

Downsizing and Corporate Restructuring: A Case Study

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Abstract

Both media coverage and economic research suggest that there has been an increase in corporate restructuring and layoffs at healthy companies. This paper studies the restructuring and downsizing process at a financial services firm and its effects on the firm's workers, both before and after these layoffs. I show that there were no major changes in pay or turnover leading up to the layoffs. The criteria by which employees were chosen for displacement varied between layoffs and there is no evidence that the firm systematically used these layoffs to get rid of poor performers. The financial effects of job loss vary widely. Some of this variation is evident in differences in the average effect of the four layoffs. However, there is also large variation in the fortunes of individuals laid off at the same time in the same place. Overall, the analysis suggests that, even at this single firm, workers affected by corporate restructuring are a highly heterogeneous group and the effects of displacement vary substantially.

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I. Introduction

No employment issue has generated more media attention and more employee angst than downsizing. Popular press articles suggest that thriving corporations regularly reorganize their workplaces, leaving many people out of work even when their former employers face no imminent financial threat. Changing patterns in reasons cited for job loss support this impression of the rising importance of restructurings.¹ Differences in factors such as the state of the economy and the signal sent by job loss could make the process of downsizing and the effects of job loss differ between restructurings of healthy organizations and downsizing due to financial distress. This paper provides an in-depth look at the effects of restructuring and job loss at a firm that restructured several parts of its organization over a period in which it was generally quite healthy.

I use two unique datasets, both focused on employees of a single firm. Using detailed personnel data provided by the firm, I analyze the effect of impending layoffs on pre-layoff wages and turnover. I also study differences in pre-layoff performance and other observable characteristics between those laid off and those retained. I then use data from a follow-up survey of some of the laid off workers to compare the employment outcomes of those who were laid off with those who stayed at the company. Where previous studies of downsizing compare the labor markets outcomes of laid off workers to a random sample of the population, I compare the outcomes of those who were laid off to a group that arguably more closely reflects what would have happened to these workers had they not been laid off.²

¹ For example, Farber (1997) shows that the fraction of respondents to the Displaced Worker Supplement of the Current Population Survey who attributed their job loss to “position eliminated” or “other” (that is, factors not related to the firm’s financial situation) increased significantly during the 1980’s and 1990’s. Oyer and Schaefer (2000) argue that a contributing factor to the increase in “non-economic” displacement is the surge in wrongful termination litigation.

² Studies of the effects of displacement include Gibbons and Katz (1991), Farber (1997), Hamermesh (1987), Topel (1990). See Kletzer (1998) and Fallick (1996) for reviews of the displacement literature.

The firm I study, a large financial services institution, has grown consistently over the last decade. However, in the course of trying to maximize efficiency, the firm has periodically restructured parts of its organization, including consolidating some of its operations, scaling back in some businesses, or closing entire facilities. I study four separate “downsizings” at the firm. These reductions-in-force varied significantly in the way affected people were selected and the conditions of the local labor market. These differences are important determinants in the outcomes of the laid off workers.

I find little evidence that pre-layoff wages, wage changes, or turnover were affected by an impending layoff. I find remarkably little difference in observable characteristics of those laid off and those who stayed at the firm. The firm does not appear to have used these layoffs as an opportunity to improve the average quality of its workforce. I also find that there are substantial differences in the average post-layoff labor market outcomes among the four downsizings. In one of the four cases, the average worker suffered significant losses while, after one layoff in the midst of a robust economy, the average worker was reemployed at a substantial premium to his/her pre-layoff wages. These average effects are not relevant to all workers, however – in each of the four cases, a significant number of workers suffer substantial losses while others gain in their new jobs.

This paper contributes to the displaced worker literature by providing details on the downsizing process, by comparing workers laid off by a firm with those not laid off, and by analyzing a case of restructuring of a healthy company rather than job loss brought on by financial distress. Most studies of worker displacement have less appropriately matched comparison groups and cannot look inside the firms before downsizing occurs. However, the findings of those studies are more general than any findings based on the one firm I study.

Jacobson, Lalonde, and Sullivan (1993) and Lengermann and Vilhuber (2001), using administrative data, study changes before actual job loss occurs. Both these papers show that, on average, displaced worker wages fall relative to non-displaced workers beginning well before the actual displacement takes place. Lengermann and Vilhuber (2001) show that turnover increases before displacement, especially among workers whose observable “quality” is high. These studies are designed to capture the effects of job loss at financially troubled firms, however. Their samples (in the case of Jacobson, Lalonde, and Sullivan, 1993) or their methods for selecting firms to study (Lengermann and Vilhuber, 2001) largely remove healthy firms that lay off workers as part of a restructuring.

Pfann and Hamermesh (2001) take a similar approach to this paper in that they study job loss at a single firm. They analyze several rounds of layoffs during the slow demise of Fokker Aircraft in the Netherlands. They study how various factors affect the decisions by the firm of who to lay off and of the workers as to whether to quit, with an emphasis on how each party learns about the other’s behavior and needs. They do not look at the post-layoff outcomes of affected workers. Also, the layoffs they study differ considerably from the ones I examine in terms of location, types of workers, and the circumstances that led the firm to downsize.

The paper continues with a description of the downsizing policies at the firm and the data gathered from the firm and through a survey of laid off workers. Section III analyzes trends in turnover and wages before each layoff. Section IV characterizes the workers that were displaced. I look at the post-layoff outcomes of downsized and “surviving” workers in Section V. Section VI concludes.

II. The Company and Data

I study four “reductions in force” at a large financial services institution (“the firm”). The firm has operations throughout the United States and has been financially stable from before the period I study through the present. Therefore, any downsizing at the firm has been the result of seeking more efficient operations or reallocating assets, rather than the result of financial distress.

The firm has a well-established process for staff reductions. All employees who leave the firm as a result of a reduction-in-force are provided with outplacement assistance and severance payments. When the firm reduces a business unit but does not eliminate it, it uses a standardized process to grade employees and then chooses which employees will be let go based on the firm's needs, the skills of the employees, and the employees' grades.

Table 1 provides an overview of each of the four reductions in force. Layoff #1 took place in the Northeast. The firm reorganized a large operation in 1992 through 1994, resulting in the loss of about two hundred jobs. In addition, parts of the company were sold. Two of the managers of this division described this layoff as a very painful process due to the decisions that had to be made internally and to the sluggish regional economy at the time the cuts were made. However, these managers also thought that those who left the company had probably ended up better off than those who stayed (though I find little support for this belief.)

Layoff #2 involved closing a regional telephone center. The firm had several similar facilities and chose to close this relatively small center. The closed office was in a medium-size Western city where unemployment was low. Managers involved in the process described this layoff as going relatively smoothly because there were no decisions to be made and because it was a good time to be looking for a new job in the area. In fact, several large local employers

made presentations to the employees before the firm closed the operation, in hopes of encouraging them to apply for jobs. Unlike the other three layoffs, layoff #2 involved the firm closing all operations at the affected facility, so there is no group of remaining workers to compare the laid off workers to. Because the tasks performed at the site of layoff #2 were performed at several other locations, I use workers at three similar sites as comparison groups.

The third and fourth layoffs took place roughly simultaneously. Both involved closing a certain type of transaction processing operation that was being consolidated elsewhere. In both cases, this operation was a relatively small portion of the business that the firm conducted in the affected locations. As a result, the firm attempted to find new jobs for the displaced employees internally and was successful at doing this in most cases. Layoff #3 took place in a small-to-medium sized Midwestern city where the unemployment rate was below 2%. Though 150 people were eventually laid off at the site, the human resources manager at this facility was primarily concerned with finding and retaining capable employees at the time of the layoff. Because employees could take their severance package and leave, many of those who were laid off had good opportunities elsewhere in the area. The local economy in the area where layoff #4 took place, however, was not as robust. As a result, the average employee had more to gain from being redeployed within the firm than did an average employee in layoff #3. Therefore, though many of the circumstances behind layoffs #3 and #4 were similar, the affected employees were quite different in the two locations.

The data come from two sources. The personnel information for employees at the firm was provided by the firm. The data include birth date, date of hire, date of termination if applicable, a salary history for at least two years before each layoff, the employee's "level" at the firm, and the location where the employee worked. The data also include a single score, which

can take one of three values, that summarizes the employee's annual performance review. This variable is available for many employees for at least two years before each layoff, though new employees do not have a performance rating.

The other dataset comes from a survey that I conducted with the assistance of the Survey Research Laboratory (SRL) at the University of Illinois at Chicago. Using last available addresses and telephone numbers provided by the company, SRL attempted to contact 411 workers laid off by the company. Those contacted were administered a telephone survey based, as closely as possible, on the Census Bureau's Displaced Worker Supplement (DWS) to the Current Population Survey.³ The DWS format was used to minimize the cost of developing the survey instrument, so that the actual DWS results could be used for comparison, and as a means of auditing the recall bias of displaced workers (Oyer, 2002). A total of 201 surveys were completed, for a response rate of 49%.⁴ Though this response rate is reasonably high by many survey standards, incomplete response introduces selection issues that I consider below in performing and interpreting the analysis.

III. Pre-Layoff Turnover and Salary Trends

I begin by analyzing trends in turnover at the sites affected by layoffs. I study turnover in the two years leading up to the beginning of each layoff. Throughout the analysis, I estimate hazard models with time-varying explanatory variables using a probit specification. I estimate probit models where the dependent variable takes the value of one if the person leaves the firm in a given month. Explanatory variables include tenure with the firm and its square, age and its

³ The survey instrument is available upon request.

⁴ The firm could not release social security numbers, which would have made finding people who moved much easier.

square, dummy variables for whether the person had received the highest possible rating and an average rating on his/her most recent performance evaluation,⁵ and dummy variables for each calendar year. I also include a dummy variable for being part of a group affected by the layoff. These probits are meant to show which factors affect turnover at this firm generally, as well as to determine if there are significant differences in the rates at which affected employees left the firm before the layoff relative to those who worked in parts of the firm that were not affected. Figure 1 extends the analysis graphically by plotting turnover in affected and unaffected groups before, during, and after the layoffs.

Table 2 shows the results of the probits. At most sites, turnover is decreasing in tenure at the firm. Workers who receive the highest possible performance rating are always less likely to leave than those who have not yet been rated and those who receive average ratings are also generally less likely to leave. This effect of performance is generally quite large. Those employees with the highest rating are half as likely, or even less, to leave the firm.

Column 1 shows the results for layoff site #1, which has the highest turnover of all the sites.⁶ Throughout the period of analysis, on average, 2.34% of workers leave the company in any given month. Just over 14% of those working at the company in the period when the firm went through the restructuring process were laid off. I define workers as being at an “affected location” if they worked at a building within the site #1 region where some workers were laid off during the restructuring. The coefficient on the “affected location” variable indicates that turnover was approximately one-third higher at sites where downsizing occurred than at other sites.

⁵ A “Poor” performance rating is very rare and its effect never enters the probits significantly. “No available rating” is the excluded category.

⁶ Layoff “site” #1 is actually a collection of several sites in a regional area.

As the top part of Figure 1 shows, turnover was higher at the locations within site #1 where layoffs occurred before the layoffs started. However, once the layoffs had occurred, turnover at the affected locations dipped below that of the unaffected sites. This may result from the layoffs removing those who were least suited to working at the firm. Within a few years after layoffs subsided, the turnover rate at the affected locations was once again equal to or greater than the unaffected sites. Figure 1 and Table 2 suggest that the presence of layoffs had an effect on voluntary turnover at site #1, but only during the layoff process.

Column 2 of Table 2 displays the results of a similar probit at layoff site #2. I compare turnover at the site to turnover at three other sites, in various parts of the country, where many of the same tasks that were performed at the shutdown facility are performed. The monthly probability of turnover, 1.6%, is distinctly lower at these sites than at layoff site #1. Note that the turnover probit coefficients for tenure are significant, but not particularly large. For example, an additional ten years of tenure or ten years of age reduce turnover by less than one quarter. Given average tenure of about four years at these sites, that is not a large effect. The coefficients for performance ratings provide an interesting and unexpected finding. Workers with either the highest rating or an average rating are significantly less likely to turn over than workers with a poor or no rating. But workers with the highest rating are significantly (both statistically and in magnitude) *more* likely to leave the firm than workers who received an average rating. This could be because these workers get better outside options than the firm's compressed wage scale cannot match, that these workers skills can be best put to use by other firms, or other reasons.⁷

⁷ I have found this non-monotonic relationship between turnover and performance rating for other groups of workers at various company sites, but it is not a universal relationship at the company as the other columns of the table indicate. Determining how worker performance influences turnover and what it reveals about the use of skills, matching, or other labor market questions is a worthwhile pursuit, but beyond the scope of this analysis.

The table also indicates that turnover was higher, on average, at the layoff site before the layoff. Also, as the second frame of Figure 2 shows, there is no dramatic trend in turnover at any of the sites leading up to the time of site #2's closure. The figure and column 2 of Table 2 make it clear that there was no significant jump in turnover leading up to the shutdown and that, though the turnover rates at the shutdown site were higher than average for the four sites, the site was not an outlier in this measure. Thus, it appears that high turnover was not a leading cause of the shutdown, nor did employees flee the site in anticipation of the shutdown.

The last two columns of table 2 analyze the two more recent layoffs, #3 and #4. The layoffs at these sites took place at roughly the same time and affected workers doing similar jobs. In both cases, some of the tasks performed by some groups within the relevant site were moved to another location. But most workers did not work in these affected groups. Not surprisingly then, the factors that drove turnover before layoffs started are very similar across the two sites. But note that, unlike at sites #1 and #2, the affected groups at sites #3 and #4 were relatively low turnover groups. The last two frames of Figure 1 show that turnover increased somewhat before the layoff at both these sites, but the increases were similar for workers in both the affected and unaffected groups. This increase probably results from an increasingly competitive labor market in the years leading up to these layoffs.⁸

Table 2 and Figure 1 lead to two conclusions about pre-restructuring turnover. First, at least at this firm, staff turnover does not appear to be strongly correlated with factors that led the firm to choose which units to restructure. At some of the layoff sites, relatively high turnover groups were targeted for restructuring. But low turnover groups were restructured in other cases.

⁸ In fact, the Human Resources Manager at site #3, where the local unemployment rate was approximately 1.5% in 1998, told me during that year that finding and keeping people was impossible. Staffing shortages consumed all his time and energy in that period.

There is no consistent evidence to suggest that problems at these sites caused workers to be disgruntled and eventually led to their shutdown. There is also no consistent evidence with the affected groups having accumulated poor performers with limited outside opportunities.⁹ The evidence is consistent, however, with this firm making choices about reorganization decisions based on factors not related to employee performance or turnover.

The second conclusion is that the reorganizations did not affect employee turnover significantly in the years leading up to the layoffs. Lengermann and Vilhuber (2001), who focus on job loss at distressed firms, find that turnover increases steadily in the years leading up to a downsizing.¹⁰ This “abandoning the sinking ship” effect is not evident at the firm I study, suggesting that pre-displacement employment dynamics may be different at healthy firms that reorganize than at distressed firms. Alternatively, the firm I study could just be an outlier, either because it does a relatively good job of keeping reorganization decisions secret until they are implemented or for some other reason.

I now turn to wages at the layoff sites near the time of downsizing. As previously mentioned, Jacobson, Lalonde, and Sullivan (1993) found significant pre-layoff reductions in wages for laid off workers when looking across firms. They study an industrial area during a major recession. By studying pre-layoff wages at the four layoff sites, I will determine if their

⁹ I would have liked to determine if some of the cross-layoff differences in pre-layoff turnover rates related to the differing states of the local economy. As previously mentioned, the local job market for workers affected by layoff #1 was very slow, whereas those affected by layoff #3 faced a much more favorable job market. Ideally, I would have used this cross-layoff variation to estimate a Roy (1951) model of self-selection out of the firm. Borjas (1987) does this with the immigration decision, using variation in economic conditions across native country to account for selection. However, I cannot get precise estimates with only four layoffs and, therefore, four states of the local economy.

¹⁰ Note that while the typical firm that Lengermann and Vilhuber (2001) categorize as “distressed” is likely to be facing financial challenges, their sample includes healthy firms that close or substantially reduce an establishment. Layoff site #2 and parts of layoff site #1, for example, would fall into their distressed sample.

results generalize to this firm in the services sector and to a case of reorganization of an otherwise healthy firm.

Table 3 displays the results of wage regressions at each site in the years leading up to each layoff and in the years during which the layoffs took place. Again, I use graphs to show how wages evolve for workers affected by the layoffs relative to unaffected workers. The regressions control for the "level" of an employee within the organization. This set of controls minimize the effect of other variables that are typically important in wage regressions, including age, tenure at the firm, and gender, suggesting that much of the effect of these variables is in determining what jobs people get rather than their relative pay within that position. The year indicator variables (not reported in the table, but visible in Figure 2) show that wages increased slowly, but steadily, throughout this period.

The "severed" dummy variable indicates whether the wage observation comes from a person who will eventually be laid off. Non-severed observations in column 1 include all other workers at site #1. Non-severed observations in column 2 include employees at the three comparison sites that were used in Table 2. Layoffs #3 and #4 provide perhaps the most interesting wage analysis because there are three important groups of workers in each case – those employees at the site whose jobs were not directly affected by the downsizing (which is the excluded category in columns 3 and 4 of Table 3), those who were "severed" and left the firm, and those whose jobs were eliminated but who were "redeployed" within the site.

Column 1 shows that those laid off from site #1 were relatively well paid. Laid off workers made, on average, about 4% more than those who were not laid off. However, the first frame of Figure 2 (and an unreported regression with year-severed interaction terms) indicates that those who were laid off relatively late in the reorganization process were not being paid

more than other workers by the time they lost their jobs. This could be due to the firm targeting the highest paid workers first or the firm may have given smaller wage increases to those who were eventually let go.

The second graph of Figure 2 and column 2 of Table 3 show that the wage situation was somewhat different at layoff site #2 before it was shut down. First note that, probably because the workers at this site were more consolidated into a few levels, age and tenure are more important determinants of wage than at site #1. The shutdown was a relatively high wage location, with wages averaging 6% higher than at the three comparison sites. The second frame of Figure 2 (and an unreported regression) show that wages were growing slightly faster at this site than at other sites. The graph also makes it clear that, while workers at the shutdown site were paid 6% more on a regression-adjusted basis, this was actually a low wage site with a high concentration of low-level employees.

The graph and table suggest that this site was probably not targeted for closure due to the high wages that were paid there, though wages were rising relatively quickly at this site. In addition, because wages were rising at this site, it appears that affected worker wages did not suffer as the layoff neared. Therefore, at least in this case, the pre-layoff dip often found in wages does not generalize to workers about to lose their jobs at an otherwise healthy firm.

As discussed previously, the local labor market was particularly tight when layoff #3 occurred, presenting an opportunity for talented employees to get severance pay from the firm and then to start a new job quickly. Such opportunities probably existed, but less frequently, in the layoff #4 area. Columns 3 and 4 of Table 3 show that the tenure and age effects on wages at these two sites were similar to those at site #2. Wages were rising quickly at both sites due to the robust economy.

The coefficient on the “redeployed” dummy variable indicates that those workers who were marked for layoff, but were redeployed at the sites, were relatively low-paid employees. Even adjusting for level and observable characteristics, these workers were paid about 8% less than other employees at each site. This differential existed in both years before layoffs started and in the first year where layoffs occurred. However, at both sites, redeployed worker wages increased relative to unaffected worker wages in the last observation. This suggests that, when these workers were redeployed, their wages were increased nearer to the level of their coworkers in their new department.

Severed workers’ pre-layoff wages, on the other hand, were not noticeably different from those of workers who were not affected by the layoff. Severed workers may have been paid a bit less than unaffected workers at site #3, but the differential is small relative to redeployed workers. Also, the pay of severed workers did not increase at a different rate than the pay of unaffected workers.

The third and fourth frames of Figure 2, which graph raw (that is, not regression adjusted) wages for the three groups of workers, reveal important differences between the two layoffs. It appears that the firm chose relatively low paid workers for the layoff at both locations. However, at site #3, it reassigned the lowest paid of these workers while the relatively well paid left the firm. At site #4, the redeployed and the severed were reasonably close in average pay. Combined with Table 3 and the differences in performance ratings shown in columns 3 and 4 of Table 1, the graphs suggest that high paid and good workers left site #3 with a severance package bonus while the firm chose not to redeploy low paid (but “overpaid”) and underperforming workers at site #4.

Taken together, Tables 1-3 and Figures 1 and 2 suggest that, even within a single firm, the layoff process can be substantially different. Also, the results suggest that wage and

employment dynamics before layoffs may be substantially different at firms that cut staff due to financial distress than at healthy firms that cut staff as part of a reorganization.

IV. Who Gets Laid Off?

I now consider which workers were actually displaced by the firm in the layoff process. Naturally, the firm can only lay off those who did not quit in anticipation of the layoff. But because Table 2 and Figure 1 indicate that there was not dramatic pre-layoff selection on the part of workers, the groups available to be laid off should be fairly representative of the workers in those groups before any reorganization plans began.¹¹

I run a probit for each of layoffs #1, #3, and #4 where an observation is a person in the group affected by the layoff. In the case of layoff #1, this includes all employees at buildings where some employees were laid off. The samples in layoffs #3 and #4 include those employees whose jobs were eliminated as part of the restructuring. The analysis in these cases looks at which workers were reassigned to new jobs, so it reflects the joint decisions of the firm to offer the worker a new job and of the worker to accept the position. Layoff #2 is not included because virtually all employees at the layoff site were displaced.¹²

As the coefficients on tenure indicate, the seniority profile of those laid off differed substantially across the three layoffs. At layoff sites #1 and #3, those with more tenure were substantially more likely to be laid off than those with less tenure. That is, the firm did not value the specific human capital its workers had built up. At site #4, the tenure of those laid off did not differ from those who were not laid off.

¹¹ Pfann and Hamermesh (2001) look at a case study of downsizing where selection on both sides is important over multiple rounds of layoffs.

The rest of the table shows a surprising lack of explanatory power for any observable characteristic on the firm's layoff decisions.¹³ The coefficients at all sites indicate that those with the highest performance ratings were the *most* likely to be laid off, though this effect is not significant. Recent recognition for good performance, as measured by the last raise employees received and by recent promotions, was also not a good predictor of who got laid off.

While the lack of significance in Table 4 could be due to the fairly small samples, the table suggests that there is a great deal of noise in the layoff process. Though the firm attempts to choose people for layoff based on necessary skills, it either is not very successful in this targeting or it does not reward these skills before the layoff occurs. However, given that those who the firm rates highly have low voluntary turnover before a layoff (as shown in Table 2), the firm appears to at least recognize (if not reward) performance.

V. Post-Layoff Labor Markets Outcomes

I now use data from the company and from a post-layoff survey of displaced workers to compare the effect of downsizing on affected workers. An important caveat in the analysis in this section is that it represents the labor market outcomes of the laid off workers who completed the survey, not necessarily the more general population of those who were laid off. To try to understand the importance of selection, I looked at the sample of all 411 people the survey firm attempted to contact. I ran probits (details available on request) where the dependent variable equaled one for those 201 employees who were surveyed. Explanatory variables included pre-layoff level in the organization, tenure at time of layoff, age, gender, last performance rating, and

¹² The firm offered those displaced at site #2 the opportunity to be relocated to a distant facility, but only five people accepted.

ending salary. The only factors that had any significant explanatory power were gender and tenure. Women were more likely to respond to the survey and employees with very short tenures were less likely to respond.¹⁴ It does not appear that the group surveyed was dramatically different from the general layoff group in terms of skills or ability, but I cannot completely rule out some unobserved factor that could bias the following results.

Table 5 provides an overview of the labor market situation of the laid off workers when they were surveyed. Columns 1 and 2 show that, once the laid off employees were back in the labor market for a considerable length of time, about 90% were employed. Those let go in layoff #1 had on average been paid considerably more than those in layoff #2, were older, had more pre-layoff tenure, and had been let go in a slack local labor market. These factors appear to have made the layoff significantly more costly to these workers than those in layoff #2, both in terms of length of unemployment spell and current wages. From the time of layoff to the date of the survey, layoff #1 employees averaged under 2% annual wage increases, while layoff #2 employees averaged nearly 10% annual increases.

Similarly, those let go in layoff #3 fared considerably better than those let go in layoff #4. Though less time passed from layoff to survey, the reemployment rate was higher for layoff #3, wages increased for most workers, and the average unemployment spell was much shorter. Because those let go in layoff #3 were higher paid and had longer tenure than those in layoff #4, it appears that these factors are not as likely to lead to post-layoff losses as are slack labor markets. While it is premature to draw definitive conclusions from summary statistics, the distinctions among the layoffs in Table 4 are quite stark and revealing.

¹³ In unreported probits, I included age, gender, race, salary, and an indicator variable for receiving a bonus as explanatory variables. None of these were significant determinants of layoff status.

Figure 3 shows scatter plots of the pre-layoff wages vs. post-layoff wages at each site. The most striking common theme across the four graphs is that there is a great deal of variance in affected employees' current wages relative to their former wages. At all four sites, some people have done very well financially since they lost their jobs, while some others have suffered significant wage losses. Some workers with pre-layoff wages at all levels of each site's wage distribution were unemployed at the time of the survey. Also, a substantial proportion had fairly dramatic wage increases in their new jobs, especially those with higher pre-layoff wages.

I now compare the wages of those who were laid off to those who were unaffected. As mentioned, there is significant sample selection in this data. The problem is compounded by the fact that there are several dimensions of sample selection. In addition to the selection in who the survey firm reached, some people are not yet reemployed and cannot be included in wage regressions.

There is also selection in the "survivor" group at the company. Some people leave the company between the time of a given layoff and the time of the follow-up survey. When I compare the wages of those surveyed to those working at the company, the second group does not include the people who got attractive outside offers, were fired for poor performance, or opted out of the workforce. In some ways, this particular form of selection is not a problem and, in fact, is one of the advantages of this study. That is, an interesting research question is how a displaced worker fares compared to those who stayed at the company. If the worker were to have left the company anyway, then the effects of displacement are arguably not as interesting.

Because I compare the wages of laid off workers, conditional on being found by the survey firm and on being employed, to those still at the firm, I believe that I probably understate

¹⁴ One possible reason for this is that men and those who held the job for a short time may be more mobile and,

the negative impact of layoffs. Clearly, conditioning on reemployment has this effect because I am removing the people with the worst outcomes from the analysis. The effects of survey response selection are not as obvious. Given the limited tools I had for tracking people but the persistence of the survey firm in reaching people at the address we had, I believe that the survey response rate was very high among people who had not moved since being laid off and quite low among those who did move. A conservative interpretation of the results, therefore, are that they reflect the effect of being laid off on those who have some attachment to the local area.¹⁵

Having provided these caveats, the results are quite illuminating. Each table shows the result of wage regressions of the form:

$$\ln(w_{i,post}) = \alpha + \beta_1 X_i + \beta_2 s_i + \varepsilon_i$$

and

$$\ln(w_{i,post}) - \ln(w_{i,pre}) = \alpha + \beta_1 X_i + \beta_2 s_i + \varepsilon_i.$$

$w_{i,post}$ and $w_{i,pre}$ are wages at the time of the post-layoff survey and before the layoff, respectively. X_i is a vector of individual characteristics such as age, tenure, dummy variables for twenty-four pre-layoff “levels” within the firm, and, when relevant, a dummy variable indicating if the person’s job was eliminated but he/she was redeployed. s_i is an indicator variable for whether the person was severed. The sample includes all employees who were at the site or comparison sites shortly before the layoff (that is, when $w_{i,pre}$ was measured) and for whom a wage measure was available at the time of the survey. This includes those who were laid off,

therefore, more likely to have moved by the time of the survey.

¹⁵ While I would like to control for selection, I do not have measures of a person’s mobility (which would presumably affect whether they respond to the survey) that do not affect their earnings power. In addition, the multiple selection effects further complicate the situation.

surveyed, and reemployed at the time of the survey, as well as those who stayed at the firm through the time of the post-layoff survey.

Table 6A displays the results of these wage regressions for layoff site #1. Of the four regressions, this is by far the longest separation in time between measurement of $w_{i,post}$ and $w_{i,pre}$. $w_{i,post}$ is based on surveys at the end of 1998 or wages as of the end of 1998 from the company's personnel files. $w_{i,pre}$ is based on year-end 1992 wages from personnel records.¹⁶ The first three columns show results of regressing the log of 1998 wages on factors *as of 1992*, as well as the layoff dummy. The last three regressions use the change in log wages in the six years between wage observations.

Columns 1 and 2 have positive but insignificant coefficients for pre-layoff performance rating. However, column 1 indicates that those laid off make approximately 13% less than those who stayed at the firm. Column 2 provides some evidence that this effect is larger for those who were poor performers prior to layoff (though the coefficients are not statistically significant). Column 3 includes an interaction between being laid off and pre-layoff tenure based on Kletzer's (1989) finding that pre-layoff tenure is related to post-layoff earnings losses. In the case of layoff #1, tenure and earnings are not related. This finding, as well as the results in Table 4 on who the firm laid off, suggest that firm-specific human capital was not highly valued at layoff site #1.

The regressions in columns 4-6 imply even greater effects of the layoff on the growth in pay from layoff to survey date, which is to be expected given that Table 3 showed laid off workers were relatively well paid before the layoff. The change in laid off worker wages averaged nearly 19% less than the change in survivor wages.

¹⁶ In fact, a few affected workers were laid off before the end of 1992, so I use their ending salary.

The bottom of the table shows that the variance in reemployment wages shown in Figure 3 is higher than the variance of wages for those who stay at the firm. As shown below the regression results in column 1, the variance of residuals in this regression is 0.0473 for those who were not laid off. The variance is three times higher, 0.1413, for those who were laid off.

This overstates the variance of laid off workers, however, because there is likely to be measurement error in survey-reported wage while the firm's personnel files accurately reflect wages of those not laid off. To correct for this difference between the two groups, I assume that the variance of measurement error in current wages in the survey is the same as the variance of measurement error in pre-layoff wages in the survey.¹⁷ I can calculate the pre-layoff measurement error accurately because the survey firm asked for pre-layoff wages and I checked this against the firm's personnel records. Under the assumption that the true wage residual is orthogonal to measurement error in current wages, I can adjust the variance of the wage residuals for severed workers by simply subtracting the variance of measurement error. As the bottom line of Table 6A shows, even after this generous correction for measurement error, the variance of severed worker wage residuals is more than double that of workers who stayed at the firm.

Table 6B shows that the average laid off worker did not suffer nearly as much financially at site #2. In this case, $w_{i,post}$ and $w_{i,pre}$ are measured three years apart. The success in finding new jobs suggested by Table 5 shows up clearly in Table 6B, as well. First note that those workers who received the highest rating on 1995 performance evaluations were still making an 8% premium at the end of 1998. More importantly, columns 1-3 suggest that the reemployed laid off workers were making 20% more than the employees at the three comparison sites in 1998.

¹⁷ This undoubtedly overstates the importance of measurement error (and leads to an underestimate of actual variance of severed worker wage residuals) because current wages are likely to be more accurately reported than retrospective pre-layoff wages.

Column 4 shows that part of this premium was already in pre-layoff wages, but laid off worker wages grew 12% more than wages of stayers.

The interactions between laid off and the rating dummies in column 4 provide some evidence that this effect was particularly large for those who got high ratings before the layoff, but the effect is so similar for the two dominant performance categories that this result is not particularly strong. Also, as with layoff #1, the wage effect of being laid off does not vary with pre-layoff tenure. Another finding similar to layoff #1 can be seen in the bottom rows of Table 6B. The variance in post-layoff wages was greater for workers at the closed site than for those who worked at the comparison sites. While the average worker at site #2 was reemployed at a favorable wage, the closure of the site was certainly not good for all workers.

Tables 6C and 6D, which perform the same analysis for layoffs #3 and #4, shorten the horizon between $w_{i,post}$ and $w_{i,pre}$ to two years. For many who were actually surveyed, the time from layoff to survey was even shorter (often less than a year.) This has the advantage of focusing on the immediate effects of displacement on wages, but exacerbates the selection issues because many of those surveyed were not yet reemployed. It also allows me to compare those laid off to those marked for layoff but redeployed, as well as to the other workers at each site. The results in both tables are quite similar and suggest essentially no wage effect of the layoff on those who were reemployed.

While Figure 3 shows that post-layoff outcomes were highly variable, Tables 6C and 6D show that the *average* reemployed worker's wage was about what it would have been if he/she had not been laid off. The last three columns of the tables show that redeployed workers benefited because their wage growth was much higher (by about 6%) than those who were laid off or workers at these sites that were completely unaffected by the layoff. One possible reason

for this is that those who were eventually redeployed were valued by the firm and, while their status at the firm was unclear, they sought outside offers to which the firm responded. Those workers who were unaffected by the layoff might also have been able to generate attractive offers, but had less incentive to do so.

Tables 6C and 6D also show a significant and meaningful relationship between post-layoff wages and pre-layoff tenure for those who were redeployed. In both cases, redeployed worker wages were higher for those with greater tenure. Those redeployed workers with very little tenure had significantly lower wages than unaffected workers with similar tenure. This difference was non-existent for employees with 5-10 years of pre-layoff tenure, however. It appears that the firm valued these workers' firm-specific knowledge or skills, but that this group of workers may have been fairly low skilled in a manner not observable in the available data.

Only at layoff site #4 is there a significant relationship between post-layoff wages and pre-layoff tenure for those who were actually laid off. For each additional year of tenure, wages in the new job were lower by about 4%. Those laid off workers who had very low pre-layoff tenure earned substantially more than their observationally equivalent counterparts who were not laid off. However, workers with more than about ten years of pre-layoff tenure suffered wage decreases in their new jobs. This is consistent with workers at this site building up substantial firm-specific human capital.

Tables 6A-6D and Figure 3 show that, even within one company, the effects of reorganizations vary substantially across groups of workers. Poor local labor market conditions make displacement a very costly event while, when the local economy is robust, many workers make substantial economic gains after losing their jobs.

VI. Conclusion

I have analyzed four reorganizations and reductions in force at a large financial institution. The circumstances underlying the four layoffs varied considerably in terms of dates, region, local labor market conditions, and the mechanism by which the affected employees were chosen. These differences led to substantial differences in the post-layoff experiences of affected workers. In one layoff, the people who lost their jobs appear to have suffered long-term substantial monetary losses from displacement. In another case, workers had substantially higher wages after the layoff than their co-workers who stayed with the firm. In two other cases, there were not obvious average differences in the average wages of those who stayed at the firm and those who left. However, while there were differences between the four groups, there were also large differences in the effects of displacement *within* each of the four groups. In any given group of job losers, a substantial fraction remained unemployed or had large wage losses while another substantial fraction enjoyed much higher wages than their counterparts who never lost their jobs.

I also found little evidence that the firm treated those who lost their jobs any differently before the layoffs occurred. That is, there was no systematic evidence of differences in turnover or wages between those laid off and those who stayed at the firm.

As with any study of employees (and former employees) of a single firm, there is some question as to how well these results generalize to other firms. But the experiences of those who were affected by reorganizations at this firm, both before and after the reorganizations took place, suggest that the process of downsizing and its effects on workers may be quite different for healthy firms that go through reorganizations than for financially distressed firms.

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Table 1
Summary Statistics

Layoff	(1)	(2)	(3)	(4)
Location	Northeast	West	Midwest	Mid-Atlantic
Type	Selective	Shutdown	Tried to reassign	Tried to reassign
Date	1993/1994	1996	1998/1999	1998/1999
# Affected	127	143	137	51
Local Economy	Not Good	Very Good	Excellent	Very Good
% Highest Rating				
-- Affected	27%	38%	41%	22%
-- Broader Group ¹	25%	29% (3 sites)	38%	36%
Average Age				
-- Affected	37.4	33.3	39.8	37.8
-- Broader Group	35.0	34.4	34.03	35.3
Average Tenure				
-- Affected	7.7 years	4.0	11.5	9.5
-- Broader Group	6.7 years	4.1	6.0	4.7
Average Salary				
-- Affected	\$26,654	\$21,462	\$28,889	\$22,510
-- Broader Group	\$22,332	\$23,246	\$26,486	\$29,670
Median Salary				
-- Affected	\$23,362	\$20,700	\$23,370	\$19,036
-- Broader Group	\$21,735	\$19,479	\$21,645	\$23,231
Max. Salary				
-- Affected	\$138,000	\$58,892	\$178,283	\$92,263
-- Broader Group	\$138,000	\$218,400	\$250,000	\$500,000

¹“Broader Group” includes all workers at the same site for layoffs 1, 3, and 4. For layoff 2, it includes three other sites that were not affected by the shutdown at layoff site 2.

Table 2
Turnover Before and During Layoffs

Probits: Dependent Variable =1 if person exits in a given month

	Layoff 1 – Selective/Bad Economy	Layoff 2 – Shutdown/Good Economy	Layoff 3 – Redeploy/Exc. Economy	Layoff 4 – Redeploy/ Good Economy
Prob (Exit)	2.34%	1.6%	1.7%	1.6%
% Affected	14.2%	100%	6.8%	14.7%
Tenure (*100)	0.0511 (0.0853)	-0.0590 (0.0089)	-0.1670 (0.0238)	-0.1593 (0.0270)
Tenure^2 (*100)	-0.0107 (0.0051)	0.0006 (0.0001)	0.0047 (0.0013)	0.0042 (0.0010)
Age (*100)	0.0127 (0.0772)	-0.0289 (0.0160)	0.0268 (0.0226)	0.0511 (0.0333)
Age^2 (*10k)	-0.0016 (0.0010)	0.0003 (0.0002)	-0.0007 (0.0003)	-0.0011 (0.0004)
Highest Rating	-0.0153 (0.0020)	-0.0230 (0.0006)	-0.0059 (0.0009)	-0.0045 (0.0011)
Average Rating	-0.0162 (0.0023)	-0.0358 (0.0012)	-0.0035 (0.0009)	-0.0002 (0.0011)
Affected Location	0.0093 (0.0027)	0.0031 (0.0011)	-0.0013 (0.0006)	-0.0055 (0.0010)
Log likelihood	-1651	-10,518	-4046	-2974
N	15,239	150,649	70,509	50,334

Each observation is a person-month. Sample is all employees in Layoff 1 Region, employees at layoff site 2 and 3 similar sites, and all employees at layoff sites 3 and 4. Each probit looks at turnover in the two years leading up to the layoff. “Affected Group” is a dummy variable that indicates if the person worked in a group that had layoffs. This group is determined by physical building in layoffs 1 and 2. It is determined by a code for allocating costs in layoffs 3 and 4. Displayed coefficients are probability derivatives. Standard errors in parentheses.

Table 3
Wages Through the Layoff Process

Wage Regressions: Dependent Variable =ln(hourly wage)

	Layoff 1 – Selective/Bad Economy	Layoff 2 – Shutdown/Good Economy	Layoff 3 – Redeploy/Exc. Economy	Layoff 4 – Redeploy/ Good Economy
Tenure (*100)	0.0001 (0.0011)	0.0234 (0.0004)	0.0161 (0.0014)	0.0174 (0.0011)
Tenure^2 (*100)	0.0000 (0.0000)	-0.0003 (0.0000)	-0.0001 (0.0001)	-0.0002 (0.0000)
Age (*100)	0.0098 (0.0022)	0.0165 (0.0008)	0.0135 (0.0012)	0.0103 (0.0013)
Age^2 (*10k)	-0.0001 (0.0000)	-0.0002 (0.0000)	-0.0001 (0.0000)	-0.0001 (0.0000)
Female	-0.0788 (0.0075)	-0.0185 (0.0028)	-0.0320 (0.0039)	-0.0460 (0.0044)
Severed	0.0405 (0.0082)	0.0606 (0.0064)	-0.0262 (0.0086)	-0.0064 (0.0126)
Redeployed	N/A	N/A	-0.0787 (0.0053)	-0.0869 (0.0087)
R ²	0.9089	0.8412	0.8051	0.8665
N	2,247	20,659	12,439	9,242

Each observation is a person-year. “Severed” is a dummy variable indicating whether the person was eventually laid off. Data include one to three years before layoffs started and the years during which layoffs occurred. Sample is all employees in Layoff Region. Regressions control for 24 “levels” within the company. Standard errors in parentheses.

Table 4
Who Gets Laid Off?

Probits: Dependent Variable =1 if person was laid off

	Layoff 1 – Selective/Bad Economy	Layoff 3 – Redeploy/Exc. Economy	Layoff 4 – Redeploy/ Good Economy
Tenure	0.0120 (0.0047)	0.0388 (0.0101)	-0.0286 (0.0345)
Tenure^2	-0.0003 (0.0002)	-0.0007 (0.0004)	0.0021 (0.0018)
Highest Rating	0.0314 (0.0654)	0.0346 (0.0630)	0.1402 (0.1491)
Average Rating	-0.0012 (0.0377)	0.0159 (0.0532)	0.2592 (0.1234)
Last Raise	-0.0018 (0.0046)	0.0713 (0.0918)	-0.1045 (0.2218)
Recent Promotion	-0.0433 (0.0257)	-0.0384 (0.0349)	0.0808 (0.0666)
Log Likelihood	-529	-284	-109
N	1,417	624	223

Sample includes all people who were working in the groups that had layoffs at the time the layoff occurred. Layoff 2 is dropped because everyone at the site was laid off. Each observation is a person. “Last Raise” is log change in wage in the last full year before the layoff started. “Recent Promotion” is an indicator for promotion in the last full year before the layoff started. Displayed coefficients are probability derivatives. Standard errors are in parentheses.

Table 5
Summary of Surveyed Workers

Layoff	(1)	(2)	(3)	(4)
Type	Selective	Shutdown	Tried to reassign	Tried to reassign
Local Economy	Not Good	Very Good	Excellent	Very Good
Sample Size	55	38	55	30
Average Time from Layoff to Survey	5.6	2.6	1.0	1.4
Pre-Layoff Tenure	6.9	5.1	12.6	9.1
Average Age	39.7	34.3	38.6	36.5
Currently Employed	89%	89%	79%	67%
Weeks Unemp.				
-- Median	26	12	8	12
-- Mean	27.3	14.5	9.5	16.0
Salary Change				
-- Median	2,860	6,700	1,664	-2,400
-- Mean	3,730	7,984	4,124	570
Log Salary Change				
-- Median	0.1054	0.2877	0.0828	-0.1248
-- Mean	0.1131	0.2685	0.0748	-0.0229
Last Salary	30,316	22,271	30,585	24,627
Have Insurance?	87%	95%	94%	67%

Table 6A
Post-Layoff Wages of Those Who Stay and Those Who Go

Dep Var	Ln(12/98 salary)			Ln(12/98 Salary)-Ln(12/92 Salary)		
Tenure	0.0186 (0.0184)	0.0172 (0.0184)	0.0178 (0.0188)	0.0128 (0.0186)	0.0121 (0.0187)	0.0133 (0.0190)
Tenure^2	-0.0012 (0.0009)	-0.0011 (0.0009)	-0.0012 (0.0009)	-0.0007 (0.0009)	-0.0006 (0.0009)	-0.0007 (0.0009)
Age	-0.0530 (0.0212)	-0.0512 (0.0213)	-0.0526 (0.0213)	-0.0452 (0.0214)	-0.0442 (0.0216)	-0.0454 (0.0216)
Age^2	0.0005 (0.0002)	0.0005 (0.0002)	0.0005 (0.0002)	0.0004 (0.0002)	0.0004 (0.0002)	0.0004 (0.0002)
Female	-0.1546 (0.0494)	-0.1511 (0.0497)	-0.1546 (0.0495)	-0.0763 (0.0499)	-0.0735 (0.0503)	-0.0765 (0.0500)
Highest Rating	0.0740 (0.0779)	0.0271 (0.0877)	0.0749 (0.0782)	0.0573 (0.0788)	0.0309 (0.0889)	0.0566 (0.0791)
Average Rating	0.0585 (0.0659)	0.0153 (0.0742)	0.0597 (0.0663)	0.0353 (0.0666)	0.0078 (0.0752)	0.0345 (0.0670)
Severed	-0.1337 (0.0535)	-0.2735 (0.1210)	-0.1499 (0.0940)	-0.1863 (0.0541)	-0.2720 (0.1227)	-0.1760 (0.0950)
Sev*Highest		0.1675 (0.1504)			0.0918 (0.1525)	
Sev*Average		0.1656 (0.1355)			0.1084 (0.1374)	
Sev*Tenure			0.0019 (0.0093)			-0.0012 (0.0094)
R ²	0.7490	0.7512	0.7490	0.3487	0.3510	0.3488
N	206	206	206	206	206	206
Variance of residuals:						
Non-severed	0.0473			0.0438		
Severed	0.1413			0.1630		
Severed (adjusted for meas error)	0.1082			0.1299		

Sample is all employees in region of Layoff Site #1 as of onset of layoffs (1992) for whom end of 1998 wages are available. Regressions control for 24 “levels” within the company, age, and age². Standard errors in parentheses.

Table 6B
Post-Layoff Wages of Those Who Stay and Those Who Go

Dep Var	Ln(12/98 salary)			Ln(12/98 Salary)-Ln(12/95 Salary)		
Tenure	0.0179 (0.0022)	0.0179 (0.0022)	0.0180 (0.0022)	-0.0160 (0.0019)	-0.0161 (0.0019)	-0.0161 (0.0019)
Tenure^2	-0.0004 (0.0001)	-0.0004 (0.0001)	-0.0004 (0.0001)	0.0004 (0.0001)	0.0004 (0.0001)	0.0004 (0.0001)
Female	-0.0651 (0.0091)	-0.0651 (0.0091)	-0.0653 (0.0091)	-0.0256 (0.0078)	-0.0257 (0.0078)	-0.0256 (0.0078)
Highest Rating	0.0786 (0.0156)	0.0792 (0.0157)	0.0792 (0.0156)	0.0817 (0.0133)	0.0791 (0.0135)	0.0816 (0.0134)
Average Rating	0.0039 (0.0145)	0.0043 (0.0146)	0.0047 (0.0145)	0.0262 (0.0124)	0.0237 (0.0125)	0.0261 (0.0124)
Laid Off	0.2051 (0.0338)	0.2270 (0.0925)	0.2670 (0.0648)	0.1207 (0.0290)	0.0020 (0.0793)	0.1082 (0.0556)
LO*Excellent		-0.0299 (0.1055)			0.1368 (0.0904)	
LO*Good		-0.0256 (0.1052)			0.1362 (0.0902)	
LO*Tenure			-0.0140 (0.0125)			0.0028 (0.0108)
R ²	0.8147	0.8147	0.8148	0.1906	0.1915	0.1906
N	2,226	2,226	2,226	2,226	2,226	2,226
Variance of residuals:						
Non-severed	0.0321			0.0232		
Severed	0.0709			0.0859		
Severed (adjusted for meas error)	0.0507			0.0657		

Sample is all employees at Layoff Site #2 and 3 similar sites as of layoff date (mid '96) for whom end of 1998 wages are available. Regressions control for 24 "levels" within the company, age, and age². Standard errors in parentheses.

Table 6C
Post-Layoff Wages of Those Who Stay and Those Who Go

Dep Var	Ln(12/99 salary)			Ln(12/99 Salary)-Ln(12/97 Salary)		
Tenure	0.0115 (0.0031)	0.0115 (0.0031)	0.0100 (0.0032)	-0.0078 (0.0027)	-0.0081 (0.0027)	-0.0059 (0.0027)
Tenure^2	-0.0001 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)	0.0001 (0.0002)	0.0002 (0.0002)	0.0001 (0.0002)
Female	-0.0516 (0.0090)	-0.0517 (0.0090)	-0.0495 (0.0090)	0.0063 (0.0078)	0.0063 (0.0078)	0.0038 (0.0077)
Highest Rating	0.0458 (0.0163)	0.0447 (0.0176)	0.0459 (0.0163)	-0.0117 (0.0140)	0.0069 (0.0151)	-0.0124 (0.0140)
Average Rating	-0.0021 (0.0153)	0.0011 (0.0167)	-0.0023 (0.0153)	-0.0321 (0.0132)	-0.0175 (0.0143)	-0.0322 (0.0132)
Redeployed	-0.0095 (0.0109)	-0.0021 (0.0354)	-0.0515 (0.0189)	0.0578 (0.0094)	0.1443 (0.0304)	0.1167 (0.0162)
Red*Highest		0.0071 (0.0396)			-0.1151 (0.0342)	
Red*Average		-0.0173 (0.0380)			-0.0830 (0.0327)	
Red*Tenure			0.0059 (0.0022)			-0.0083 (0.0019)
Severed	0.0359 (0.0244)	0.0185 (0.0329)	0.1012 (0.0632)	0.0249 (0.0210)	0.0219 (0.0283)	0.0095 (0.0543)
Sev*Highest		0.0385 (0.0490)			0.0036 (0.0421)	
Sev*Average		Excluded			Excluded	
Sev*Tenure			-0.0060 (0.0056)			0.0012 (0.0048)
R ²	0.8512	0.8513	0.8518	0.1243	0.1290	0.1325
N	2148	2148	2148	2148	2148	2148
Var. of residuals:						
Unaffected	0.0280			0.0177		
Redeployed	0.0219			0.0319		
Severed	0.0960			0.0872		
Severed (adj)	0.0842			0.0754		

Sample is all employees at Layoff Site #3 as of onset of layoffs (end of 1997) for whom end of 1999 wages are available. Regressions control for 24 “levels” within the company, age, and age². Standard errors in parentheses.

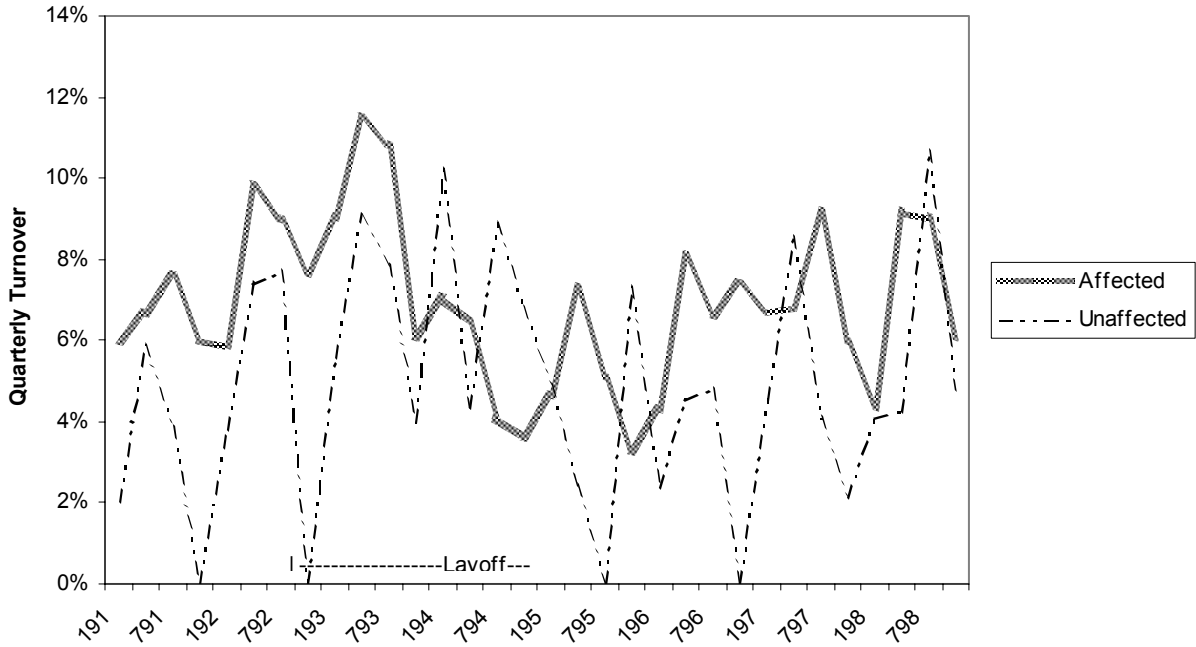
Table 6D
Post-Layoff Wages of Those Who Stay and Those Who Go

Dep Var	Ln(12/99 salary)			Ln(12/99 Salary)-Ln(12/97 Salary)		
	Tenure	0.0042 (0.0020)	0.0041 (0.0020)	0.0038 (0.0020)	-0.0125 (0.0017)	-0.0124 (0.0017)
Tenure^2	-0.0000 (0.0001)	-0.0000 (0.0001)	-0.0000 (0.0001)	0.0003 (0.0001)	0.0003 (0.0001)	0.0003 (0.0001)
Female	-0.0423 (0.0093)	-0.0422 (0.0093)	-0.0419 (0.0092)	0.0032 (0.0079)	0.0034 (0.0079)	0.0033 (0.0078)
Highest Rating	0.0215 (0.0118)	0.0220 (0.0119)	0.0218 (0.0117)	-0.0060 (0.0099)	-0.0071 (0.0101)	-0.0082 (0.0098)
Average Rating	0.0049 (0.0109)	0.0051 (0.0110)	0.0046 (0.0108)	-0.0122 (0.0092)	-0.0144 (0.0093)	-0.0157 (0.0092)
Redeployed	0.0011 (0.0162)	-0.0154 (0.0657)	-0.0994 (0.0359)	0.0624 (0.0137)	-0.0048 (0.0555)	0.1166 (0.0302)
Red*Highest		0.0206 (0.0708)			0.0715 (0.0597)	
Red*Average		0.0158 (0.0690)			0.0713 (0.0582)	
Red*Tenure			0.0144 (0.0046)			-0.0079 (0.0039)
Severed	0.0370 (0.0317)	0.1718 (0.1459)	0.3409 (0.0914)	0.0016 (0.0268)	-0.0240 (0.1231)	0.4107 (0.0769)
Sev*Highest		-0.1675 (0.1561)			-0.0324 (0.1317)	
Sev*Average		-0.1293 (0.1508)			0.0543 (0.1272)	
Sev*Tenure			-0.0389 (0.0110)			-0.0524 (0.0093)
R ²	0.9011	0.9012	0.9024	0.1827	0.1847	0.1999
N	1694	1694	1694	1694	1694	1694
Var. of residuals:						
Unaffected	0.0198			0.0133		
Redeployed	0.0157			0.0142		
Severed	0.1062			0.1194		
Severed (adj)	0.0899			0.1030		

Sample is all employees at Layoff Site #4 as of onset of layoffs (end of 1997) for whom end of 1999 wages are available. Regressions control for 24 “levels” within the company, age, and age². Standard errors in parentheses.

Figure 1
Turnover Before and After Layoffs

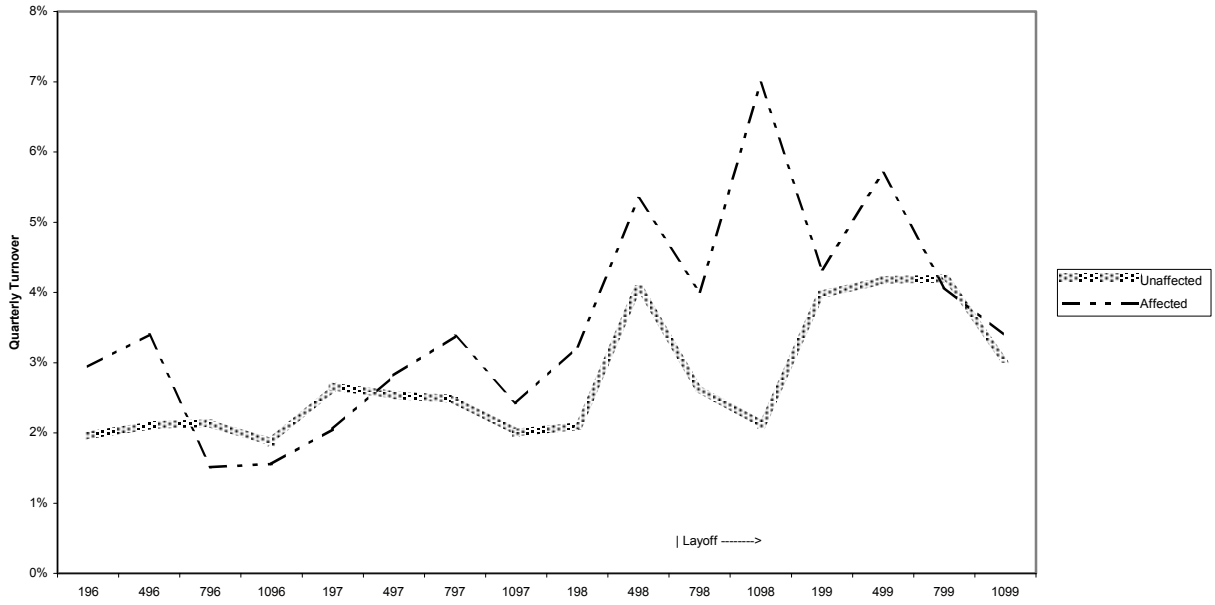
Turnover -- Layoff Site 1



Turnover -- Layoff Site 2



Turnover -- Layoff Site 3



Turnover -- Layoff Site 4

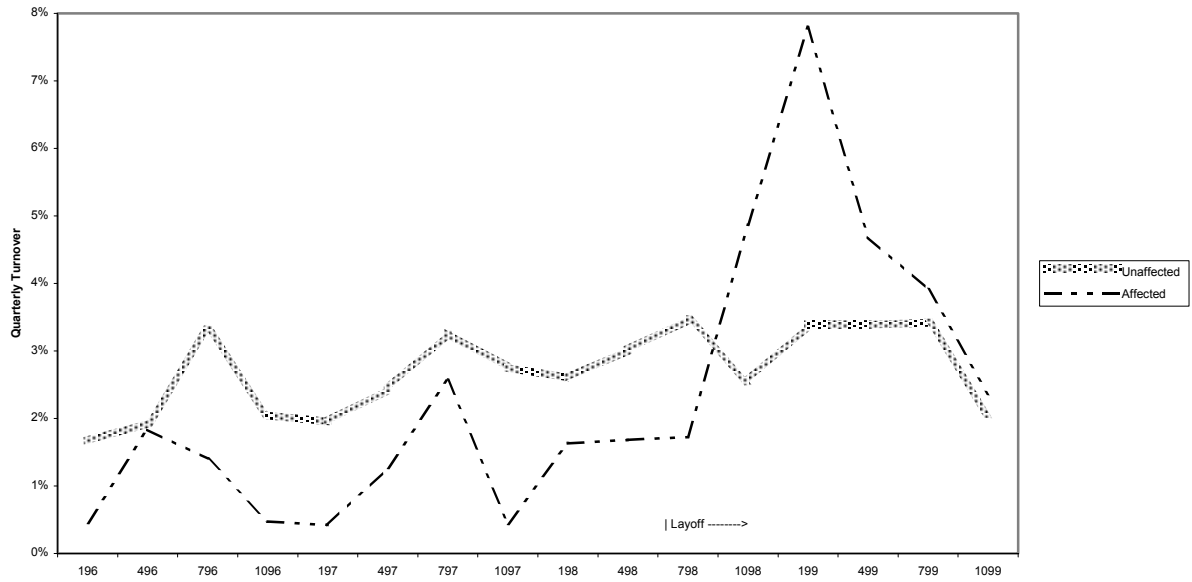
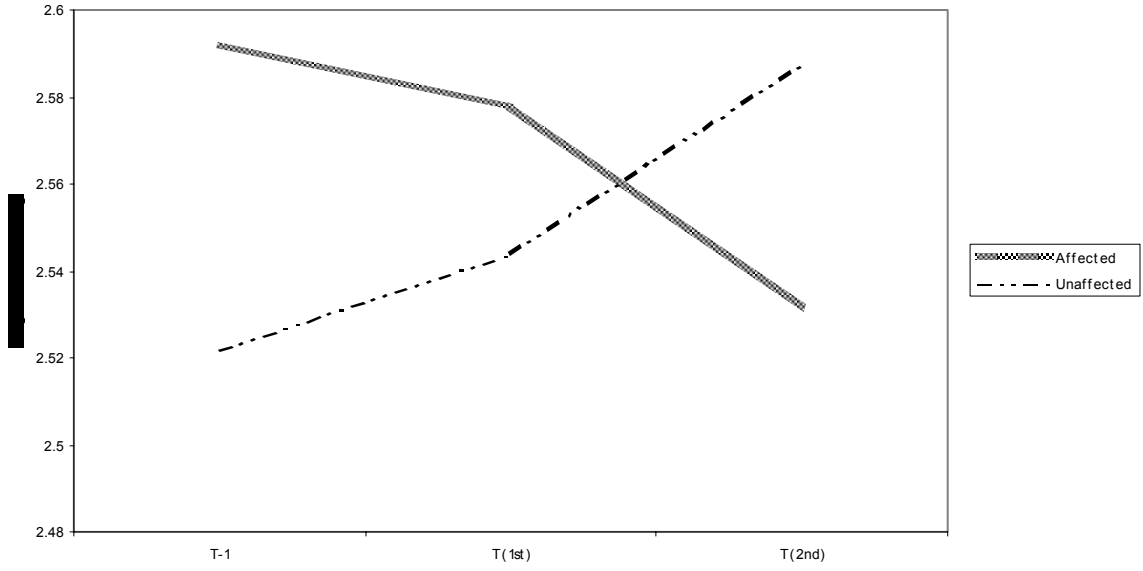
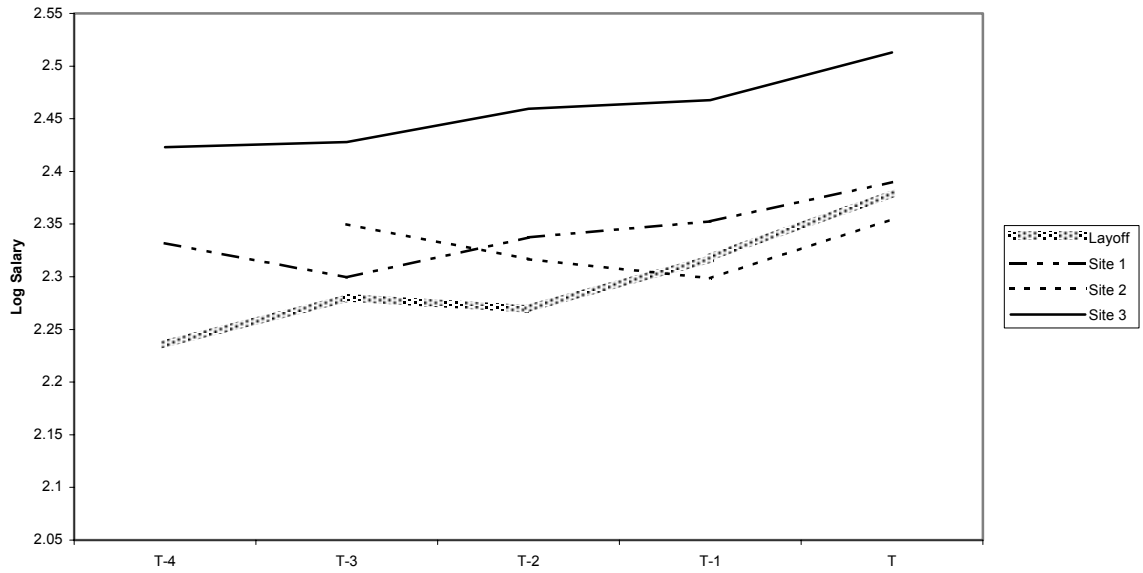


Figure 2
Wages Before and During Layoffs

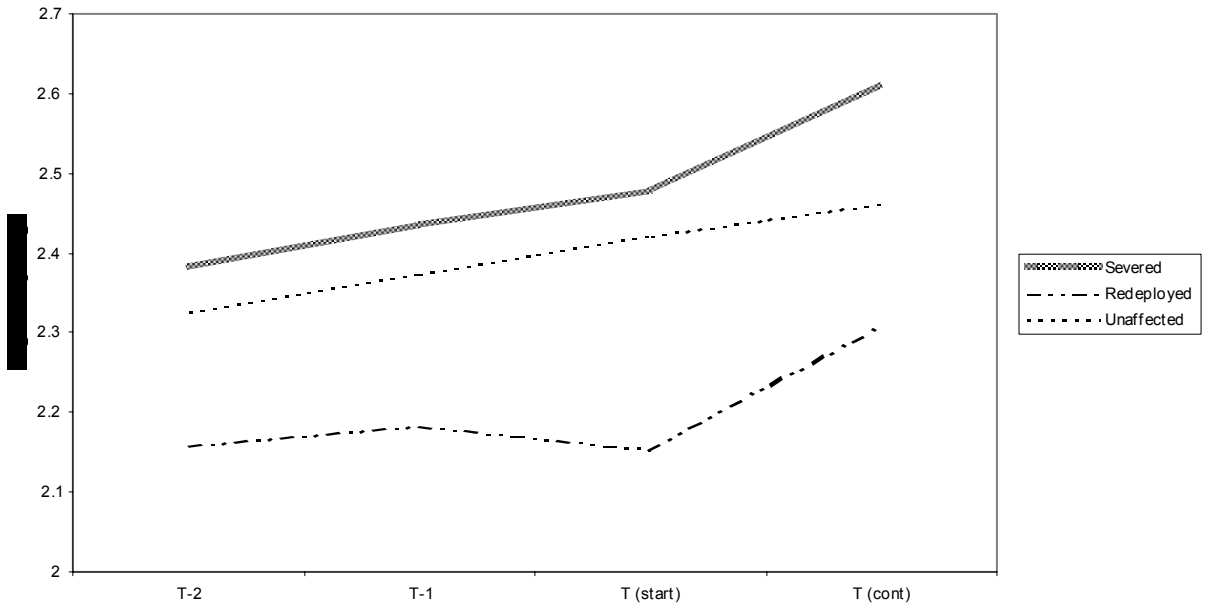
Wages -- Layoff Site 1



Wages -- Layoff Site 2



Wages -- Layoff Site 3



Wages -- Layoff Site 4

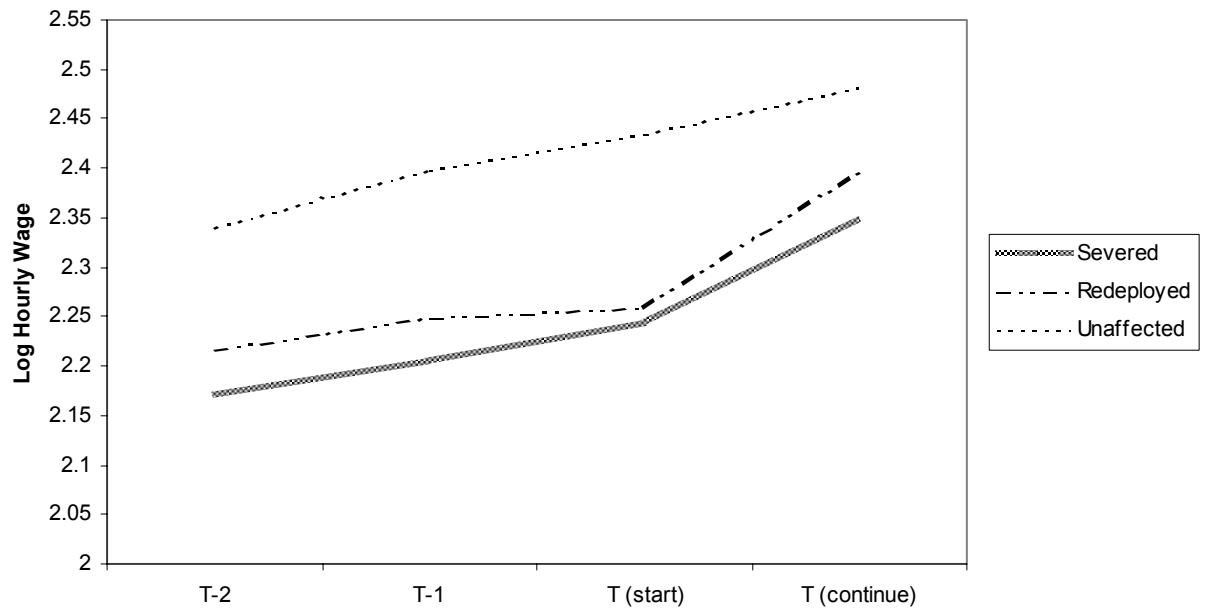
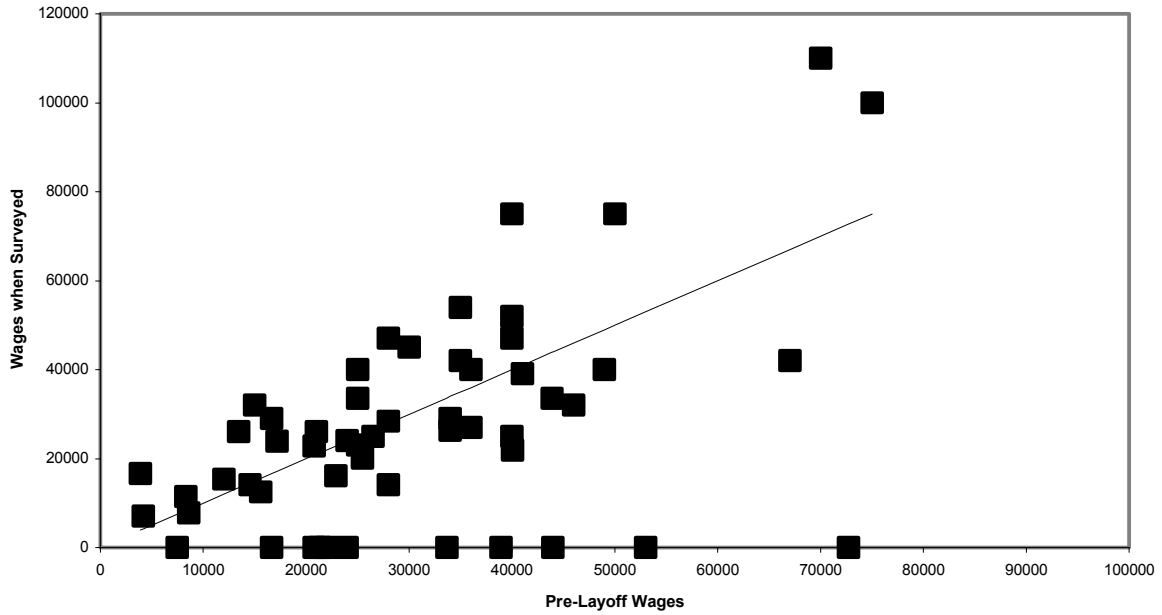
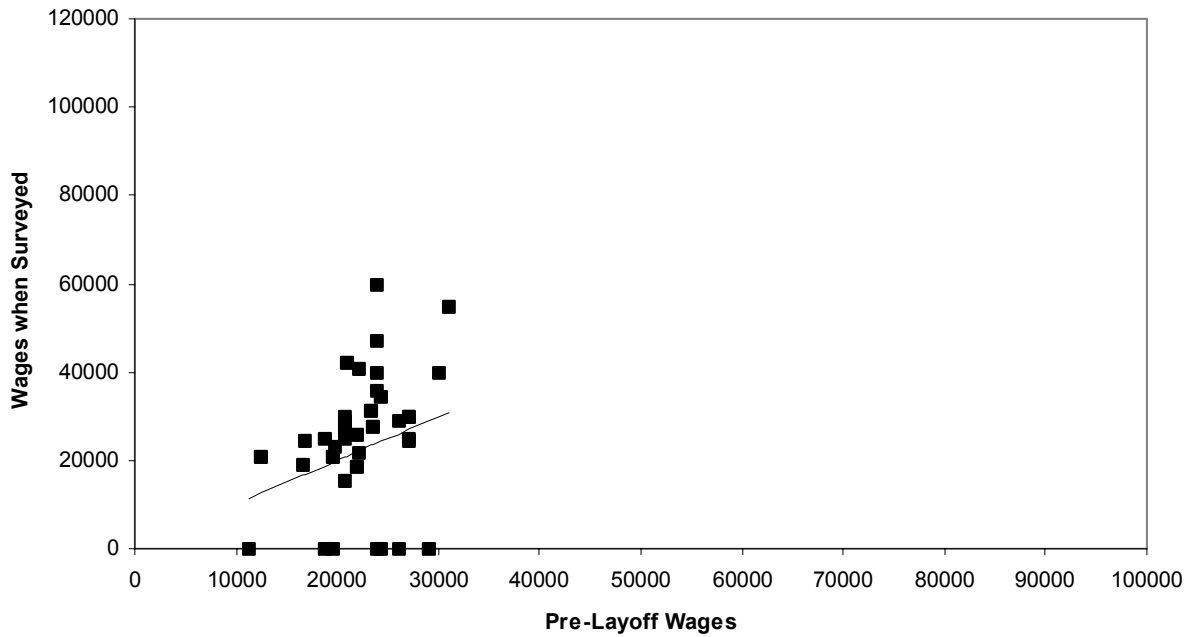


Figure 3
Pre and Post-Downsizing Wages of Laid Off Workers

Layoff Wage Changes -- Site 1



Layoff Wage Changes -- Site 2



Layoff Wage Changes -- Site 3



Layoff Wage Changes -- Site 4

