far the most common. But from 2000-2007, layoffs are slightly more likely to occur Wednesday through Friday than on Monday or Tuesday—but overall are almost equally likely to appear any day of the week. Both of these patterns are consistent with the idea that firms are less concerned about managing the timing of layoffs and in that way are treating layoffs as more routine than in the past.

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Insert Figure 2 Here

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As layoff announcements have become more routine, a number of companies with long-histories of “no layoff” policies have faced job loss (Tuna, 2008). Within the last couple of years, for example, Enterprise Rent-A-Car let 1,000 workers go after a 51-year history of no layoffs, and Gentex Corporation (a Michigan auto parts company) let 100 of its 950 employees go after a 84-year history of no layoffs. Indeed, I have seen how companies can sometimes turn from a strong “no layoff” or “shared sacrifice” mentality to an entirely different mindset. I visited a high-tech company with roughly 1,000 workers in 2001 right after their first job loss. I heard

descriptions of extraordinary anguish and difficulty—including the chief executive officer crying while telling part of his workforce that they would have to go. I visited the headquarters of the same organization about six months later, when it was beginning a new round of layoffs. The same senior staff now had an entirely different view—and described the situation in stark, economic terms. They said that if the next round of cuts weren't made, the entire company would go under. The emotion over the job loss seemed to be almost entirely gone. Layoffs had become more routine.

### **Has Job Duration Changed over Time?**

Answering whether implicit or explicit contracts have changed over time is a difficult business. One possible signal of whether the average worker in the United States is faced with a greater risk of job loss is job tenure: Are employees typically with the same employer for fewer years than in the past? If so, why? Henry Farber has written a series of important papers (including Farber, 2005, 2007, 2008, forthcoming) that clearly and carefully document changes in job stability over time. Some of this work considers whether one can use the Displaced Workers Supplement to the Current Population Survey to actually identify all relevant job displacement; some examines general trends in job loss in the United States; and some investigates the change in long-term worker-firm attachment.

Farber (2005) examines Displaced Workers Supplements from 1984-2004. As noted above, in this survey, a “displaced worker” is defined as someone who lost or left a job because the plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished. First, Farber finds that more than one-third of displaced workers

are not employed at the next survey date, two years later. Second, about 13 percent of those who lost a full-time job are subsequently holding part-time jobs. Third, on average, those who lose full-time jobs earn about 13 percent less in their new full time jobs. Fourth, taking into account the earnings increases experienced by those who did not lose their jobs, those who lose full-time jobs earn on the order of 17 percent less on their new jobs than they would have, had they not been displaced.

How have patterns of long-term employment changed over time? Farber (2007, 2008) uses data from the Current Population Survey from 1973 to 2006 by birth cohort to examine changes in the length of employment relationships. He finds that both 1) mean tenure and 2) the fraction of workers working at least ten or at least 20 years at the same employer have each fallen. Moreover, these changes are not evenly distributed across the workforce. Figure 3 shows that the drop in job tenure is focused on male workers and especially on older male workers; indeed, longer-term worker-firm relationships among women have increased slightly during this period, probably in large part as a result of growing commitment of women to the labor force. As examples from the figures, average tenure for men age 45 was 11.28 years in the 1973-1983 period, 11.08 years in the 1984-1995 period, and 9.65 years in the 1996-2008 period; for women, average tenure at 45 years was 6.91 years in the 1973-1983 period, 8.34 years in the 1984-1995 period, and 8.03 years in the 1996-2008 period.

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Insert Figure 3 Here

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For 1973-1983, average job tenure for men grows steadily over a lifetime, with a drop at the early retirement age of 62. For 1984-1995, average job tenure looks similar to the previous time period for men up to about age 50, but then does not rise as quickly, and even starts declining after about age 58. For 1996 to 2008, average job tenure for men is noticeably lower even at ages as low as 35 as well as throughout the rest of the age distribution.

Farber also finds more of what he calls “churning,” or short-term jobs, defined as the fraction of workers whose job seniority is less than one year. He concludes that younger workers are much less likely than older workers to eventually end up having a long-term job with the same employer. Farber (2008) notes that on the order of 20 percent of jobs have less than one year of tenure. Using data from the 1973-2006 Current Population Survey, he shows that the share of workers with a new job and less than a year of job tenure was 0.349 for those 20-29 but declines as people age; for example, it is 0.124 for those age 40-49. These new jobs are more likely to be in the private than the public sector. The new job rate (the fraction of jobs with less than one year of tenure) is higher for women in the private sector (0.224) than men in the private sector (0.190). The male, private sector new job rate (0.190) is nearly double the male, public sector rate (0.100).

Farber (forthcoming) also finds that the drop in average job tenure and in long-term employment is primarily in the private sector; the public sector shows some *increases* in long-term employment. For example, he notes the dramatic decline in long-term jobs for men in the private sector. He defines a “ten year rate” as the fraction of workers 35-64 who have been with their employer for at least ten years and the “20-year rate” as the fraction of 45-64 year olds who have been with their employers for at least 20 years. For male, private sector workers, the ten-year rate has fallen from 50 to 35 percent from 1973 to 2006, and the 20-year rate has fallen from

35 to 20 percent over the same time period. The picture is different in the public sector, where the male ten-year rate went from 50 to 60 percent from 1973 to 2000 but then fell to 55 percent by 2006. The male, public sector 20-year rate went from 25 percent in 1973 to 40 percent in 1990, before falling to 35 percent by 2006. The patterns are different for women. For women in the private sector, the ten-year rate has been stable at around 30 percent, and the 20-year rate at about 35 percent from 1973 to 2006. But in the public sector, the female ten-year rate increased from 30 percent in 1973 to 45 percent in 2006, while the comparable 20-year rate rose from 10 percent in 1973 to 25 percent in 2006.

These patterns suggest that although the aggregate reductions in job tenure across the economy are not enormous, the changes in job tenure for younger workers trying to establish themselves and for older men working in the private sector are quite real. From the point of view of these workers, any implicit employment contract promising that employers will protect their job tenure would appear to be fading.<sup>2</sup>

Another way to consider whether the employment contract is changing, in addition to considering the decline in job durations, is to see whether firms are becoming more “trigger happy” about layoffs. One way to check for this would be to see if the propensity to layoff in response to some factors (such as an economic shock of a given magnitude or a decline in sales revenue) has changed over time. One could do this by creating a panel dataset of company-year observations over time (though understanding this conceptually is much easier than defining it or measuring it operationally). One could then see if job loss announcements in any year (or quarter

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<sup>2</sup> Osterman and Burton (2005) discuss the literature on internal labor markets and the extent to which they are changing in a changing world. This includes a discussion between Cappelli (1999) and Jacoby (1999) about the nature of “career jobs.”

or month) are related to some factors that may have changed for the firm (like assets or sales) or the economy (like the unemployment rate or interest rates).

Given the suggestive evidence that the employment contract has changed, the next logical question is *why*? Perhaps this is due to the decline in unionization in the United States. Perhaps companies have become more powerful relative to workers in the past generation or so.

Anecdotal evidence suggests that layoffs are now more “culturally acceptable” than they were a generation ago. In part due to the fact that so many have lost their jobs, the social stigma from losing a job seems to have declined as well.

### **Costs of Job Loss to Workers**

If workers who involuntarily lose their jobs find new jobs quickly with wages and benefits near the same level and without discernible longer-term negative effects on themselves or their families, then we might not view job loss as much of a contributor to household risk. In fact, one executive publicly stated in a symposium I moderated at the University of Illinois that he had twice lost jobs involuntarily, and he thought it can be *good* news to a worker when he or she loses a job. He argued that search is costly, and when workers are forced to search for new work, they can end up with a better job match than previously. (Many in the audience vigorously disagreed!) However, the evidence suggests that on average job loss has large and long-lasting negative effects on workers’ subsequent employment and earnings, as well as on physical and emotional health.

In the seminal paper on the issue of earnings losses after displacement, Jacobson, LaLonde, and Sullivan (1993) used administrative data from Pennsylvania during 1974-1986 on

workers' earnings histories with details about their companies to consider the magnitude and the time pattern of wages for displaced workers. The administrative data are a very large sample, which allows the authors to apply techniques from the program evaluation literature. The authors find that high-tenured workers leaving "distressed" firms suffer long-term losses on the order of 25 percent of their wages. Interestingly, they also find that on average wage losses begin before workers lose their jobs, depend on local labor market conditions and industries, and are significant even in cases where workers find jobs in similar companies. Also, see Kletzer (1989) for an interesting investigation of the role of previous job tenure on earnings after job loss.

In a follow-up to Jacobson, LaLonde, and Sullivan (1993), Couch and Placzek (forthcoming) perform a very similar analysis using data from Connecticut for a more recent time period. While their results are similar, there are some interesting differences. While Jacobsen, LaLonde, and Sullivan find long-term (six years post displacement) effects of 25 percent lower earnings, Couch and Placzek estimate effects of 13 percent to 15 percent. Couch and Placzek find immediate effects of about 33 percent, and Jacobson, LaLonde, and Sullivan estimate immediate effects on the order of 40 percent. Couch and Placzek argue that the larger effects estimated in Pennsylvania are due to the fact that a very high fraction of that state's working-age population were Unemployment Insurance recipients during the time of the study. Eliason and Storrie (2006) study long-term effects of displacement in Sweden using linked employer-employee data. They find that workers in Sweden also suffer losses in the short run and in the long run of four years.

A host of other papers estimate earnings losses following displacement using a variety of sources, including the Displaced Workers Supplement (for example, Topel, 1990; Farber, 1997; Carrington, 1993; Neal, 1995); the Panel Study of Income Dynamics (for example, Ruhm, 1991;

Huff Stevens, 1997) ; the Health and Retirement Study (for example, Couch, 1998; Chan and Huff Stevens, 2004); and the National Longitudinal Survey (for example, Fairlie and Kletzer, 2003). In general, these studies find smaller negative effects on wages post-displacement than do administrative studies. Von Wachter, Handwerker, and Hildreth (2009) try to reconcile differences between the administrative and survey results using a unique match of the Displaced Workers Supplement and administrative records in California. When they use a common method to account for measurement error in survey wages that are correlated with demographics of workers, they find earnings estimates are similar across the two data sources. The survey data can have errors due to recall bias and other problems; the administrative data are generally not survey-based. The error in survey data is nonclassical, in that it is correlated with age, education, and past tenure.

The evidence also suggests that negative effects on earnings are long-lasting. Von Wachter, Song, and Manchester (2009) investigate very long effects of displacement during the early 1980s recessions on earnings, using administrative data from 1974 through 2004. They find that workers who permanently leave an employer between 1980 and 1995 for which they worked a long time have very large and continuing earnings losses as many as 20 years later. They attribute the losses to reductions in employment and in pay for those who continue to work. Using the Panel Study of Income Dynamics, Huff Stevens (1997) finds that much of the persistence in the effects of negative earnings losses post-displacement are due to additional job losses in the years following the initial displacement.

The earlier evidence on job tenure suggested that job loss may bear especially heavily on older men. Chan and Huff Stevens (2001) consider job loss among older workers using the Health and Retirement Study. They find that, for workers who lose jobs after age 55, the



employment rate is 20 percentage points lower than the employment rate of similar workers who were not displaced. Elder (2004), using the same data sources, provides structural estimates of a dynamic search model. He finds that “simulations indicate that both market opportunities and age-related preferences for leisure are responsible for the observed unemployment durations, but that older workers would still have relatively long post-displacement jobless spells if preferences for leisure did not vary with age.”

More recent work by economists (and others) suggests that the physical and emotional health of displaced workers may be substantially compromised as a result of job loss.<sup>3</sup> For example, Sullivan and von Wachter (2007, forthcoming) consider similar issues and study the relationship between job loss, career outcomes, and mortality for individuals using administrative data. They match quarterly earnings and employment records to death certificates and find that job displacement leads to a 15 to 20 percent increase in death rates during the subsequent 20 years. They calculate that, if this rate continued beyond the estimation period, this would translate into a loss in life expectancy for someone at age 40 of 1.5 years. Additionally, Dooley, Catalano, and Wilson (1994) use individual panel data and find an increase in depression following job loss.<sup>4</sup> Such studies are always subject to questions about causation: perhaps part of the reason that certain workers were laid off is that their physical or mental health

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<sup>3</sup> A rich literature in applied psychology explores the effects of job loss on the “survivors” of layoffs. I will not discuss that literature in this paper. The interested reader might begin with Brockner, Konovsky, Cooper-Schneider, Folger, Martin, and Bies (1994), Mishra and Spreitzer (1998), and the references cited therein.

<sup>4</sup> Some evidence from other countries suggests these factors may be less important. Browning, Dano, and Heinesen (2006) study men in Denmark from 1981-1999 and find no evidence that being displaced from a job is related to being hospitalized for a stress-related disease. Martikainen, Maki, and Jantti (2007, p. 1070) study the relationship between unemployment and mortality for Finnish men and find “no excess mortality...among those who, at baseline, were employed at workplaces that had experienced reductions in employment.”

was hindering their job performance. But mass layoffs often do not show great selectivity. Even if the precise magnitudes are not clear, workers who experience involuntary job loss do seem at risk of potentially serious health outcomes.

### **Effects of Job Loss on Firms**

It would seem reasonable that firms let workers go because it is in the best interest of the firm—or the firm, obviously, would not have executed the job loss. However, firms may have chosen to reduce jobs in pursuit of short-run gains that turn out to be illusory in the long term, or layoffs might be undertaken for reasons that benefit top management rather than the firm as a whole. This section investigates the effects of job loss on companies, including outcomes for short-run stock prices, for stock prices and viability in the longer run, and for pay of top executives.

Figure 4 shows the distribution of job loss announcements by firms from 1970-2007, using the 5,353 job loss announcements introduced earlier. The number of job loss announcements tracks the unemployment rate quite closely, except for the first two years in the sample and the five years around the year 2000. These announcements are not weighted by the number of people in the announcement. Nevertheless, the fact that the number of announcements tracks the unemployment rate quite well is a good check on the data.

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Insert Figure 4 Here

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Some argue that the layoffs are necessary to maintain the financial health of the company. A host of studies linking job loss announcements to short-term stock prices have been written in the past few decades; readers interested in this literature might start with the papers cited in Farber and Hallock (2009). In that paper, Henry Farber and I used data on the stock price reaction to layoff announcements for any firm ever in the Fortune 500 from 1970-1999. Here, I extend these findings to the period 1970-2007, using an event study method (as in MacKinlay, 1997).

I have used a sample frame that includes all firms that were ever in the Fortune 500 in any year between 1970 and 2007 inclusive, as described above. It is worth considering whether these actually represent layoffs or just announcements that never turned into actual layoffs. While there is no way to know for sure, interviews with 40 senior managers yields anecdotal evidence consistent with the belief that a large majority of these announcements lead to actual layoffs (Hallock, 2006).

Using these data on 5,353 layoffs, I calculate cumulative average excess returns using value-weighted return data from the Center for Research in Security Prices (CRSP) at the University of Chicago. The excess return is the part of the movement in the stock return of a company that is not correlated with overall market movement in stock returns and presumably reflects unexpected firm-specific factors.<sup>5</sup> Figure 5 displays the average cumulative excess

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<sup>5</sup> Let  $t$  index time in trading days and let  $i$  index the companies. In the first-stage,  $R_{it}$ , the daily stock return for the company, is regressed on  $R_{mt}$ , the value-weighted return for the market.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}.$$

Next, for days around the event, the daily abnormal (or excess) returns can be calculated as follows:

$$ER_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt}),$$

where  $\hat{\alpha}_i$  and  $\hat{\beta}_i$  are estimated in the earlier equation. This regression is run for some period in the past, which in this study ranged from 60 days before to 30 days before the event.

returns over a three-day window—the day before, the day of, and the day after the event—for each of the 38 years from 1970-2007. Changes to this window length have no material effect on the results. The figure shows that the share price reaction to job loss announcements was typically negative in the 1970s, but seems to have flattened out and more often become positive by the middle to end of this decade. In essence, layoff announcements were bad for firm stock prices decades ago, and are clearly less bad (and, in some years, even weakly positive) now.

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Insert Figure 5 Here

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The average (and median) three-day cumulative share price reaction by decade are: for the 1970s,  $-0.48$  percent (and  $-0.66$  percent); for the 1980s,  $-0.31$  percent (and  $-0.23$  percent); for the 1990s,  $0.09$  percent (and  $0.01$  percent); and for the 2000s,  $-0.33$  percent (and  $-0.76$  percent). The 1990s was the only decade with a positive average (and median) cumulative excess return. Figure 5 shows that the trend has been toward cumulative average excess returns that are less negative over time. Consider the following back-of-the-envelope calculation. In 2007, the average three-day cumulative excess return for layoffs that had no other incidents within 30 days was  $-0.032$  percent. If a company with \$10 billion in market value experienced such a decline, its market value would fall by \$3.2 million. This decline is very small relative to the wages of workers lost in the typical layoff in the sample. In 2007, the median layoff included 790 employees.

One might ask whether the stock price reactions reported in Figure 5 may have been influenced by “other” news in the companies. For example, perhaps lower- than-expected earnings were announced on the same day as the layoff. To isolate the effect of layoff

announcements, the second line in Figure 5 repeats the analysis after removing any announcement that is within 30 days of another layoff, earnings announcement, stock split announcement, or dividend announcement for the same company. This change does not markedly alter the main findings.

It would be ideal if we could know exactly by how much the firm is better or worse off after restructuring employment or letting workers go. Unfortunately, this is not exactly what the cumulative excess return analysis tells us. If the layoff was completely unanticipated by the market, the cumulative excess return would be an estimate of the total net present value change in expected profitability from laying off workers versus not laying them off. But sometimes the “market” does anticipate some layoffs, and some interviews I’ve had with managers even suggest that market participants called for the layoff. That said, the cumulative excess returns could be measuring the change in the expected profitability for laying off workers now relative to potentially laying them off later.

Regression analysis shows that the stock price reaction to job loss announcements has, indeed, changed over time. Table 2 reports the results from regressions of the three-day cumulative excess returns on indicators for decade (the excluded decade is 1970-1979) and “reasons” for the layoffs (the reasons reported earlier are condensed into five categories: reorganization, plant closing, slump in demand, cost, and other (the excluded category is “missing reason”). From column (1), one can see that the excess returns in the 1970s (the constant term since the 1970s are the excluded category) were  $-0.654$  percent. The returns in the 1980s were higher (less negative); the returns from the 1990s, still higher; and the returns in the 2000s, not statistically significant from those in the 1970s. Furthermore, changes in the mix of reasons for job loss announcements over time do not explain the change in the returns to job

loss announcement over time. That is, when controlling for “reason” indicator variables in the regression reported in column 2, the coefficients on decade indicators do not materially change. This is evidence that the change in stock price reaction to job loss announcements over time cannot be fully explained by “reasons.” In Farber and Hallock (2009), my coauthor and I investigate a set of other potential explanations for the change in the stock price reaction of job loss announcements over time. We find that the short-term stock price reaction to job loss announcements has changed markedly over time and is now quite modest. Presumably one reason the effect is modest on average is that in some cases announced layoffs signal a decline in the prospects of the firm, but in other cases they signal a plausible proposal to improve the financial condition of a firm—and the average picks up both of these effects.

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Insert Table 2 Here

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The direct economic interpretation of the stock price reaction to layoff announcements is difficult. On one hand, the layoffs probably convey some news about the firm’s state. On the other hand, the effect could signal the effect of the layoff on future profits. The truth is likely some of each—and so the stock price reaction should not be thought of as measuring the pure benefit to the firm of laying off workers to a world where they retained them.

Determining the long-term effects of job loss on company viability and profitability is difficult. Dial and Murphy (1995) describe an extraordinary change at General Dynamics that began in 1991. The company hired a new management team and committed to a strategy of creating shareholder value in the face of a potentially serious fall in demand for defense-related products. The firm also specifically tied compensation of senior managers to the creation of

shareholder wealth. The firm went through massive job cuts and the firm's profits subsequently increased by a factor of four. Other more systematic studies include Bailey, Bartelsman, and Haltiwanger (1996) who use plant-level data from the Longitudinal Research Database to investigate downsizing and productivity in the 1980s. These data are based on plants, not firms. The authors find that plants that increased productivity and employment contribute nearly as much to overall productivity growth as plants that increased productivity but decreased employment.

Cascio, Young, and Morris (1997), who use 5,479 instances of changes in employment, investigate the relationship between these employment changes and return on assets (their measure of profitability) and return on common stock, but they use employment data that are not audited. They find that companies that just lowered employment performed no better than other companies. Given the limitations of the data, the longer-term impacts of job loss on company performance are less clear and more work needs to be done in this area.<sup>6</sup> But it seems safe to say that in some cases, based on the evidence from short-run and long-run firm performance, mass layoffs can contribute at most modestly (in some years) to a more successful and profitable firm.

Given that workers are certainly worse off and firms seem to be not much better off on average (except in some years) subsequent to job loss, it is natural to ask whether executives are better off. Little evidence exists on this point. In Hallock (1998), I investigate the relationship between the compensation of chief executive officers of companies and whether those companies lay off workers. Firms that announce layoffs in the previous year pay their chief executive officers more and give them larger percentage raises than firms that do not have at least one

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<sup>6</sup> Wayhan and Werner (2000) study the long-term impacts of job loss for a sample of companies that reduced employment in 1991 or 1992. They find that workforce reductions improve financial performance and that the effect is stronger in the short run.

layoff announcement in the previous year. However, some characteristics of firms (such as size) are also correlated with pay of chief executive officers and with job loss. When controls are added for firm characteristics and other variables, any pay premium for laying off workers disappears.

### **Possible Alternatives to Layoffs and Why They are Not More Frequently Used**

Many employees place some degree of reliance on an implicit employment contract that their employers will try to avoid laying them off unless it is strictly necessary. However, a variety of evidence suggests that firms are more willing to lay off workers than they have been in the past. Layoffs have become more common, and there is some evidence that firms appear to be treating those layoffs as more routine. Job tenure has fallen, especially for older men in the private sector. Because an involuntary job loss has a powerful and long-term effect on income, employment, and health, workers have reason to be concerned that they are less protected against the risk of layoff than in the past. There is some suggestive evidence (in some years) that firms can benefit financially from imposing layoffs, at least under certain circumstances, although it is difficult to disentangle those cases in which layoffs are a signal of bad news from those in which layoffs may be the start of rebuilding an improved financial picture for a firm.

Are there potential alternatives to layoffs? A starting point is to consider ways in which the burden of layoffs could be spread across the workforce of a company in a way that would impose less household risk on a few, through mechanisms like widespread reductions in pay, trying to make sure that reductions on hours fall on those most able to bear them, and even widespread Work Sharing Unemployment Insurance (discussed below). However, these



mechanisms all share a common problem, which is that many workers want to work full-time for full pay, and that many employers prefer to have a workforce largely made up of full-time workers for a variety of reasons, including the way benefits are provided to workers. Methods for sharing the burden of layoffs may work as a short-term fix if the layoffs will later be reversed. But if the layoffs are permanent, then the question becomes how to assist more workers into making a quicker transition to a new job.

One option for a firm seeking to avoid layoffs is to find other ways of cutting wages or compensation. Rather than cut 10 percent of its workforce, a company could cut 10 percent from the pool of compensation. A long literature examines the tradeoff between job loss and cuts in wages; for example, Bewley (1999) asks “Why Wages Don’t Fall During A Recession.” A standard answer in this literature is that wage cuts depress worker morale and productivity across an entire firm; moreover, wage cuts can unleash a problem of adverse selection in which the most skilled employees, who also are more likely to have good outside options, leave the firm, and the firm is left with the employees who lack good outside options and have poor morale besides. Other methods of reducing pay have also been proposed. For example, Gordon (1996, p. 247) argued for “substituting compensatory time as an alternative to time-and-a-half for overtime—meaning that workers would be able to work less some other day if they worked extra hours today.” Broad wage cuts or other changes to save on the wage bill may be a viable alternative for some organizations at least for a time, but they are not likely to be a long-term solution. Many workers want full-time, full-pay jobs; many companies argue that they would rather have a smaller, fully employed staff than a larger staff that is not working full-time and is therefore upset about potential lower earnings.

Another approach is to carry out the layoffs, but to let some employees have some degree of choice about being laid off. Incentives to take early retirement are one example. In March 2009, Cornell University offered a group of nonfaculty staff—those who were age 55 or older and worked for the University for at least ten years—one year’s salary plus an additional 30 percent of a year’s pension contribution to retire by June 2009. More than 400 people took the early-retirement option and left the university. At least one firm even let its employees choose their own layoffs. Oklander (2003) is an interesting case study of a company called Dynabil Industries which, in 2001 had 130 employees. After an “all hands meeting” called by the general manager to discuss business performance and projection, all 130 employees filled out a questionnaire that asked them “how many days per quarter they could absent themselves from work without pay, and ... do so—or not do so—completely voluntarily” (p. 7). They were further told their responses were nonbinding. About one-third said they could not sacrifice a day. In one of the 12 blue collar units, everyone volunteered. The fraction who did not volunteer varied from 16 percent to 75 percent by unit. Ten percent of women and 24 percent of men were willing to take more than ten days off. In all, 81 workers agreed to participate and a layoff was averted. It is not at all clear whether such an approach could work elsewhere—or even whether it would work again in the same organization at some other time.

Some firms have sought to cut hours across the workforce. Cascio (2002) describes how some companies have sought alternatives to layoffs, with varying degrees of success. As one example, Charles Schwab and Company in 2001 found their commission revenue 57 percent below a year earlier. The company tried a number of alternatives to layoffs: 1) delaying projects

and cutting expenses like travel and entertainment, 2) senior executives taking pay cuts,<sup>7</sup> 3) encouraging employees to take unused vacations and take unpaid leaves, and 4) designating certain Fridays as “voluntary” days off. In the end, the company did have to make layoffs to 2,000 of 25,000 employees, but provided generous severance. Cisco Systems also placed a high value on the importance of treating employees who were laid off well. When Cisco cut its workforce from 38,000 to 30,500, it tried a program of paying employees one-third of their salaries and “lending” them to nonprofits for a year. In this way, the company tried to keep in contact with employees in hope of avoiding retraining costs when demand increased. Cisco made a “Great Places to Work” list during this period. In a related case, Accenture cut 600 support staff in June 2001, but for some staff the company instituted partially paid sabbaticals where the firm paid 20 percent of salary and all benefits and employees could keep laptops, an office phone number, and e-mail. Roughly 1,000 workers took this option. Cascio (2002) provides many more details on these case studies.

A public policy approach to encouraging firms to spread reductions in hours worked across the workforce, rather than laying off a smaller set of workers altogether, is the Work Sharing Unemployment Insurance (WSUI) program discussed by MaCurdy, Pearce, and Kihlthau (2004). Suppose that all workers in a firm were paid the same and a firm wanted to reduce payroll by 20 percent. It could lay off 20 percent of the workers or it could participate in WSUI and reduce hours by 20 percent for each worker. Under WSUI, each worker could then be eligible for a pro-rated fraction of Unemployment Insurance benefits. From a company point of

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<sup>7</sup> Gharness and Levine (2000, p. 381) find that people rate layoffs as “more fair” if the chief executive officer voluntarily “shared the pain.” They also find that people view layoffs due to “reduced demand” as more fair than those due to “employee suggestions.” They suggested that “companies should not punish employees for their efforts.”

view, regular unemployment insurance and WSUI look financially equivalent: the same total amount is paid in unemployment “taxes.” However, proponents argue that under the work-sharing approach, firms can save on costs of hiring and retraining if or when demand returns. MacCurdy, Pearce, and Kihlthau (2004) point out that less than 1 percent of California companies with unemployment insurance claims participated in the work-sharing approach. Among the reasons they suggest for the low take-up rate are that workers don’t like the work-sharing approach since it “imposes reductions in pay that can be avoided by acquiring alternative full-time” employment.

Many countries, including Belgium, Denmark, France, Germany, Italy, and Sweden have work-sharing programs. Seventeen U.S. states have them, but the take-up rate is extremely low.

Other countries provide examples in which a combination of political pressure, social sanctions, and direct economic costs make mass layoffs less likely to occur. For example, in India, the Industrial Disputes Act of 1947 is somewhat similar to the U.S. Worker Adjustment and Retraining Notification Act of 1988, but also has provisions such as, if a business has 50 or more workers, the firm must provide workers with 30 days advance notice and 15 days pay for every year of work (Asher and Mukhopadhyaya, 2006). France and Germany are known to be “high employment protection” countries that spend substantial resources on labor market policy relative to the United States (Auer, 2006). One executive I interviewed with respect to layoffs told me that it was so difficult to fire workers in France that he will never hire any more workers there (Hallock, 2006).

However, attempts to prevent layoffs along with similar attempts to block reductions in compensation or in hours worked pose difficulties of their own. Less flexible labor markets make firms reluctant to hire and can contribute to a higher rate of unemployment. Firms may also react

by creating a “two-tier” labor market, with one tier of workers who are protected against economic downturns and a second tier of workers who are temporary contract workers and who bear all the costs of layoffs. France, for example, has two types of work contracts: standard contracts require substantial costs of firing workers, and temporary contracts allow employers more flexibility in letting workers go. In a U.S. context, a similar result arises when some organizations try to avoid layoffs by turning to temporary help agencies and outsourcing as a way to help buffer shocks to employment demand at their firms (Autor, 2003). To put it another way, overly aggressive attempts to block layoffs will spread the costs of labor market shocks in a different direction, to certain of the unemployed and to second-tier unprotected workers.

Thus, a final set of policy alternatives is to accept that layoffs have become a more widespread and easily contemplated business tool, but instead of trying to make layoffs much more costly to firms, public policy could seek to reduce the additional risk to households through mechanisms that help in the transition from one job to another. As one example, Muirhead (2002) offers a business case for educational training for displaced workers. Perhaps changes in these types of programs could lead to reduced household risk from layoffs by speeding the transition to a new job. Reemployment bonuses along the lines of Robins and Spiegelman (2001) are an example of the kind of program that may speed the transition to a new job. In general, the United States spends far less as a fraction of GDP on labor market policies for displaced workers including job search, training, and relocation assistance than many western European countries.

## Concluding Comments

The average worker is badly harmed when affected by a layoff, suffering declines in income and in physical and psychological health, while the average firm does not seem to be much better off (except in some years). Top executives don't benefit from job loss either. This leaves economists and policy analysts with a puzzle: if no one seems to be substantially better off and many are worse off, then why do so many people lose jobs through displacement? One possibility is that the benefits of layoffs to firms are large—although perhaps our methods of measuring such phenomena are not strong enough to capture them—and the alternatives to layoffs don't offer these kinds of benefits. Another possibility is that although layoffs are very costly to certain workers, perhaps workers as a group prefer layoffs to one of the “alternatives” discussed in the previous section—that is, perhaps workers prefer an implicit labor contract in which a minority of workers are laid off rather than having a majority of workers sharing cuts in pay or hours.

Yet another possibility is that firms receive only small benefits from layoffs while workers suffer large losses, but firms are the decisionmakers about layoffs, and some inefficiency blocks an outcome in which workers could negotiate with their firms to avoid mass layoffs. In this situation, economists and policy analysts must consider whether, as the implicit employment contract has frayed, changes in the institutions and laws surrounding employment relationships should change as well. At a small scale, one potential change along these lines might alter Work Sharing Unemployment Insurance (WSUI). As it stands now, the costs are identical to firms if they use standard Unemployment Insurance or WSUI. Given that the costs of layoffs to workers are so high, benefits to layoffs for firms are small (or even negative), and the

take-up rate for WSUI is so extremely small, one possibility is a system that taxes firms relatively less for short periods of using WSUI. However, revealed preference suggests that WSUI is dominated by standard unemployment insurance. It may be better to consider the efficacy of labor readjustment programs used in other countries. More aggressive and large-scale thinking may be required as society addresses the issue of the fraying of the implicit labor contract to prevent the blow of involuntary job loss from falling so heavily on a small fraction of workers.

Table 1

*Table 1*  
**Distribution of Reasons for Announced Job Loss Announcements over Time**  
*(percentages sum to 100% by column)*

	<i>Number all years</i>	<i>1970–1979 (percent)</i>	<i>1980–1989 (percent)</i>	<i>1990–1999 (percent)</i>	<i>2000–2007 (percent)</i>
Bankruptcy	40	0.13	0.50	0.00	3.48
Cost control	619	6.52	10.03	17.12	15.31
Excess supply	340	9.37	9.91	1.85	0.93
Increase earnings	28	0.32	0.25	1.00	0.70
Increased competition	99	1.27	1.24	3.47	1.62
In-house merger	11	0.00	0.19	0.31	0.46
Leaving market	134	3.42	1.98	2.08	2.44
Merger	130	0.51	1.80	3.78	5.10
Plant closing	303	4.18	5.20	5.47	9.51
Posting losses	259	6.78	6.01	3.16	1.62
Reorganization	503	7.35	7.86	13.34	10.09
Restore profitability	71	1.01	0.99	1.23	2.67
Restructuring	315	2.34	5.94	11.03	4.52
Slump in demand	1,855	35.97	36.41	28.14	38.75
Strike	200	8.49	2.91	1.46	0.00
Structural	30	0.82	0.56	0.62	0.00
Other	305	9.18	5.88	3.47	2.32
Missing	111	2.34	2.35	2.47	0.46
<b>Total</b>	<b>5353</b>	<b>1579</b>	<b>1615</b>	<b>1297</b>	<b>862</b>

*Source:* Calculations by the author using announcement information from the *Wall Street Journal* and stock price data from the Center for Research in Security Prices (CRSP).



Table 2

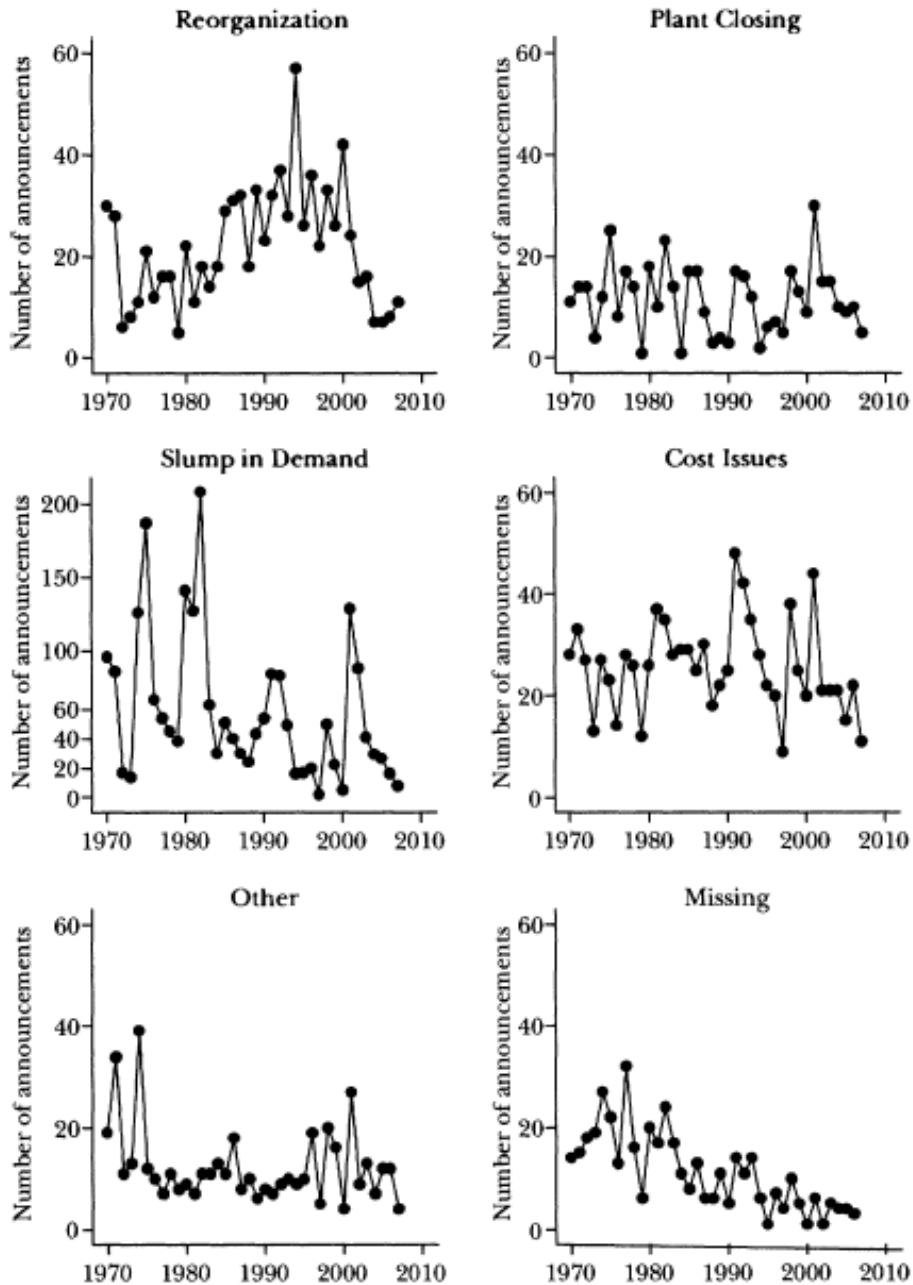
*Table 2*  
**Are Excess Price Reactions to Layoffs  
 Explained by “Reasons” or Time?**

	(1)	(2)
	1970–2007	
Constant	–0.654*** (0.132)	–0.403 (0.327)
1980–1989	0.423** (0.186)	0.311** (0.126)
1990–1999	0.664*** (0.199)	0.458*** (0.135)
2000–2007	–0.109 (0.235)	0.083 (0.174)
Reason indicators		
Reorganization		0.456 (0.344)
Plant closing		0.192 (0.329)
Slump in demand		–0.206 (0.342)
Cost		–0.004 (0.342)
Other		0.327 (0.343)
<i>p</i> -value Decade = 0	0.001	0.004
<i>p</i> -value Reason = 0		0.0001
<i>R</i> <sup>2</sup>	0.003	0.007
<i>N</i>	4907	4907

*Note:* Standard errors are reported in parentheses. Observations are weighted by the inverse of the standard error of the cumulative excess return. The base category is the 1970–1979 period due to “missing” reasons. \*\*\*, \*\*, and \* indicate statistical significance at the 1, 5, and 10 percent levels, respectively.

Figure 1

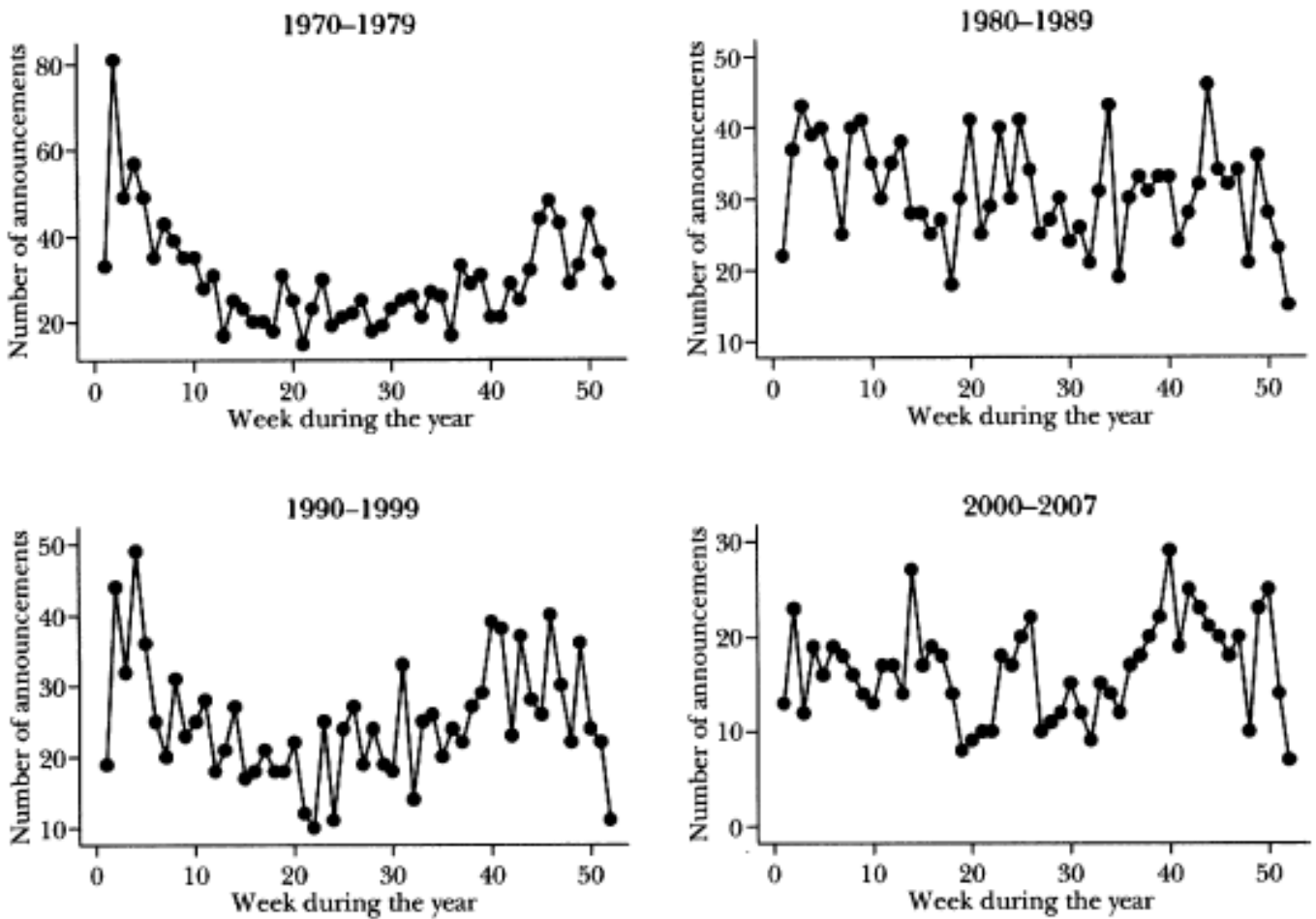
**Figure 1**  
**Distribution of Stated Reasons for Announced Job Loss over Time**



*Note:* Categories are consolidated from the categories listed in Table 1. Categories are "reorganization" (reorganization, restructuring, and in-house merger), "plant closing" (leave market and plant closing), "slump in demand" (slump in demand, excess supply, structural), "cost issues" (cost control, posting losses, increase earnings, and restore profitability), "other" (increased competition, merger, bankruptcy, strike, and other), and "missing."

Figure 2

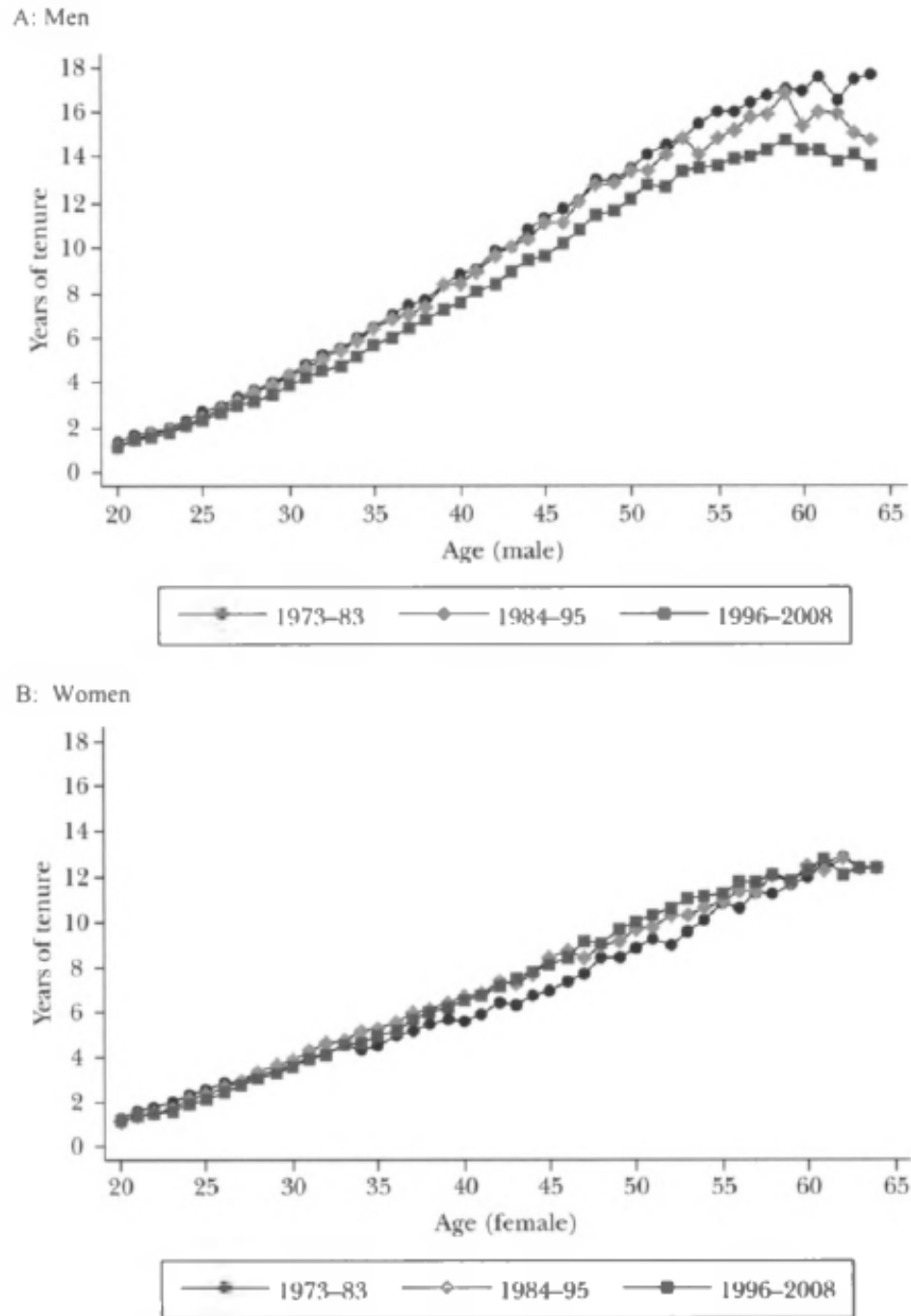
*Figure 2*  
**Frequency of Announced Layoffs by Week in the Year**



Source: Calculations by the author using announcement information from the *Wall Street Journal*.

Figure 3

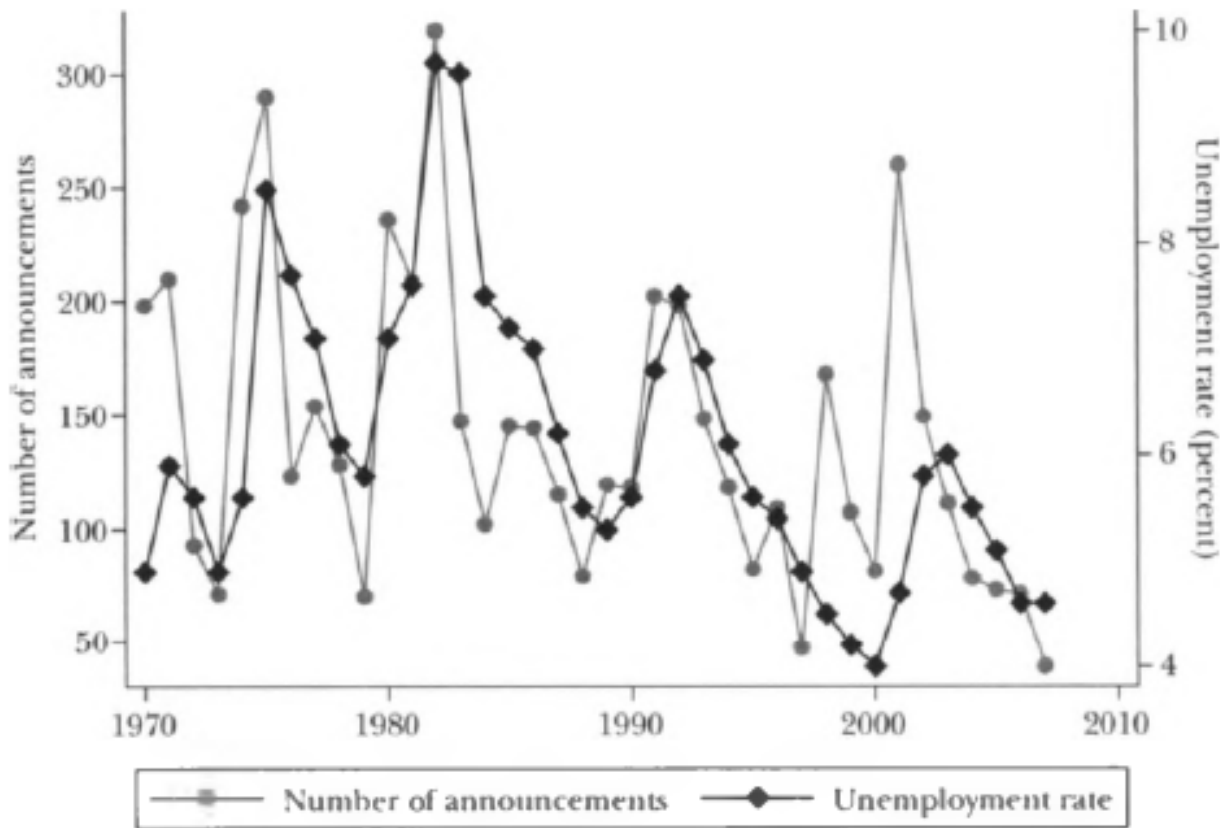
**Figure 3**  
**Mean Job Tenure by Age and Year Cohort**



Source: Henry Farber using Supplements to the Current Population Survey.

Figure 4

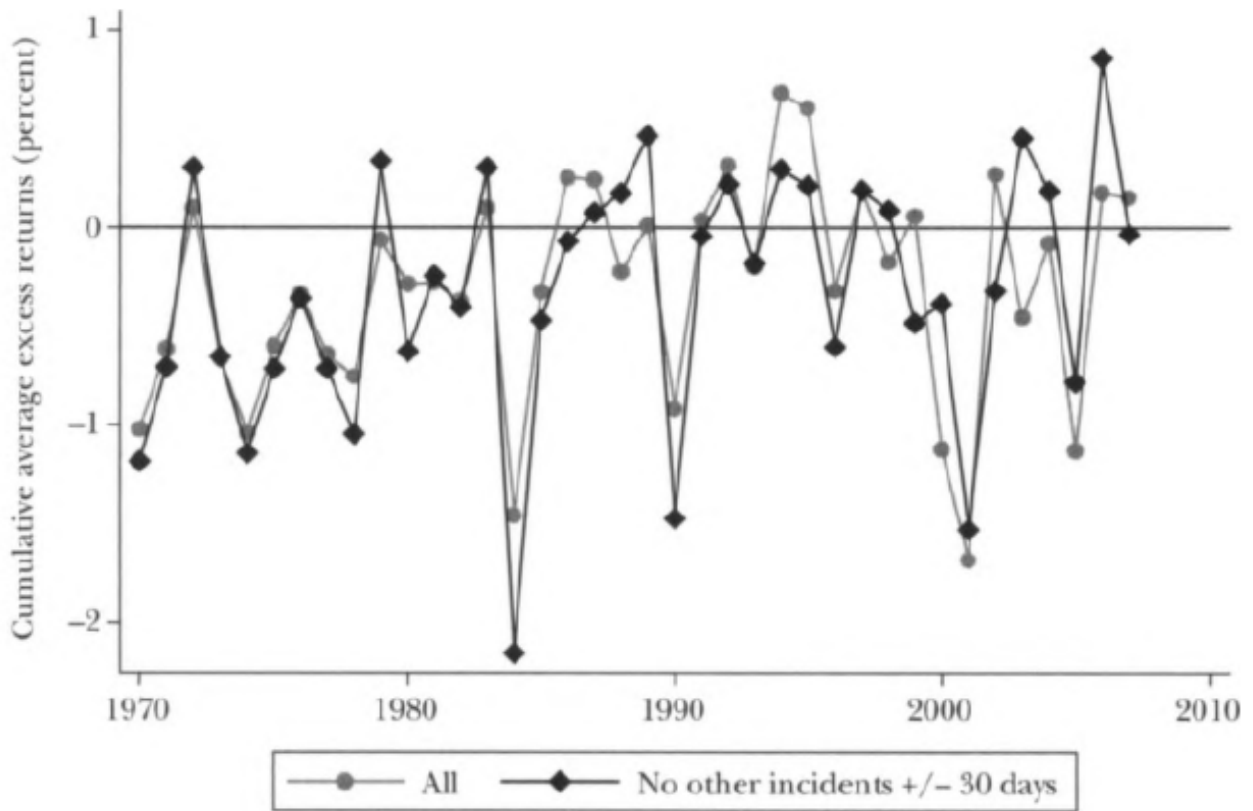
**Figure 4**  
**Number of Layoff Announcements and Unemployment Rate, by Year**



Source: Calculations by the author using announcement information from the *Wall Street Journal*.

Figure 5

**Figure 5**  
**Cumulative Average Excess Returns (One Day before to One Day after the Layoff)**



Source: Calculations by the author using announcement information from the *Wall Street Journal* and data stock price data from the Center for Research in Security Prices (CRSP).

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