

Labor Market Dynamics Associated with the Movement of Work Overseas

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1) Introduction

While the movement of jobs out of the United States has been occurring for decades, in recent years offshoring has shifted from manufacturing jobs to service jobs, and concern over the impact of these actions on the economy has been growing. Anecdotal information began appearing in the press with increasing frequency in 2003, while statistical data upon which to base analysis and policy were lacking.

The Bureau of Labor Statistics' Mass Layoff Statistics (MLS) program, and, in particular, the program's employer interview component, was identified as an appropriate vehicle for collecting information on job loss associated with movement of work out of the country. After an intensive period of development and testing, in January 2004, questions were added to the MLS employer interview on movement of work. Since then, the BLS has continued to issue quarterly reports on job loss in large layoffs associated with overseas movement of work, the only timely survey data in the US statistical system that relate to offshoring. These MLS data, which provide important information on the layoff event and the affected workers, have been widely used.

Economists and policy-makers are mainly concerned with measuring three broad questions concerning offshoring and employment: how many jobs have been lost due to offshoring, what are the characteristics of the firms and the jobs involved in offshoring, and what are the effects on individuals and businesses affected by offshoring. In this paper, we describe an ongoing research project which links the MLS overseas movement of work microdata to other establishment-level and individual-level microdata within the BLS. We believe that linking existing datasets for statistical purposes is a low-cost and high-value approach for gaining further insight into the effects of offshoring without imposing any new respondent burden on either individuals or businesses.

We begin this paper with a description of the MLS program, and we highlight the estimates of overseas movement of work from the 2004 MLS data. We then describe linking the MLS microdata to longitudinal microdata from the BLS universe of establishments. This linkage allows us to follow the employment and wage dynamics of the businesses with overseas movement of work mass layoff actions. The main finding from our empirical analysis is that, on average, businesses with overseas movement of work actions have declining employment in the two years prior to their measured mass layoff, and continue to have declining employment in the two quarters following their mass layoff. Additional evidence suggests that the individuals who lost their jobs as a result of the overseas movement of work action are low-wage individuals within the establishment.

2) Mass Layoff Statistics

2a) The BLS MLS Program

Among the key economic data developed by the BLS, mass layoff statistics provide important and detailed information on a subset of establishments and job losers experiencing

dislocation. In BLS' MLS program, closings and layoffs of 50 or more from establishments with 50 or more workers who file for unemployment insurance are identified using administrative data. These layoffs, which are identified from administrative data, are viewed as "potential" layoff events and provide the basis for a monthly BLS news release. Employer interviews are then conducted to identify events that last more than 30 days and to augment the administrative data with information on the nature of the layoff itself, including the reason for separation, open/closed status, and recall expectations. These layoffs, which are based upon information from the employer interview, are considered "extended" layoff events and provide the basis for a quarterly BLS news release.

The MLS program identifies the universe of establishments that have layoffs or closings meeting program specifications, and it is that universe that is used in collecting data through the employer interview. The employer interview is conducted via telephone and largely in an unstructured manner, by trained analysts with the State Labor Market Information offices. Employer participation in the MLS program is voluntary, but the program has an excellent response rate—95 percent in 2004 and continuing at that level or better in 2005. The employer is not provided a copy of the questionnaire in advance of the interview. Questions on movement of work were introduced to the interview beginning in January of 2004. The introduction of these questions did not have a negative impact on the program's response rate.

Administrative data from the operation of the State Unemployment Insurance (UI) programs yield important economic information on the establishment and on the worker. For a business identified as having conducted a mass layoff event, administrative data provide information on the State in which the business is located, its detailed industry code, and most important for this paper, a unique identifier of the business itself (its Unemployment Insurance Account Number). For the workers who file for unemployment compensation, their age, race, gender, location of residence, status in the unemployment insurance system, and unique identifier of the individual (Social Security Number) come from administrative records.

In addition to providing timely labor market information, the MLS data provide an important universe to draw on for research into understanding the effects of the mass layoff on the business and the affected workers. The MLS layoff event is defined by the relevant UI account number of the business and the Social Security Numbers of the affected workers. The UI account number allows for pre- and post-layoff tracking of the employment and wages for the business by linking to current, previous, and future quarters of other administrative data that employers must provide as part of the State Unemployment Insurance program. The Social Security Number affords the same opportunity for longitudinal analysis of the employment and wages of the affected workers.

2b) "Offshoring" in the MLS Program

Because the employer interview component already collects specific information on the nature of the layoff event, BLS decided to use the MLS as the vehicle for collecting

information on outsourcing and offshoring. In approaching the data collection, the following definitions were used:

- Outsourcing is the movement of work that was formerly conducted in-house by employees paid directly by a company to a different company. The different company can be located inside or outside of the U.S. The work can occur at a different geographic location or remain on-site.
- Offshoring is the movement of work from within the U.S. to locations outside of the U.S. Offshoring can occur within the same company and involve movement of work to a different location of that company outside of the U.S., or to a different company altogether (offshoring/outsourcing).

Recognizing that there was not uniformity in understanding the terms “offshoring” and “outsourcing,” BLS chose to approach the data collection by defining these economic actions in terms of “movement of work.” A BLS group that included members from the BLS Behavioral Sciences Research Laboratory crafted the following two basic questions on movement of work associated with the layoff event, one pertaining to movement within the company and the other pertaining to movement of work to another company under contractual arrangements.

- (1) “Did this layoff include your company moving work from this location(s) to a different geographic locations(s) within your company?”
- (2) “Did this layoff include your company moving work that was performed in-house by your employees to a different company, through contractual arrangements?”

If an employer responded “yes” to either basic question, then information was requested on the geographic area to which work was moved and the number of separated workers associated with that action. If the move was domestic, the specific State or States was sought. If the move was out-of-country, the specific country or countries was sought. These questions were to be asked when the employer-provided reason for layoff was other than seasonal or vacation, since such reasons would not have a movement of work component. (See Attachment 1 for the employer interview.)

Relating these questions to the terms offshoring and outsourcing, offshoring is measured by an affirmative response to either question 1 or question 2 and the work is moved out of the U.S., while “outsourcing” is measured by an affirmative response to question 2, with the work moved either domestically, out of the U.S., or remaining on-site.

A fuller discussion of the development and implementation of the movement of work questions in the MLS can be found in the article “Mass layoff data indicate outsourcing and offshoring work” by Sharon Brown and Lewis Siegel in the August 2005 *Monthly Labor Review*.

2c) Mass Layoffs in 2004 and job loss due to offshoring

As Table 1 shows, in 2004, employers took 5,010 mass layoff actions that resulted in the separation of 993,511 workers from their jobs for at least 31 days. Extended mass layoffs that involve the movement of work within the same company or to a different company, domestically or out of the United States, occurred in 366 of all private nonfarm events excluding those for seasonal or vacation reasons. The events involving movement of work were associated with the separation of 73,217 workers—about 11 percent of all separations resulting from nonseasonal and nonvacation mass layoff events.

As part of the 366 layoff events, 480 movement-of-work actions were taken by employers. (The number of actions exceeds the number of events because an individual event may involve more than one movement of work action.) Employers were able to provide information on the specific separations associated with the movement of work component in 382 actions, 80 percent of the total. Thus, a range of 55,122 (separations in movement of work actions for which the employer was able to provide specific detail) to 73,217 (total separations in all layoff events that included movement of work) is established for separations due to movement of work.

Of the 382 movement-of-work actions reported in 2004 for which complete information is available, less than 3 in 10 of the relocations were out of the United States—103 out of 382—and more than 7 in 10 of those involved moving work within the company. (See Table 2.) When work was offshored, Mexico and China were cited 52 percent of the time. When work was moved to another company under contractual arrangements (outsourced), in nearly 4 out of 10 instances, the work was moved outside of the United States.

Important differences exist in the characteristics of all layoff events (excluding seasonal and vacation) and those involving movement of work. The former group totaled 2,856 events and 641,519 workers, while the latter encompassed 366 events and 73,217 workers.

About two-thirds of the layoff events and workers separations associated with the movement of work occurred in manufacturing, particular in transportation equipment, computer and electronic products, food, and electrical equipment and appliances. Layoff activity among those employers who did not engage in any movement of work was also concentrated in manufacturing, but at substantially lower proportions—about one-third of the events and one-fourth of the separations. The manufacture of transportation equipment and food were the most numerous for this latter group.

Layoffs in retail trade and in information ranked second and third, respectively, among movement-of-work-related layoffs. In contrast, establishments in administrative and waste services (largely in temporary help) and retail trade reported the next largest layoff activity (after manufacturing) among employers who had layoffs where there was no movement of work.

Reorganization within the company was by far the most frequently reported reason for layoff among employers having movement of work—about 54 percent of both events and

separations. In contrast, only about 12 percent of the events and separations among non-movers were attributed to that reason. Rather, those employers were more likely to cite contract completion (27 percent of events and 30 percent of separations) or slack work (20 percent and 13 percent, respectively).

MLS job loss associated with movement of work out of the United States occurred in 103 actions taken by 94 establishments during 2004. Ninety percent of these establishments were in manufacturing, with the greatest concentrations in computer and electronic product, transportation equipment, apparel, electrical equipment and appliance, and machinery manufacturing. Employers cited reasons associated with internal company restructuring (business ownership change, financial difficulty, reorganization within the company) in nearly 6 out of 10 instances, with reorganization predominating. In the comment field for employers who cite "other" as a reason, more than half of the employer-provided comments refer to cutting costs or cheaper labor overseas.

3) Adding Employment Dynamics to the MLS Data

Merging the MLS microdata to the BLS quarterly universe of establishments, and performing this link in quarters preceding, concurrent with, and following the quarter of the mass layoff, allows us to examine longitudinal employment and wage data both prior to and following the mass layoff. This linkage will enable us to answer questions such as: is the mass layoff a large one-time employment adjustment, or is it part of a sustained employment contraction? What is the survival rate following a mass layoff? Are the employment dynamics related to firm characteristics, industry trends, or local labor market conditions? How do the employment dynamics of businesses with mass layoffs with movement of work overseas compare to the employment dynamics of other businesses with mass layoffs, and how do the employment dynamics compare to those of similar firms in the state and industry who don't have a mass layoff? Can we learn anything about the workers laid off from the wage dynamics of the business with the mass layoff?

The analysis reported in this paper is based on merging the MLS overseas movement of work mass layoffs with the BLS quarterly universe of establishments (the Quarterly Census of Employment and Wages, or QCEW). The QCEW file merits mention. All employers subject to state UI laws are required to submit quarterly contribution reports detailing their monthly employment and quarterly wages to the State Employment Security Agencies. After the microdata are augmented and thoroughly edited by the State Labor Market Information staff, the States submit these data and other business identification information to the Bureau of Labor Statistics as part of the federal-state cooperative QCEW program. The data gathered in the QCEW program are a comprehensive and accurate source of employment and wages, and provide a virtual census (98%) of employees on nonfarm payrolls. In the fourth quarter of 2004, the QCEW statistics show an employment level of 131.6 million, with 8.5 million establishments in the U.S. economy. The QCEW microdata (the universe file of business establishments) is available with roughly a seven month lag following the end of the quarter. Thus data for the fourth quarter of 2004 became available in July 2005, and data for the first

quarter of 2005 just became available in October 2005 (too late for incorporating into the analysis for the November OECD conference).

Our microdata linkage between the MLS and the QCEW is based on the 94 events that underlie the 103 overseas movement of work actions in Table 2. Recall that a layoff event can have more than one action, which explains why we have 94 businesses reporting 103 overseas movement of work actions. For example, one layoff event may have separations being reported to two different countries – this would be reported as two distinct overseas movement of work actions. Another example is that one layoff event may have both a movement of work within the same company and to a different company (with positive separations reported for each), and thus two actions.

Merging the MLS and the QCEW microdata is difficult for one particular reason – the MLS identifies businesses with a {State, UI account} identifier, whereas establishments in the QCEW are identified by a {State, UI account, reporting unit} combination, where the reporting unit number uniquely identifies establishments within a multi-establishment company. A link between the MLS and the QCEW is trivial for single establishment companies, but is potentially difficult for multi-establishment companies. The MLS-QCEW linkage algorithm that we have developed relies heavily on the county and NAICS information collected in both the MLS employer interview and in the Multiple Worksite Reports that are part of the QCEW program.

The details of the MLS-QCEW linkage are as follows. Of the 94 MLS events with movement of work in calendar year 2004, 91 of the {State, UI number} identifiers could be found in the QCEW microdata in the quarter the layoff occurred. Of the three non-linkages, one could be found in lagged quarters of the QCEW (we do not yet understand why two identifiers don't match across programs). Of the 91 MLS events contemporaneously linked to the QCEW by {State, UI account}, 44 are single establishments in the QCEW and 47 are multi-establishment companies. For the 47 multi-unit businesses without a straightforward linkage between the MLS and the QCEW, we aggregate the QCEW establishments by county and 6-digit NAICS codes and link these aggregated records to the MLS. This enhanced linkage algorithm results in 76 linkages between the MLS event and the QCEW aggregated establishments. We manually matched the remaining 15 MLS events to the QCEW establishment data.

The final step of our linkage algorithm is to match the merged MLS-QCEW microdata to past and future quarters of the QCEW. This linkage is described in Table 3. For mass layoff events that occurred in the first quarter of 2004, we link backwards 8 quarters using QCEW data from 2002:Q1 to 2003:Q4, and we link forwards 3 quarters using QCEW data from 2004:Q2 to 2004:Q4. Similarly, for mass layoff events that occurred in the fourth quarter of 2004, we link backwards 8 quarters using QCEW data from 2002:Q4 to 2004:Q3; and we are unable to link forward using available data for mass layoff events that occurred in the fourth quarter of 2004.

Our analysis sample for this version of the paper is based on 80 of the 91 businesses. We do not have a balanced panel of 91 businesses going backwards 8 quarters because 11 of

these 91 businesses were “born” at some point during the previous 2 years. We believe that these “births” are administrative births that were spun off from existing companies (the average size of these 11 births is approximately 400 employees in their first quarter of reporting). These administrative births occur when the State UI account number changes as a result of ownership changes or mergers of existing businesses. Because these administrative births influence the trend lines of average employment preceding the mass layoff, the empirical results that we report in this paper are based on the 80 businesses for which we have all 8 quarters of data preceding the mass layoff.

4) Empirical Results

We begin our analysis with Figure 1. This graph shows the time series of the average quarterly employment of the 80 businesses with an overseas movement of work mass layoff. The vertical axis shows the average employment, which is computed from the QCEW microdata. The horizontal axis shows the quarters before the mass layoff, where 0 is the quarter of the mass layoff (we have transformed the linked MLS-QCEW data such that mass layoff events from any of the four quarters of 2004 are retimed to a “0” reference quarter).

We see that 2 years before the mass layoff, the businesses with movement of work mass layoffs had average employment of slightly over 800. The average employment declines during the 2 years prior to the mass layoff, which is consistent with -- but not clear evidence of -- businesses in decline due to financial difficulty or import competition (these are several of the most frequently cited reasons and comments given by employers). In the quarter prior to the mass layoff, the average business has just over 700 employees. In the quarter of the mass layoff, the average business in our sample loses 82 employees (from 702 to 620). One positive aspect of this analysis, which may not be obvious, is that we are reporting average employment from the QCEW, which is completely independent from the MLS. It is comforting (at least to us) that this independent data source confirms that a mass layoff did occur in that quarter.

As seen in attachment 1, the MLS employer interview asks the whether the movement of work was within the same company or to a different company via contractual arrangements. We graph the employment dynamics of these two different types of movement of work in Figure 2. Businesses that move work overseas to different companies are on average larger than businesses that move work overseas within the same company, but there is no noticeable difference in their employment dynamics in the two years preceding the mass layoff.

In addition to analyzing the employment dynamics preceding the mass layoff, it is also possible to analyze the employment dynamics following the mass layoff. Using the subset of 43 businesses who had their overseas movement of work mass layoffs in either 2004:Q1 or 2004:Q2, we are able to analyze the employment dynamics of these businesses for two quarters following their mass layoff (as time goes by and more quarters of the QCEW become available, we will be able to follow the post-layoff dynamics for more businesses for more

quarters). This analysis is reported in Figure 3. We see that the average employment levels decline further in the two quarters following the mass layoff.

We speculate that the post-layoff employment losses evident in Figure 2 will diminish in later quarters. In their analysis of 1995-1998 MLS events linked to single establishments in the QCEW, Hyson and Spletzer (2002, unpublished paper) also looked at the employment dynamics of establishments with mass layoffs (the overseas movement of work questions were not yet included in the MLS data that they used). They found that for businesses who reported the reason for the mass layoff to be either “reorganization” or “financial difficulty” (which are the two most common reasons reported by the businesses with overseas movement of work), employment losses were most noticeable in the first year after the mass layoff, and average employment appeared to flatten out in the second year following the mass layoff.

It is important to emphasize that the businesses with overseas movement of work in the MLS are quite heterogeneous, and no simple analysis of pre- and post-layoff trends can explain what is happening to any particular business. To expand on the analysis in Figure 3, which shows the average employment pre- and post-layoff, we present in Figure 4 three different employment trend lines based upon the distribution of employment growth following the mass layoff. One-third of the businesses in our sample had employment declines of more than 30 percent in the two quarters following the mass layoff (this includes four businesses who went to zero employment and thus arguably died); these are on average small businesses with an average of 400 employees two years prior to the mass layoff. The other two-thirds of businesses are larger, with an average of 1350 employees two years prior to the mass layoff. One-half of these larger businesses (one-third of the total sample) had employment declines between 7 and 30 percent in the two quarters following the mass layoff, whereas one-half of these larger businesses on average had no employment declines following the mass layoff.

Our final empirical exercise is to jointly look at the wage and employment dynamics of the businesses with overseas movement of work mass layoffs. This is reported in Figure 5, where both the employment and wages are indexed to 100 in the quarter before the mass layoff. Wages are defined as the average monthly payroll per employee (quarterly payroll divided by the sum of monthly employment for the three months of the quarter). We see the employment dynamics already described – employment is 10 percent higher in the 8th quarter preceding a mass layoff relative to the quarter before, employment falls 10 percent in the quarter of the mass layoff, and employment declines an additional 8-10 percent in the two quarters following the mass layoff. The wage dynamics show the inverse: wages are 10 percent lower in the 8th quarter preceding the mass layoff relative to the quarter before. Much of this increase in average wages preceding the mass layoff appears the quarter before the mass layoff. In the quarter of the mass layoff, average wages rise substantially (the point estimate suggests a 26 percent increase, but some of this increase is probably due to severance pay in the numerator to employees not included in the denominator of the average wage calculation). In the two quarters following the mass layoff, average wages are 17-20 percent higher than they were in the quarter prior to the mass layoff.

One immediate interpretation of Figure 5 is that low wage individuals were laid off in the mass layoff with overseas movement of work. However, an alternative although unlikely

explanation is that workers across the wage distribution were laid off in the mass layoff and the wages of all remaining workers were increased by 17-26 percent in the quarters following the mass layoff. This information about average wages is something that we did not know from the MLS microdata, but is an empirical finding that demonstrates the value added from linking the MLS and the longitudinal QCEW microdata.

We have also created our figures by industry, by country reported for the overseas movement of work, and by the employer's reported reason. None of this analysis showed anything particularly surprising – all employment dynamics show the same basic trend with different levels of average employment. Small sample sizes definitely play a limiting role in the interpretation of these graphs.

5) Summary

The overseas movement of work statistics from the BLS Mass Layoff Statistics program provides the only timely survey data in the US statistical system that relate to offshoring. Although these MLS data have been invaluable to analysts and policy-makers studying the issue of offshoring, there is still much unknown about job loss due to employers moving work overseas. Our goal in this paper has been to link the MLS microdata to the BLS quarterly universe of establishments (the QCEW) and analyze the employment and wage dynamics associated with the businesses involved in offshoring.

We have found that on average, businesses with overseas movement of work actions have declining employment in the two years prior to their measured mass layoff, and continue to have declining employment in the two quarters following their mass layoff. Our analysis also suggests that the individuals who lost their jobs as a result of the overseas movement of work action are low-wage individuals within the establishment.

The results contained in this paper mark the first in an ongoing research effort involving linking MLS layoff events to other establishment-level and individual-level microdata. Our focus on offshoring of necessity reduced the scope of comparison and likely differences in the pre- and post-layoff experience of establishments. Extending this work to all MLS events would likely reveal important differences in employment losses based on the reason for separation. Indeed, Hyson and Spletzer (2002, unpublished paper) found such differences in their earlier analysis. Similarly, the size of the establishment may also impact employment loss. In addition to considering pre- and post-layoff experience of other establishments, the passage of time and the availability of additional quarters of data will allow us to extend the post-layoff period and better identify employment and wage dynamics.

It is also possible to merge the data on individuals laid off with longitudinal data on their employment and wages. The MLS events are identified by filings for unemployment insurance (UI) benefits: 50 UI claims against a company within a five week period triggers the MLS employer interview. In the UI system, an individual's UI benefits are determined by their wage and employment history at that company, and the underlying administrative data used to determine this history are called the wage records. These wage records are submitted

by employers to the States on a quarterly basis, and provide a universe of individuals covered by the UI system. These wage records contain each worker's Social Security Number (SSN) and wages paid by the employer during the quarter. We are using the wage records files from several large states to follow the employment and wage paths of individuals prior to and following their involvement in a mass layoff (similar to the analysis of earnings losses of displaced workers reported by Jacobson, LaLonde, and Sullivan in the September 1993 *American Economic Review*). This empirical work is not yet completed, and results from this analysis of individuals are not reported in this paper.

We reiterate our belief that linking existing datasets for statistical purposes is a low-cost and high-value approach for gaining further insight into the effects of offshoring without imposing any new respondent burden on either individuals or businesses, and this can be extended to the exploration of similar phenomenon affecting establishments and individuals.

Attachment 1. MLS Employer Interview Including Offshoring and Outsourcing Questions

The analyst has the following information on a potential layoff event:

- Establishment name
- Establishment address
- Industry of the company
- Number of initial claims filed against the company, weeks in which the claims were filed, and week in which the event triggered
- Prior layoff history of the establishment

Using the telephone number and contact person, the analyst calls and asks the following:

- Did a layoff in fact occur?
- Did the layoff last more than 30 days?
- How many people were involved in the layoff?
- When did the layoff begin?
- What was the (economic) reason for the layoff?

For all reasons other than seasonal and vacation:

- 1.a. Did this layoff include your company moving work from this location(s) to a different geographic location(s) within your company?

Yes: enter Yes, go to 1b.

No: skip to question 2a.

DK and RF: enter DK or RF, go to question 2a

- b. Is the other location inside or outside of the US?

Inside US: Which State(s)?

Outside US: Which Country(s)

- c. How many of the layoffs were a result of this reduction?

Number inside US

Number outside US

- 2.a. Did this layoff include your company moving work that was conducted in-house by your employees to a different company, through contractual arrangements?

Yes: enter Yes, go to 2b.

No: proceed with employer interview.

DK and RF: enter DK or RF, proceed with employer interview.

- b. Is that company located inside or outside of the US?

Inside US: Which State(s)?

Outside US: Which Country(s)?

- c. How many of the layoffs were a result of moving the work to the different company?

Number inside US

Number outside US

Is a recall expected?

Will the recall be total or partial (percentage)

What is the timeframe for possible recall?

Open/closed status of the worksite?

Table 1. Extended mass layoff events and separations, selected measures, 2004

Action	Layoff events	Separations
Total, private nonfarm sector	5,010	993,511
Total, excluding seasonal and vacation events	3,222	641,519
Total with movement work	366	73,217
Movement of work actions	480	---
With separations reported	382	55,122
With separations unknown	98	---

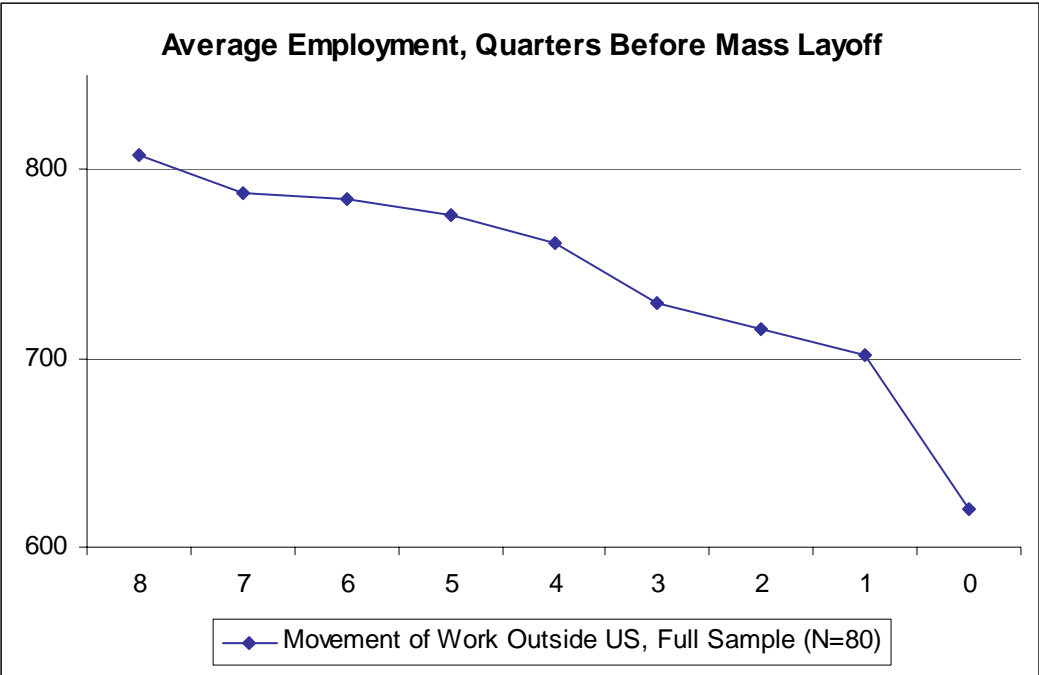
Table 2. Relocations of work actions by employers, 2004

Action	Layoff actions	Separations
Total, private nonfarm sector, excluding seasonal and vacation events, with movement of work	382	55,122
By location		
Out-of-country	103	16,197
Within company	76	12,905
Different company	27	3,292
Domestic relocations	270	36,246
Within company	228	30,769
Different company	42	5,477
Unable to assign	9	2,679
By company		
Within company	312	45,700
Domestic	228	30,769
Out of country	76	12,905
Unable to assign	8	2,026
Different company	70	9,422
Domestic	42	5,477
Out of country	27	3,292
Unable to assign	1	653

Table 3: Linking the MLS and QCEW microdata

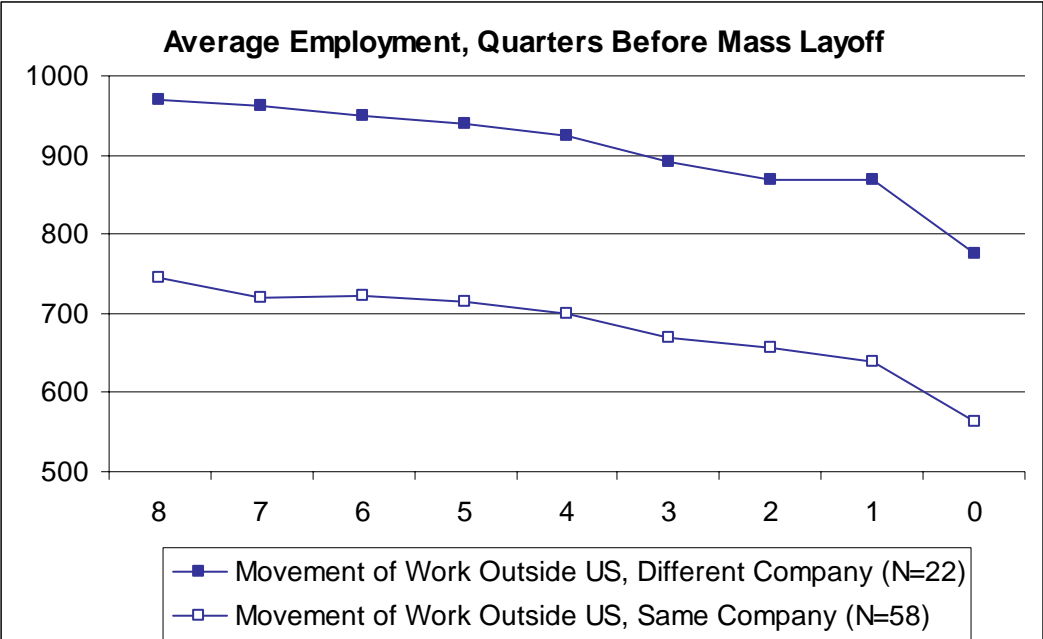
8 Quarters Before	7 Quarters Before	6 Quarters Before	5 Quarters Before	4 Quarters Before	3 Quarters Before	2 Quarters Before	1 Quarter Before	Quarter of Mass Layoff	1 Quarter After	2 Quarters After	3 Quarters After
2002 Q1	2002 Q2	2002 Q3	2002 Q4	2003 Q1	2003 Q2	2003 Q3	2003 Q4	2004 Q1 (N=34)	2004 Q2	2004 Q3	2004 Q4
2002 Q2	2002 Q3	2002 Q4	2003 Q1	2003 Q2	2003 Q3	2003 Q4	2004 Q1	2004 Q2 (N=19)	2004 Q3	2004 Q4	
2002 Q3	2002 Q4	2003 Q1	2003 Q2	2003 Q3	2003 Q4	2004 Q1	2004 Q2	2004 Q3 (N=18)	2004 Q4		
2002 Q4	2003 Q1	2003 Q2	2003 Q3	2003 Q4	2004 Q1	2004 Q2	2004 Q3	2004 Q4 (N=31)			

Figure 1: Employment Dynamics of Businesses with Overseas Movement of Work



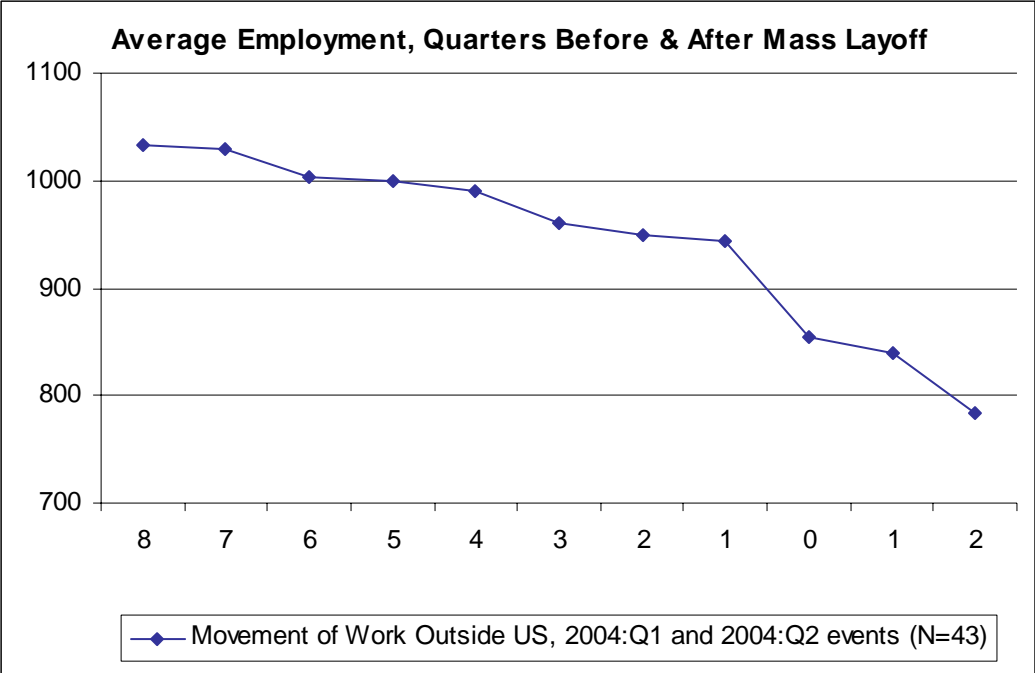
See text for details about sample and definitions.

**Figure 2: Employment Dynamics of Businesses with Overseas Movement of Work
By Company (same company, different company) that work is being moved to**



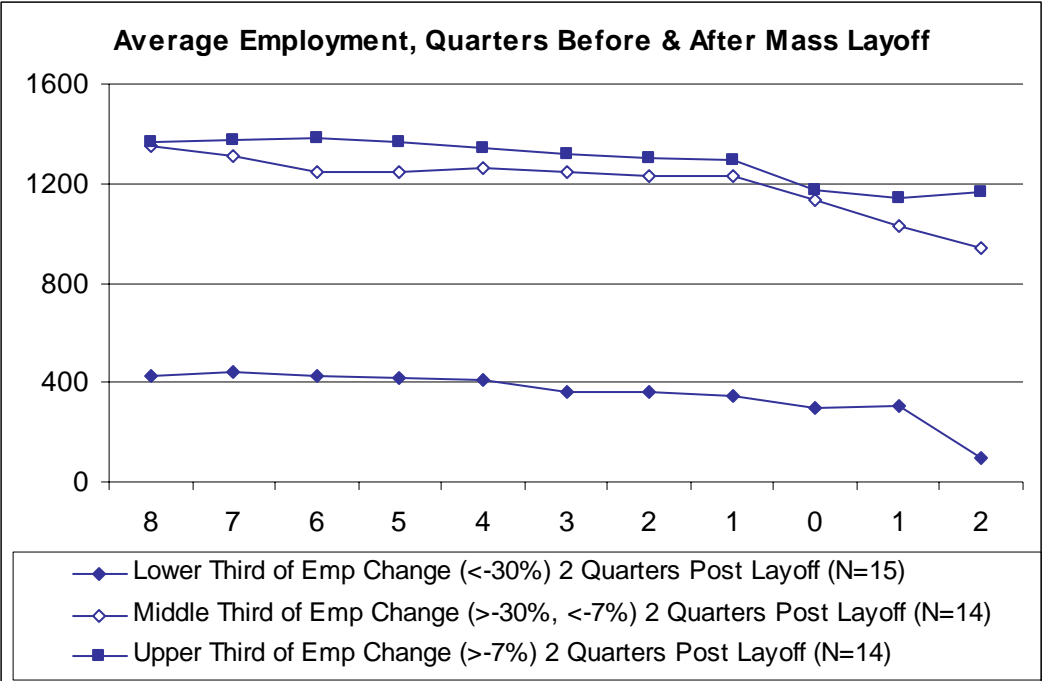
See text for details about sample and definitions.

Figure 3: Employment Dynamics of Businesses with Overseas Movement of Work



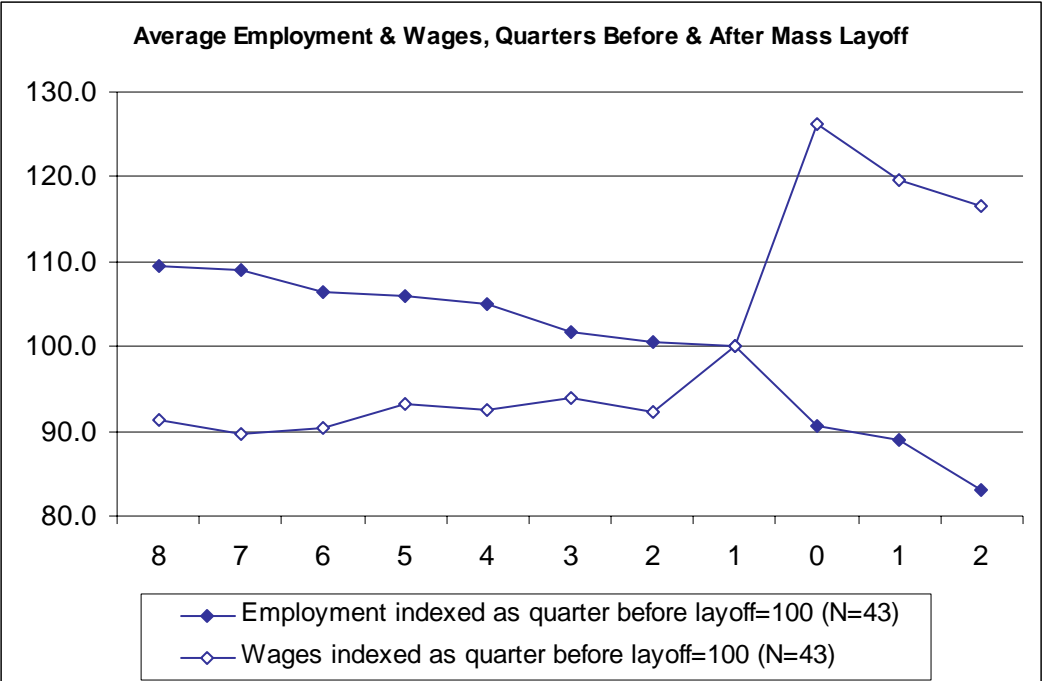
See text for details about sample and definitions.

Figure 4: Employment Dynamics of Businesses with Overseas Movement of Work By Change in Employment Following the Mass Layoff



See text for details about sample and definitions.

**Figure 5: Employment and Wage Dynamics
Businesses with Overseas Movement of Work**



See text for details about sample and definitions.