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Job Displacement and Mobility of Younger Workers*

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Abstract

This paper explores the long-term effects of job displacement on younger workers and how these effects depend on post-displacement mobility across location, industry and occupation. Data from the National Longitudinal Survey of Youth, a dataset rarely used for research on displacement, are used to construct a group of displaced workers and a comparison group containing non-displaced workers. Using a generalized "difference-in differences" model that includes individual fixed effects, I estimate what displaced workers' employment status, earnings, and hours worked would have been had they not been displaced and how these effects vary by post-displacement mobility decisions. I find that displacement has a large negative effect on employment, earnings, and hours worked. Seven percent of displaced workers are not employed six years after displacement yet would have been but for displacement. Among individuals who return to work, displacement decreases workers' earnings and hours worked by 14% and 8%, respectively, in the long-term. Workers who move locations find a long-term earnings cost of 10% compared with immobile workers' cost of 15%. Contrary to previous findings, workers who switch either industry or occupation have similar long-term earnings losses as workers who stay in their same industry or occupation. The effects of mobility, however, vary largely when conditioning on a worker characteristic.

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1 Introduction

Plant closings and large-scale reductions in operations force many U.S. workers to leave their jobs. From 1993 to 1995 alone, about 15 percent of U.S. workers – over 18 million people – were displaced.[1] More recently, Boeing Co. has announced plans to cut employment by 28,000 by the end of 1999, Merrill Lynch & Co. has eliminated 3,400 jobs, and Levi Strauss & Co. has dismissed 9 percent of the company's U.S. manufacturing workforce. Many analysts predict that more job displacements are soon to follow if the current financial turmoil in Asia and Russia spreads to the U.S..

Research has consistently found that job displacement results in large and permanent earnings losses, yet they do not appear to cause a permanent increase in unemployment.[2] Displaced workers earn between 8 and 25 percent less, on average, five or more years after displacement than they would have had they not been displaced.[3] Workers who change industry or occupation are estimated to have significantly larger earnings losses than workers who remain in the same industry or occupation.[4] This paper explores the long-term effects that displacement has on younger workers in particular and how these effects depend on post-displacement mobility across location, industry, and occupation.

My analysis adds to the existing research on displacement in several ways. First, it examines for the first time how location mobility affects the costs of displacement. Second, although young workers are the age group with the highest rate of job loss, the effects of displacement on them have been relatively unexplored with exception to Kletzer and Fairlie[12].[5] I extend that research by examining the effects of displacement on employment and hours worked, in

[1]This 18 million estimate is derived by multiplying Farber's[3] 15 percent estimate of displaced workers by U.S. civilian employment in 1993, as published by the Department of Labor, Bureau of Labor Statistics.

[2]For evidence on the effect of joblessness, see Ruhm[14, 15].

[3]See Jacobson, LaLonde, and Sullivan[9, 10], Kletzer and Fairlie[12], Schoeni and Dardia[16], Stevens[17], and Topel[18].

[4]Jacobson, LaLonde, and Sullivan[9, 10], Schoeni and Dardia[16], Addison and Portugal[1], and Carrington[2].

[5]Farber[4] estimates that for males from 1993 to 1995 the three-year displacement rate was 22 percent for 20-24 year-olds, 17 percent for 25-34 year-olds, 15 percent for 35-44 year-olds, 13 percent for 45-54 year-olds, and 14 percent for 55-64 year-olds. The pattern is similar for women.

addition to earnings, and the effects of post-displacement mobility on these costs. The industry and occupation mobility estimates may differ from those estimated for the overall population since younger workers have less industry- and occupation-specific human capital to lose from moving.

Since mobility is self-selected, rather than randomly assigned, the mobile may differ from the immobile in observable and unobservable ways. If these characteristic differences are not controlled for in the estimation, then differential effects of displacement between the mobile and immobile could be due to either characteristic differences between the two groups or the effect of mobility itself. Consider that the mobile have more motivation and a smaller employment cost from displacement than the immobile. In this case, the mobile may have a smaller employment cost because their motivation caused them to work harder and longer to find employment upon displacement. Alternatively, the mobile may have a smaller cost because mobility itself brought economic gains. Since I am interested in understanding the effect of mobility itself, it is important to control for the characteristic differences between the two groups, such as motivation.

My primary estimation technique is a generalized "difference-in-differences" model that controls for many observable characteristics in addition to fixed, unobservable characteristics.[6] I find that displacement has a large and significant effect on employment, earnings, and hours worked. Seven percent of displaced workers are not working six years after displacement yet would have worked but for displacement. Among individuals who return to work, displacement causes workers to earn 14 percent less and work 8 percent less hours six years after displacement than they would have had displacement not occurred. Workers who move across location find earnings losses of an estimated 10 percent while non-movers's losses are 15 percent. The displaced workers who change either industry or occupation suffer larger short-term earnings losses from displacement yet, contrary to previous findings, the switchers and stayers have similar costs in the long-term.

The data used for this study are from the National Longitudinal Survey of Youth (NLSY). The NLSY is a longitudinal survey from 1979 to the present day of respondents born between 1957 and 1965; the age range of the respondents is 14 to 40 years of age. An advantage of

[6]This model is similar to that used by Jacobson, LaLonde, and Sullivan[9, 10],

these data, the longitudinal earnings structure of displaced workers can be compared to that of a comparison group containing workers who have never been displaced. Displacements and mobility across location, industry, and occupation are easily identified from workers' annual responses to detailed questions on labor market experiences and location of residence.

A review of the literature on mobility and displacement is given in Section 2. Section 3 explains the empirical methodology. Section 4 describes the data, and the results are presented in Section 5. Section 6 discusses some issues regarding my estimation procedure and Section 7 concludes.

2 Related Literature

The recent literature on the costs of displacement, using longitudinal data that include a comparison group of non-displaced workers, find that displacement results in large and permanent earnings losses.[7] Kletzer and Fairlie[12], however, is the only study to have looked at the effects of displacement on younger workers. They find, using the National Longitudinal Survey of Youth, that five years following displacement, men's earnings are 8 percent and women's earnings are 13 percent lower that they would have been but for displacement.

As for research on how the effects of displacement vary by mobility, there have been a considerable number of studies exploring mobility across industry and occupation yet I know of no studies that examine mobility across location. In fact, many well-known studies exclude movers from their analyses because they lack data on the mover's post-displacement labor market outcomes.[8] These data limitations make my paper's findings on displacement and location mobility of even more interest.

The early literature on mobility across industry or occupation estimated the cost of displacement by comparing earnings soon after displacement to that before the displacement. All of these papers used the Displaced Workers Survey supplements of the Current Population Survey.[9] This estimation procedure lacks a counterfactual of what earnings would have been had displacement not occurred. This methodology can lead and typically does lead to

[7] See Jacobson, LaLonde, and Sullivan[9, 10], Kletzer and Fairlie[12], Schoeni and Dardia[16], Stevens[17], and Topel[18].

[8] See Jacobson, LaLonde, and Sullivan[9, 10], Schoeni and Dardia[16], and Carrington[2].

[9] Refer to Podgursky and Swaim[13], Addison and Portugal[1], Carrington[2], and Kletzer[11].

extremely biased estimates as discussed in Ruhm[15]. Keeping this in mind, the consensus from this literature is conclusively that switching industries or occupations has a significant and negative effect on earnings losses.

The more recent literature, using longitudinal data that includes a comparison group of non-displaced workers, analyzes how this effect varies over the short-term and the long-term. They also find that switching industry or occupation has a negative effect on the earnings loss in both the short- and long-term.[10] Workers who change industry are estimated to have earnings losses that are 20 to nearly 100 percent greater than the size of the losses of workers who remain in the same industry.[11] The difference in the loss between switchers and stayers for workers displaced from the manufacturing sector is often found to be larger than this difference for workers in non-manufacturing sectors. Jacobson, LaLonde, and Sullivan find that manufacturing workers who begin work in a different sector earn 38 percent less than their pre-displacement earnings while those who return to the manufacturing sector earn about 20 percent less; movers who were displaced from non-manufacturing industries lose 20 percent of earnings while the non-movers lost 33 percent.

The large negative effects from switching industries or occupations are typically considered to be crude estimates of the value of lost industry- or occupation-specific skills or lost union rents. This negative effect, however, is not intuitive because why would workers move if it is not beneficial? These analyses may be incorrectly modeling what the movers' earnings would have been if they had not moved. Perhaps the movers wanted to remain in the same industry yet they were unable to quickly obtain a job there; the counterfactual is therefore that the workers would not have worked had they not moved. This theory implies that workers who change industry are different from workers who do not change industry; they may have less ability or motivation or have more risk aversion. These potential differences highlight the likely econometric problems of heterogeneity. Several studies attempt to control for heterogeneity by including individual fixed effects, pre-displacement dummy variables, and labor market conditions in the regressions, yet negative effects of mobility are still found.[12]

[10]Such papers include Topel[18], Jacobson, LaLonde, and Sullivan[9, 10] Schoeni and Dardia[16], and Stevens[17].

[11]Jacobson, LaLonde, and Sullivan[9, 10], Schoeni and Dardia[16], Addison and Portugal[1], and Carrington[2].

[12]See Jacobson, LaLonde, and Sullivan[9, 10], Schoeni and Dardia[16], Stevens[17], and Carrington[2].

3 Empirical Methodology

The equation that estimates the costs of displacement, when restricting the mobile's displacement costs to equal that of the immobile, is given by equation 1 below. In this equation, the differences between the dependent variable of the non-displaced and the displaced, after controlling for observable characteristics, are estimated at different time surrounding the quarter of displacement. In practice, the dependent variables – employment status (e_{it}), log earnings ($\ln y_{it}$) and log hours worked ($\ln h_{it}$) – are regressed on an $((i * t) * k)$ matrix of dummy variables, D_{it}^k, representing the time since displacement; various observables X_{it} including age, race, education, marital status, and number of children; and fixed effects by time, industry, and state (γ_t). Each dummy variable in D_{it}^k equals one if worker i at time t was displaced k years ago (or in k years if k is negative); all dummy variables equal zero for the non-displaced. $depvar_{it} = \{e_{it}, \ln y_{it}, \ln h_{it}\}$.

$$depvar_{it} = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + X_{it}\eta + \epsilon_{it} \tag{1}$$

The estimated coefficients $\widehat{\beta^k}$ capture differences in the dependent variable between the displaced and the non-displaced pre-displacement, at the time of displacement, and post-displacement. In addition to representing the differential between the displaced and the non-displaced prior to displacement, the pre-displacement coefficients act as an estimate of what the differential would be post-displacement if displacement did not occur. The degree to which to post-displacement differs from the pre-displacement differential is they estimate of the effect of mobility. In other words, the post-displacement coefficients are adjusted by the pre-displacement coefficient to obtain an estimate of the cost of displacement. The cost of displacement, more specifically, at time k is the post-displacement coefficient at time k minus an average of the pre-displacement coefficients. The exact pre-adjustment coefficients used in the adjustment are those from five to two years prior to displacement; the coefficients within two years of the displacement are not used for this purpose since displacement may already be affecting displaced workers' earnings. In particular, the six year effect of displacement, or the long-term effect, is $\widehat{\beta^6} - \sum_{k=-5}^{-3} \frac{1}{3}\widehat{\beta^k}$.

Equation 1 is extended to estimate separate displacement effects for the mobile and the

immobile. In these equations, equations 2, 3, and 4 below, an additional matrix of dummy variables C_{it}^r is interacted with m_i^L, m_i^I, or m_i^O which equal one if individual i moved following displacement across location, industry, or occupation, respectively; they equal zero otherwise. Each element in C_{it}^r equals one if worker i at time t is displaced in period r; all dummy variables equal zero for the non-displaced. r includes 3-5 years in the future, 1-2 years in the future, 0-2 years ago, 3-4 years ago, and 5-6 years ago. These specifications allow the mobile's displacement costs to differ from the immobile's costs by δ^r in period r. If each δ^r is near zero, then the mobile have similar displacement costs to the immobile.

$$depvar_{it} = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i^L \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \epsilon_{it} \tag{2}$$

$$depvar_{it} = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i^I \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \epsilon_{it} \tag{3}$$

$$depvar_{it} = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i^O \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \epsilon_{it} \tag{4}$$

Similar to before, the costs of displacement are calculated by adjusting the post-displacement coefficients by the pre-displacement differentials. For immobile workers, the calculation is the exact same as above so that the long-term cost of displacement is $\widehat{\beta^6} - \sum_{k=-5}^{-3} \frac{1}{3}\widehat{\beta^k}$. This cost for mobile workers, however, is the cost for the immobile plus any additional long-term cost for the mobile. This additional cost is $\widehat{\delta^5} - \widehat{\delta^1}$ since these coefficients pick up differences in the dependent variable between the mobile and the non-displaced that are not already included in the $\widehat{\beta^k}$'s. For simplicity, equations 2, 3, and 4 are now written as one equation, equation 5, where $m_i \in \{m_i^L, m_i^I, m_i^O\}$.

$$depvar_{it} = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \epsilon_{it} \tag{5}$$

As previously referenced, mobility may be endogenous since mobility is self-selected rather than randomly assigned. A selection bias, more formally, is present if $E[\varepsilon_{it}|m_i, X_{it}] \neq 0$ causing the following:

$$E[depvar_{it}|m_i, X_{it}] = \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + E[\varepsilon_{it}|m_i, X_{it}]$$
$$\neq \alpha + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta$$

The estimated coefficients, therefore, from this simple model are not consistent if $E[\varepsilon_{it}|m_i, X_{it}] \neq 0$.

I use a fixed-effect estimator to attempt to control for this selection bias.[13] In the fixed-effect model, ε_{it} is assumed to equal $\phi_i + v_{it}$ where ϕ_i is a person-specific effect and v_{it} is a randomly distributed error term with mean zero. This error term creates dependence between m_i and ε_i since the ϕ_i aids in determining whether to move or not. In this case, $E[\varepsilon_{it} - \varepsilon_{it'}|m_i, X_{it}] = E[(\phi_i + v_{it}) - (\phi_i + v_{it'})|m_i, X_{it}] = 0$. Estimating the following equation will therefore estimate consistent estimates of β^k and δ^r if $\varepsilon_{it} = \phi_i + v_{it}$.

$$E[depvar_{it} - depvar_{it'}|m_i, X_{it}] = \sum_{k=-5}^{6} (D_{it}^k - D_{it'}^k)\beta^k + m_i \sum_{r=1}^{5} (C_{it}^r - C_{it'}^r)\delta^r + (X_{it} - X_{it'})\eta$$

This equation is equivalent to including individual-fixed effects in equation 5. My fixed-effect estimator, therefore, is modeled by equation 6 which is equation 5 after substituting α with individual fixed effects α_i.

$$depvar_{it} = \alpha_i + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \varepsilon_{it} \tag{6}$$

Equation 1 is similarly replaced by equation 7 which substitutes α with individual fixed effects α_i in order to control for any dependence between ε_{it} and being displaced.

$$depvar_{it} = \alpha_i + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + X_{it}\eta + \epsilon_{it} \tag{7}$$

4 Data

The main dataset used in this analysis comes from the National Longitudinal Survey of Youth (NLSY). The NLSY provides detailed information on the personal and family backgrounds

[13] For further discussion of this model, see Heckman and Robb[8] or Heckman and Hotz[7].

and labor market activity of 12,686 individuals born between 1957 and 1964. Data collection began in 1979, when respondents were between the ages of 14 and 22, and continues through the present; at the time this research began, data were available through 1996.

When researching displaced workers, one of the main data issues is how to define who is displaced. Displaced workers are commonly thought of as workers with established work histories who lost their jobs involuntarily. The official government definition of a displaced worker as used in the Displaced Worker Surveys is "an individual aged 20 or over with at least three years of tenure who left a job (excluding temporary and seasonal jobs) due to slack work, abolition of position or shift, or plant closing or relocation, and never returned to this same job."[14] From the NLSY Workhistory Survey, I calculate a similar measure based on detailed information on up to 5 jobs in each year. In particular, I define a displaced worker as someone with (1) at least two years of tenure and (2) three years of post-school work experience who reported that (3) a job ended due to layoff or plant closure and (4) this job was not recalled the following year.[15] I exclude the 145 workers who were laid off or their plant closed within five years prior to this displacement yet these job separations did not meet the definition of displacement due to the tenure or work experience restrictions. This exclusion is so that my sample of displaced workers is not comprised of workers who are currently overcoming a recent job separation that was similar to a job displacement except that it did not meet all of the above restrictions.

The NLSY provides information on many workers who were not displaced. A comparison group is therefore created that is compared to displaced workers. My comparison group contains workers who never ended a job due to layoff or plant closure over the sample period and had at least 8 years of post-school work experience over the 18-year sample. The work experience restriction is to ensure that the comparison group has a fair degree of work attach-

[14]Researchers using the PSID often define displacement by including virtually all involuntary separations, fires included, except temporary layoffs and separations from temporary jobs. Researchers using administrative data have defined displacement as leaving a firm that had at least a 30 percent drop in employment over a five year period that includes the job separation.

[15]I used two years as the tenure restriction rather than three years because I did not want to cut my sample size of displaced workers by over 300. Table VII shows that the results are similar using either restriction.

Temporary layoffs cannot be distinguished from permanent layoffs in survey years before 1984, so displacements during this time are ignored. Self-employed jobs and jobs that are work without pay are excluded.

ment. Note that this group is not just anyone who is not a displaced worker. A worker, for example, who was never displaced yet was laid off when having less than three-years of work experience is excluded entirely from the analysis. This is so that my sample of non-displaced workers includes workers who have never had a job separation that even remotely looks like job displacement. Of the 4,773 respondents included in my sample, 872 are displaced and 3,901 are non-displaced.

Besides containing both displaced and non-displaced workers, the NLSY has several advantages for this type of analysis. The data are longitudinal so that earnings profiles around a displacement are observed. Since the industry and occupation are known for each job, I observe post-displacement industry and occupation mobility. Post-displacement location mobility is observed by using the Geocode survey which provides information on each county and state the respondents lived in for each year.[16]

The unit of observation in the primary dataset is one quarter of one year for one individual. Quarterly earnings, y_{it}, are calculated based on the starting and stopping weeks of up to five jobs in each year and the usual hours worked and hourly wage reported for each of these jobs. Quarterly earnings, therefore, include earnings from secondary jobs in addition to earnings from the primary job. The dependent variable quarterly hours worked, h_{it}, is the summation of the reported hours worked in each week. These weekly hours measures are not used to create the quarterly earnings measure since the job to attribute these hours to is unknown if multiple jobs are held. Quarterly employment status, e_{it}, is one if h_{it} is greater than zero and

[16]The main advantages of the NLSY compared to the DWS are that these data are longitudinal and that they provide a control group to which displaced workers can be compared. Another advantage, respondents in the NLSY are only asked to remember their job market experience over the past year while the DWS asks respondents to remember events that occurred in the past five years. Individuals surveyed by the DWS may suffer from recall bias in which displacements that were costly are reported and displacements that were not costly go unreported. This would cause the average cost of displacements to be overstated.

Compared to the Panel Study of Income and Dynamics (PSID), the NLSY has more observations and can more accurately locate displaced workers since displacements and fires are not distinguished in the PSID. Also, the PSID primarily samples household heads causing there to be limited information on individuals who are not household heads, such as women.

The NLSY's sample of displaced workers, however, is much smaller than those of the DWS and administrative data and it is restricted to young workers so that the estimates only pertain to a specific age group. The sample is also subject to attrition since some respondents leave the survey over time. In 1994, 871 respondents of the initial 12,686 were not interviewed for reasons other than death or being dropped by the survey itself.

zero otherwise.

Quarterly observations on industry and occupation of employment, tenure, and unionization are based on the job that the individual worked the most hours for in that quarter. These quarterly observations are matched to quarterly measures of work experience and annual measures on marital status, number of own children living in the household, and county and state of residence.

4.1 Summary Statistics

The demographic and labor force characteristics of my sample of displaced and non-displaced workers are reported in Table I. Also reported in column 3 of this table are similar statistics for displaced workers in the January 1992 Displaced Worker Survey (DWS) of the Current Population Survey. The displaced differ markedly from the non-displaced as one would expect. Displaced workers are less likely to be women (40 percent versus 49 percent) and more likely to be black (9 percent versus 5 percent) and Hispanic (14 percent versus 11 percent). Nearly 70 percent of the displaced have a high school degree or less versus 55 percent of the non-displaced. The displaced also have more children on average. As for labor force characteristics, the displaced tend to work over two weeks less per year than the non-displaced and these two weeks are usually spent in unemployment. The displaced earn about 8 percent less per quarter and are disproportionately employed in construction and manufacturing industries and operative and craft occupations.

Compared to the DWS's national and age representative sample of displaced workers, the NLSY sample is much younger – 28 years old versus 37 years old. Besides this age difference, however, the two samples have similar distributions by gender, education, occupation, and industry. On the other hand, the racial distributions are noticeably different in that the NLSY sample has only 9 percent blacks while the DWS has 17 percent. This could be due to the young age of the NLSY or due to differences in the samples.

My displaced workers are further sorted into mobile and immobile groups to determine how the cost of displacement varies by mobility decisions. Mobile workers are workers who move and do not return to the location/industry/occupation from which they moved. More specifically, mobile workers are those who move to a different county, 1-digit SIC industry code,

or 1-digit SIC occupation code in the first two years following displacement. Workers who move back to the place from which they moved within the first three years following displacement are considered non-movers.[17] This exclusion is intended to eliminate transitory movers from my mobile sample. Roughly 20 percent, 40 percent, and 33 percent of my sample of displaced workers are defined as mobile across location, industry, and occupation, respectively.

Table II presents tabulations on the percent of all displaced workers in each of the eight mobility categories of move or not move across location, industry, or occupation. Nearly 30 percent of displaced workers do not move at all while only 4 percent move across all three. This does not vary much by gender or age at the time of displacement. Almost half of the individuals who switched industry also switched occupation and over half of those who switched occupation also switched industry. A majority of the location movers also change industry or occupation. Women are less likely than men to switch occupation conditional on switching industry; they are also less likely to switch industry conditional on switching occupation. Younger workers are more likely to move location.[18]

Descriptive statistics on the mobile and immobile are shown in Table III. Movers across location are slightly younger and they have less children than non-movers. This agrees with the intuition that younger workers and workers with fewer children are more flexible. Movers are also less likely to be black and Hispanic. As for job characteristics, mobile workers are disproportionately displaced from the construction industry. After displacement, movers have higher average earnings but this may be because their earnings prior to the displacement are higher also.

The workers who change industry and occupation after job displacement are not markedly different in observable characteristics from those workers who do not. The movers are less likely to have had their plant closed than they are likely to have been laid off. The movers also have

[17]Mobility information is missing for workers who lack data on the location, industry, or occupation of displacement. In addition, workers who are only followed one year or less following displacement lack information on mobility. Location mobility is consequently missing for 12 percent of the displaced; industry and occupation mobility is missing for 40 percent of the displaced.

The number of individuals who would have been classified as movers yet were not because they returned to their place of displacement is 10, 62, and 66 individuals for location, industry, and occupation, respectively.

[18]For information on the industries and occupations that industry and occupation switchers are moving to, see Appendices A and B.

less earnings post-displacement but they might have also had less earnings pre-displacement.

To begin to understand the consequences of displacement, simple employment and earnings patterns of displaced and non-displaced workers are presented in Figure I. In all panels, the x-axis represents the time since displacement for displaced workers. The x-axis, for example, equals 0 in the quarter of displacement and it equals 4 when displacement was four years ago. For the non-displaced workers, the x-axis represents an eight year period of their earnings profile such that in year 0, they have seven years of experience. I chose seven years of experience as the point of reference because the median displaced worker has seven years of experience when year equals 0. Note that this is only a crude comparison since the distribution of experience is not the same at time 0 for the two groups. The y-axis in Panel A corresponds to the employment-population ratio in each quarter over all individuals. The y-axis in Panels B and C correspond to the mean hours worked and earnings of all workers with positive hours and earnings, respectively. Panels B and C, therefore, exclude workers who did not work while Panel A does not.

In these graphs, the non-displaced group is always considered as the comparison group. The average differential in employment-population ratios, hours worked and earnings between the displaced and the non-displaced several years before the displacement is considered as a base line differential that is expected to always exist. If after displacement the differentials depart from these pre-displacement differentials, then the change could potentially be an estimate of the effect of displacement. There is, however, the possibility that displacement did not alter the displaced workers' experiences at all. The change in the differentials from the base line may have occurred even if the displacements had not occurred. To determine which story appears to explain the data, we turn to regression analysis in Section 5.

The employment-population ratio of displaced workers is similar to non-displaced workers prior to displacement as shown in Panel A. In the quarter directly after displacement, only 75 percent of the displaced are employed yet this ratio quickly increases over that first year. The ratio differential, however, never returns to the same pre-displacement level. Note that this decrease in employment cannot be due to incentives underlying the Unemployment Insurance system since benefits are not provided after six months of receipt. Further, it cannot be due to early retirement since my sample is too young.

As for earnings, as shown in Panel C, the displaced earn similar amounts to the non-displaced six years prior to displacement. This differential, however, increases so that by the year before the displacement, the displaced are already earning over $800 less than the non-displaced. This could be because firms that will soon displace workers are decreasing their workers' wages or hours already, or because workers who will soon be displaced tend to have slower earnings growth than non-displaced workers. The differential jumps to an enormous $2,630 the quarter of displacement, time 0. The differential decreases post-displacement yet never returns to the initial levels of near zero or $800; it appears that displacement costs workers in the long-term.

The increase in the earnings differential between displaced and non-displaced workers could be because displaced workers' hourly wages decrease or because their hours worked decreased. From Panel B which charts average quarterly hours, it appears that the reason is primarily the former since the hours worked post-displacement differential is similar to the pre-displacement differential.

Expanding on Figure I, Figures II-IV present the same comparisons except that the displaced are separated into mobile and immobile groups. The employment-population ratio differentials between the location movers and the non-displaced and between the location non-movers and the non-displaced are near zero prior to displacement. These differentials increase yet are similar at the time of displacement. In the long-term, however, it appears like the mobile find smaller employment costs since the immobile's differential is larger than the mobile's.

As for earnings in Panel C, the movers have a dramatically smaller pre-displacement differential than the non-movers. The mobile's change in earnings differential from pre-displacement to post-displacement is also much smaller than the immobile's hinting that the mobile may find less earnings costs from displacement. The hours worked patterns of the two groups shown in Panel B, however, are remarkably similar. It appears that workers who move location find smaller employment and earnings effects from displacement than non-movers yet, characteristic differences between groups could explain these findings.

Those who move across industry and occupation appear to experience similar employment costs. As shown in Panel A of Figures III and IV, the employment-population ratios of both the switchers and the stayers are similar pre- and post-displacement yet the switcher's ratio

returns faster to pre-displacement levels than the stayer's. The story that the switchers changed industry since they could find jobs more quickly than if they stayed in their old industry may hold some merit.

As for earnings in Panel C, the stayers have smaller pre-displacement earnings differentials and the change from pre- to post-displacement is also smaller than that for the mobile. So contrary to mobility across location, the switchers appear to have larger earnings costs from displacement than the stayers. Note how the immobile's earnings differential decreases continuously for four years after displacement but then increases through years five and six. The question is whether this increase is just a blip in the general trend or whether the earnings differential truly starts increasing. The larger earnings cost of the mobile appears to be slightly due to a larger hours worked cost that they bear as shown in Panel B.

5 Results

The estimated employment, earnings, and hours worked effects from displacement when restricting the mobile and the immobile to have the same displacement costs are presented in Tables IV, V, and VI, respectively. Columns 1 and 2 do not include individual-fixed effects while columns 3 and 4 do. At the bottom of each table is the calculated long-term cost of displacement, the post-displacement differential in year six adjusted by the pre-displacement differentials.

Estimates from a linear probability model of employment status on various observables and fixed effects, as shown in Table IV, show that displacement has a large negative effect on employment. Displacement causes 7 percent of workers to be nonemployed six years after displacement, with no large differences in this estimate across the four specifications. The results in specification four are graphed in Figure V Panel A. Deciphering whether these nonemployed workers are out of the labor force or unemployed is a topic for future research. Given that Ruhm[14, 15] found, using the PSID, that displacement has no permanent effects on unemployment, these findings are consistent with previous research only if these individuals are out of the labor force.

Married men are more likely to be employed than single men and married women are less likely to be employed than single women. Increasing the number of children a parent has

decreases their likelihood of being employed for both men and women. Blacks are more likely to be employed than whites while Hispanics are less likely to be employed. Education increases the probability of being employed.

Among those who return to work, Table V presents estimates of log earnings regressed on various controls and state, time, and industry fixed effects. The results in column 1 of Table V are similar to what is shown in Figure I. The differential between the displaced and the non-displaced widens at the time of displacement and narrows post-displacement yet does not narrow enough so that the pre-displacement differential is obtained. Comparing column 2 to column 1, the inclusion of observables in the regression increase all displacement coefficients. This reflects that the displaced tend to have characteristics that are associated with lower earnings. They have, for example, less education on average. Individual fixed effects also increase the level of all displacement coefficients, as shown from comparing column 3 to column 1. This reflects that displaced workers have lower average earnings levels than the non-displaced.

The preferred specification, column 4, reports that the displaced have insignificantly different earnings from the non-displaced prior to displacement. These results are also graphed in Figure V Panel C. In the quarter of displacement, earnings drop 51 percent on average. After displacement, displaced workers who find new jobs do not find jobs with the same earnings. After displacement, earnings are 22 percent below the non-displaced in the first year and 13 percent lower five or six years after displacement.

When adjusting by the pre-displacement differential, the long-term earnings cost of displacement is 14 percent. (Talk about other specifications.)

This is a much smaller estimate than that estimated by Jacobson, LaLonde, and Sullivan who report a 25 percent cost of displacement 6 years after displacement. This difference is most likely due to the fact the Jacobson, LaLonde, and Sullivan[9, 10] restrict their displaced sample to workers who had at least six years of tenure. My estimate, however, is very similar to Kletzer and Fairlie[12] who estimated an 8 percent cost of displacement for men and 11 percent for women five years after displacement.[19]

[19]I am currently examining the reason that I do not get the exact same estimate of displacement costs as Kletzer and Fairlie[12].

As for other estimated coefficients from the model, unionized workers earn 10 percent more on average than non-union workers, a similar estimate to previous findings on union wage premiums. Married men earn more than single men while married women earn less than single women. For women, increasing the number of children tends to decrease earnings.

Table VI shows how log hours worked change over displacement. Just as for earnings, including observables and fixed effects in the regression tend to increase the displacement coefficients. This implies that displaced workers tend to have characteristics associated with less work hours and they work less hours on average. Specification 4, graphed in Figure V Panel B, finds that the hours worked cost of displacement is 8 percent, over half of the earnings cost of displacement. Thus, displacement causes not only a loss in work hours but also a loss in hourly wages. Note that the displacement dummies decrease post-displacement through year three and then they increase.

Unionized work less hours on average than non-union workers. Women who are married work less hours than single women; also, children tend to decrease the number of hours worked for women.

The employment and earnings effects of displacement by worker characteristics are shown in Table VII. Because my sample of displaced workers is much smaller when conditioning on a worker characteristic, I only include displacement dummies for groups of years rather than each year surrounding the displacement. I have also just analyzed employment and earnings for simplicity. While the overall effect on employment is 7 percent, women and men are find strikingly different effects at 12 and 3 percent, respectively. Employment has a 6 percent negative effect when using a one-year tenure restriction on displaced workers, rather than the current two year restriction, and an 11 percent effect when using a three-year restriction. In terms of employment, manufacturing workers suffer more than non-manufacturing workers, white-collar workers suffer more than blue-collar workers, and laid off workers suffer more than those whose plant closed.

The earnings costs of displacement are more similar across worker characteristics than the employment costs are. Earnings costs by gender, education, industry, and occupation are all near to 14 percent. The tenure restriction, however, matters. Including workers with at least one-year of tenure when displaced decreases the earnings cost to 11 percent, while only

including workers with at least three-years of tenure increases the earnings cost to 19 percent. Another difference, workers whose plant closed find earnings costs of 18 percent compared to the 13 percent cost of laid off workers.

5.1 Location mobility

The estimated costs of displacement by location mobility are written in Table VIII and graphed in Figure VI. These regressions used the same specification in column 4 of the Tables V, VI, and VI. Mobility slightly decreases the employment and hours worked costs and largely decreases the earnings cost of displacement. The mobile's employment and hours worked costs are two percentage points less than the immobile's, which are both 8 percent. The non-movers find earnings losses of 15 percent six years after displacement while the mobile's earnings losses are roughly 5 percentage points less, at 10 percent.

The pre-adjustment differential for movers is 6.3 percentage points larger, on average, than that for non-movers. This implies that movers have unobservable characteristics that are more positively correlated with earnings than non-movers. Individual fixed effects do not rid the estimates of a positive pre-displacement differential for the movers implying that the movers tend to be different from non-movers in a non-fixed, unobservable manner.

Since past researchers excluded state movers from their analysis, these results may infer that those papers over-estimated the earnings cost of displacement. This conclusion, however, relies on these results, which pertain to movers across county, holding when focusing solely on movers across state. Also, it is possible that these results do not hold for age groups other than younger workers.

It seems intuitive that workers who move suffer less than workers who do not move. Workers should not move unless the increased payoff from changing locations exceeds the moving costs. The large payoffs of moving could be explained by workers tending to move to counties with relatively better local labor markets. In the near future, I plan to compare the counties that are moved to with the counties that are moved from to see if this explanation is consistent with the data.

The estimated costs of displacement by worker characteristics are listed in Table IX. The slight decrease in the employment cost and the larger decrease in the earnings cost for movers

is not always found when looking within a group. In particular, men and workers with some college or more who move find smaller employment costs than their counterpart non-movers. On the other hand, women find larger employment costs if they move; perhaps some women decide to stop working upon displacement and they move location for their spouse's job rather than their own. Getting rid of the restriction that movers cannot move back to their old location does not have an effect on the employment cost.

As for earnings, most workers find less earnings costs if they move rather than not move. Movers with a high school degree or less, however, and movers whose plant closed find larger losses than non-movers. It is not clear why the differential in earnings cost between the movers and non-movers differs for these workers. Perhaps movers of some groups have more opportunities to receive from moving. College movers, for example, may choose to relocate to counties with large growth and high demand for their high-skill. The relative demand for their skills between where they could move to and where they currently live could be very large. While this relative demand for high-school movers could be much smaller given that the demand for less-skilled workers is in decline.

5.2 Industry mobility

The individual-fixed effect estimates on industry mobility, as shown in Table X and Figure VII, find that displaced workers who change industry have similar long-term employment and hours worked costs to the non-movers, 6 percent and 8 percent, respectively. As for earnings, the mobile have slightly less earnings costs with the stayers at 13 percent and the switchers at 11 percent. The short-term earnings losses, however, are much larger for the industry switchers than for the stayers. Note that these estimates are different from the crude averages shown in Figure III where the mobile's earnings cost looked larger than that of the immobile.

Previous studies have found the opposite effect – that workers who change industry suffer larger displacement costs than those who stay. This difference is likely due to the fact that my sample is made up of younger workers while past research has focused on workers of all ages. Younger workers, in fact, may not have the large costs of switching industry because they have less industry-specific skills.

Table XI presents these regressions by worker characteristics. Men, workers with at least

some college, workers displaced from manufacturing and those laid off find smaller employment and earnings costs if they switch industries. Yet women and workers displaced because of a plant closure find much larger costs if they switch. It is unclear why switching industries affects groups of workers differently.

5.3 Occupation mobility

Table XII and Figure VIII show that occupation switchers find similar employment, earnings, and hours worked costs to displacement to the stayers. Both groups find employment costs of 6 percent and earnings costs of 12 percent; the switchers experience hours worked costs of 6 percent versus the 9 percent cost of non-switchers. These estimates are contrary to the previous finding that occupation switchers suffer larger long-term costs than the non-switchers.

While earnings costs are similar in the long-term, the switchers have much larger costs in the short-term. Similar to what was found for the industry switchers, this finding is consistent with the belief that workers who change occupation lose occupation-specific capital while non-switchers do not.

Similar to the costs of switching industry by worker characteristics, women who switch occupations find larger costs than female stayers, as shown in Table XIII. Unlike the results in Table XI, workers with at least some college find switching occupations more costly than the stayers. Workers displaced from blue-collar occupations, which include foremen and craftsmen and workers in operative occupations, find long-term gains from displacement if they switch occupations while blue-collar non-switchers find large losses. White-collar movers, on the other hand, find much larger earnings and hours worked costs than white-collar non-switchers. Strikingly, excluding the return restriction from the definition of mobility matters when analyzing the earnings cost; estimates after excluding this restriction find that the switchers experience smaller earnings costs than the stayers. This seems to imply, therefore, that there is a return to being flexible and taking jobs in different occupations if they arise.

6 Discussion on Estimation Issues

Information on the ability of my estimator to control for the endogeneity of mobility can be gleaned by further consideration of my results presented in the last section. In particular,

as shown in Figure VII, no significant difference between the industry switchers and stayers exists prior to displacement. This implies that the movers and the stayers are similar prior to displacement once all observables and individual fixed effects are in the model. These two groups are therefore likely to be similar post-displacement unless mobility itself affects labor market outcomes. The coefficient on mobility should therefore be a good estimate of the effect of mobility. A similar argument can be made for occupation switchers and stayers.

Location movers, on the other hand, are different from the non-movers prior to displacement as illustrated in Figure VI. Controls for observable characteristics and even fixed, unobservable characteristics do not explain the difference in the movers and non-movers earnings pre-displacement. The pre-displacement differential, however, is fairly constant over the period of time prior to the displacement. This same differential can therefore be argued to exist post-displacement unless mobility itself affects it; subtracting the pre-displacement differential from the post-displacement differential would then be a good estimate of the cost of displacement.

Since my pre-displacement differentials between the mobile and the immobile are either close to zero – for the industry and occupation mobility estimates – or constant – for the location mobility estimate – it is unlikely that my estimate of the cost of displacement is largely biased. There is still the possibility, however, that mobility is indeed endogenous. This would happen if the differences between the mobile and the immobile are controlled for by the model prior to displacement, yet the model does not control well for these differences after displacement. Prior to displacement, for example, the mobile and the immobile may be made up of similar shares of people who work hard and people who do not work so hard. The displacement itself, however, change that so that the mobile has different shares relative to the immobile. This would happen, for instance, if displacement emotionally hurts some workers and this emotional pain is associated with the decision to move. This shift in shares would bias the coefficients on mobility if work determination is not controlled for in the model.

A potential method of dealing with this selection bias comes from the sample selection literature. Consider that mobility decisions are based on the index m_i^* which is a linear function of observed variables, Z_{it}, and an error term v_{it} that has a bivariate normal distribution.

$$m_i^* = \eta Z_{it} + v_{it}$$

Individual i moves if m_i^* is greater than zero and does not move otherwise.

$$\begin{aligned} m_i &= 1 \quad if \quad m_i^* > 0 \\ &= 0 \quad otherwise \end{aligned}$$

Consider the expected value of equation 6 below. If $E[\varepsilon_{it}|m_i,X_{it}] \neq 0$, then regression estimates from equation 6 do not produce consistent coefficients.

$$E[depvar_{it}|m_i,X_{it}] = \alpha_i + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + E[\varepsilon_{it}|m_i,X_{it}]$$

If a consistent estimate of $E[\varepsilon_{it}|m_i,X_{it}]$ could be included as an independent variable in the regression, however, then the regression would yield consistent coefficients.

Assuming that ε_{it} has a bivariate normal distribution, its expected value when $m_i = 1$ is as follows.[20]

$$\begin{aligned} E[\varepsilon_{it}|m_i = 1, X_{it}] &= E[\varepsilon_{it}|m_i^* > 0] = E[\varepsilon_{it}|\eta Z_{it} + v_{it} > 0] \\ &= E[\varepsilon_{it}|v_{it} > -\eta Z_{it}] \\ &= \rho\sigma_\varepsilon \frac{\phi(\eta Z_{it}/\sigma_v)}{1 - \Phi(\eta Z_{it}/\sigma_v)} \end{aligned}$$

ρ is the correlation between ε_{it} and v_{it} and σ_ε is the standard deviation of the normal distribution of ε. Similarly,

$$\begin{aligned} E[\varepsilon_{it}|m_i = 0, X_{it}] &= E[\varepsilon_{it}|m_i^* <= 0] = E[\varepsilon_{it}|\eta Z_{it} + v_{it} <= 0] \\ &= E[\varepsilon_{it}|v_{it} <= -\eta Z_{it}] \\ &= \rho\sigma_\varepsilon \frac{-\phi(\eta Z_{it}/\sigma_v)}{\Phi(\eta Z_{it}/\sigma_v)} \end{aligned}$$

As shown in Heckman[6] and Heckman and Robb[8], inserting an estimate of $E[\varepsilon_{it}|m_i,X_{it}]$ – the control function – into equation 6 derives consistent estimates of β^k and δ^k. A selection-bias estimator is therefore modeled by equation 8.

[20] See Greene[5], p. 707.

$$
\begin{aligned}
depvar_{it} &= \alpha_i + \gamma_t + \sum_{k=-5}^{6} D_{it}^k \beta^k + m_i \sum_{r=1}^{5} C_{it}^r \delta^r + X_{it}\eta + \epsilon_{it} \\
&+ m_i \rho \sigma_\varepsilon \frac{\phi(\eta Z_{it}/\sigma_v)}{1 - \Phi(\eta Z_{it}/\sigma_v)} + (1 - m_i)\rho\sigma_\varepsilon \frac{-\phi(\eta Z_{it}/\sigma_v)}{\Phi(\eta Z_{it}/\sigma_v)}
\end{aligned} \tag{8}
$$

The next draft of this paper will have estimates on the cost of displacement by industry mobility after inserting a control function of industry mobility into equation 6. I am only using this estimator for industry mobility since I only have data on variables in Z_{it} for industry mobility. Note that the matrix Z_{it} must have variables in addition to those in X_{it} or the control function would just be a function of variables already in the model. The model could therefore not be identified. My variable in Z_{it} that is not in X_{it} is a local measure of the percentage of individuals working in industries other than that of the displaced worker. The larger this percentage, the more likely the individual switches industries since more employment opportunities in other industries exist.

7 Conclusion

About 12 percent of the U.S. workforce has been displaced in each three-year period since the early 1980s.[21] Given that displacement is so widespread, it is important to understand the consequences of it on workers. This paper has estimated the long-term costs of displacement on younger workers and how these effects depend on post-displacement mobility across location, industry, and occupation. My analysis adds to the existing literature on displacement by examining for the first time the relationship between location mobility and displacement costs and by further examining the effects of job displacement on younger workers in particular.

I use a generalized "difference-in-differences" model that controls for many observable characteristics in addition to fixed, unobservable characteristics to estimate the effects of displacement. Although there is a potential selection bias of mobility since mobility is self-selected rather than randomly assigned, it appears that my statistical analysis largely controls for this selection. Prior to displacement, no statistically significant difference between the mobile and the immobile for mobility across industry and occupation exists once observables and fixed

[21] See Farber[4].

effects are in the model. There is, consequently, no strong reason to believe that a difference exists post-displacement except for that difference resulting from mobility's effect itself. For location mobility, a significant pre-displacement differential exists yet it is basically constant over that time. Adjusting the post-displacement differential by this pre-displacement differential is therefore likely to be a good estimate of the effect of mobility.

I find that displacement has a large and significant effect on employment, earnings, and hours worked. Six years after the displacement, 7 percent of displaced workers are not working yet are predicted to work but for displacement. Women make up a disproportionate share of this effect. Among individuals who return to work, displacement causes workers to earn 14 percent less and work 8 percent less hours six years after displacement. These effects are similar across gender and education.

Workers who move locations find earnings losses of an estimated 10 percent while non-movers's losses are 15 percent; the employment and hours worked costs among the two groups are similar. This finding may imply that previous studies, which have excluded workers who move across state from their analyses, have over-estimated the earnings cost of displacement. This statement depends on whether the earnings differential between county movers and non-movers still exists between the state movers and non-movers.

Displaced workers who switch either industry or occupation, contrary to previous findings, suffer similar long-term displacement costs to the non-switchers, yet they do find larger short-term earnings losses from displacement. These results, however, vary largely after conditioning on a particular worker characteristic. Men, for example, find earnings gains if they switch while women find earnings losses. Movers who were displaced from a manufacturing industry find switching industries less costly than non-movers from manufacturing; similarly, occupation switchers do relatively better in the long-term when conditioning on displacement from a blue-collar occupation.

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Figure I: Mean Labor Market Outcomes

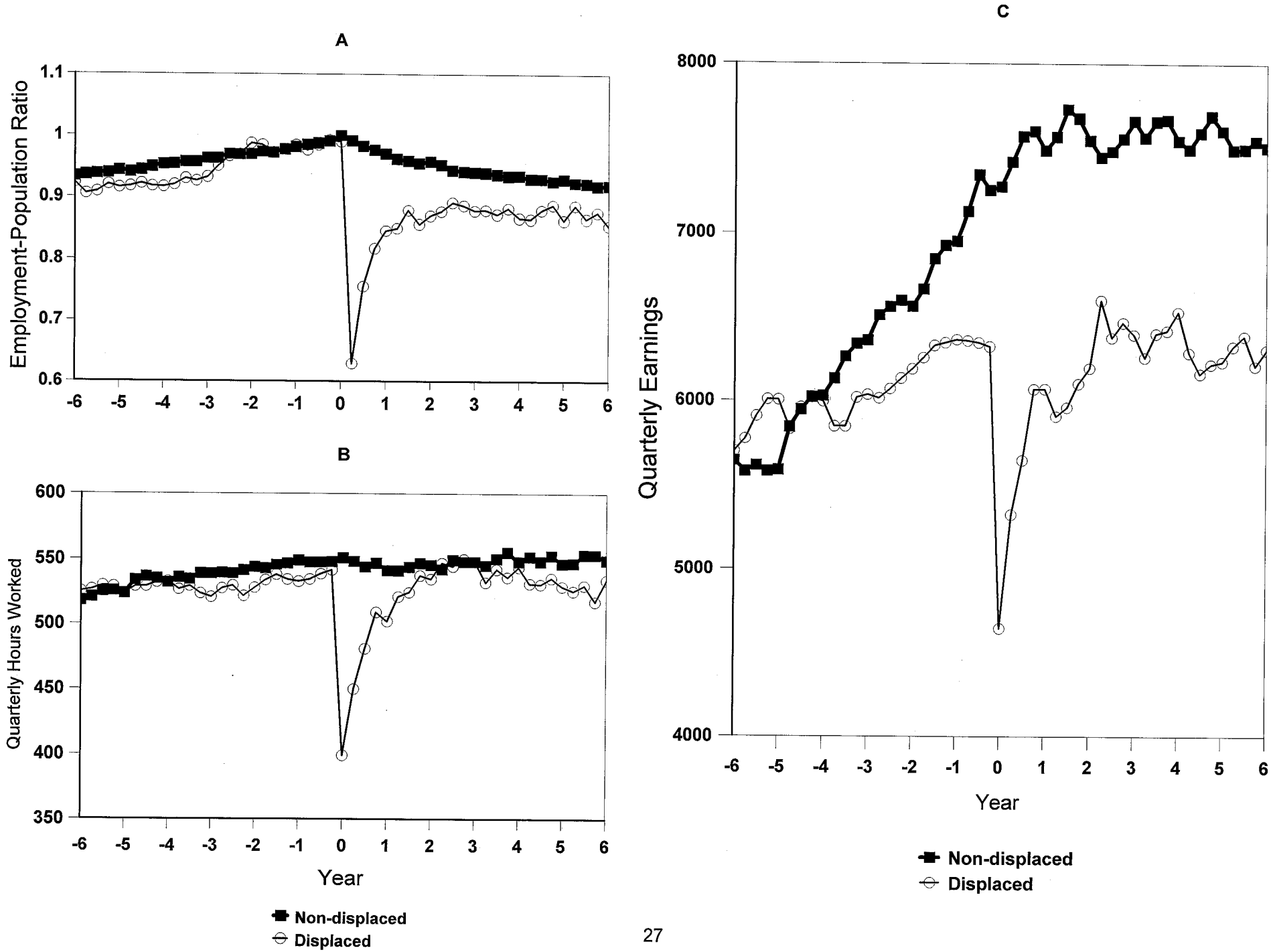

Figure II: Mean Labor Market Outcomes by Location Mobility

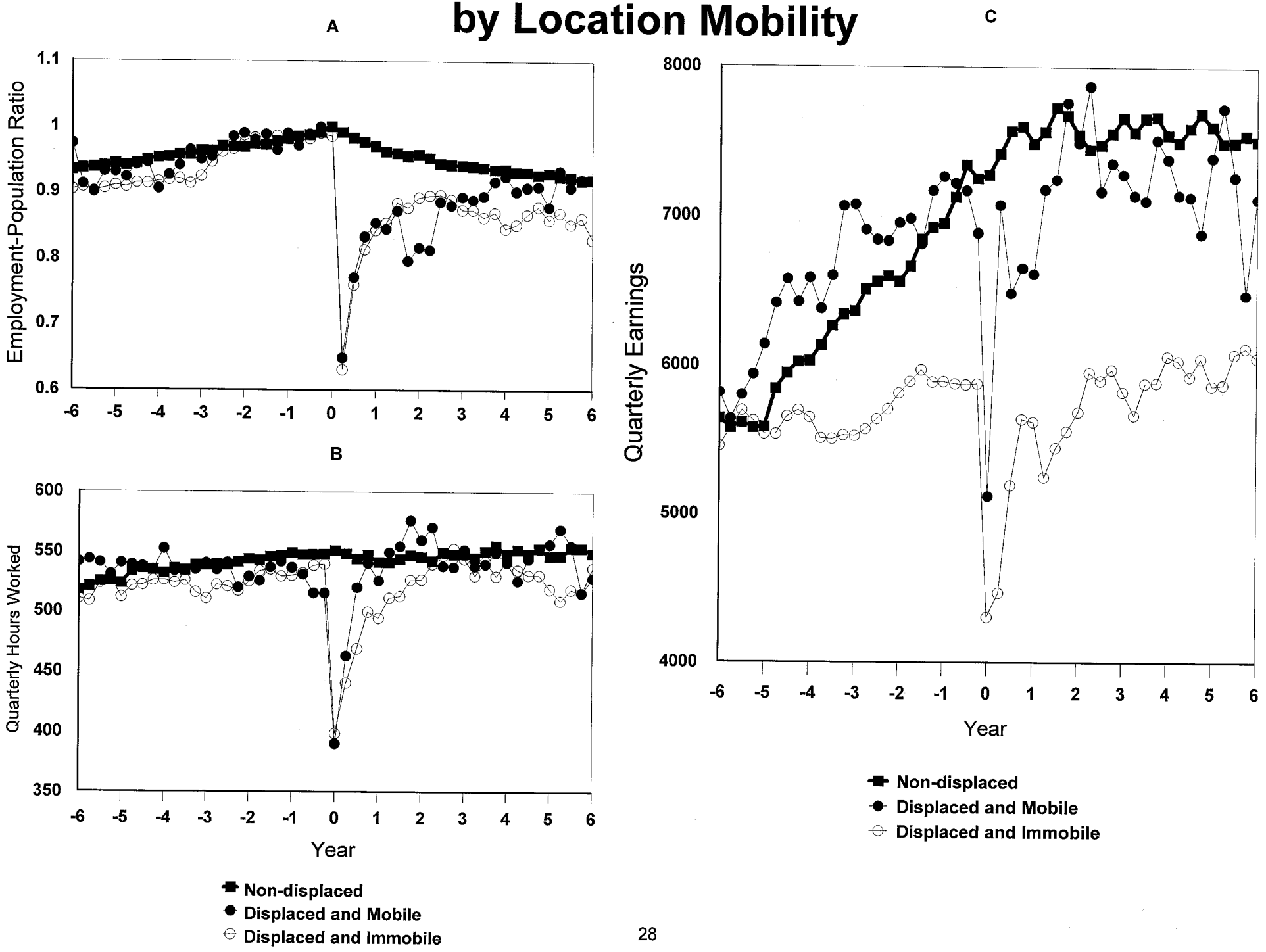

Figure III: Mean Labor Market Outcomes by Industry Mobility

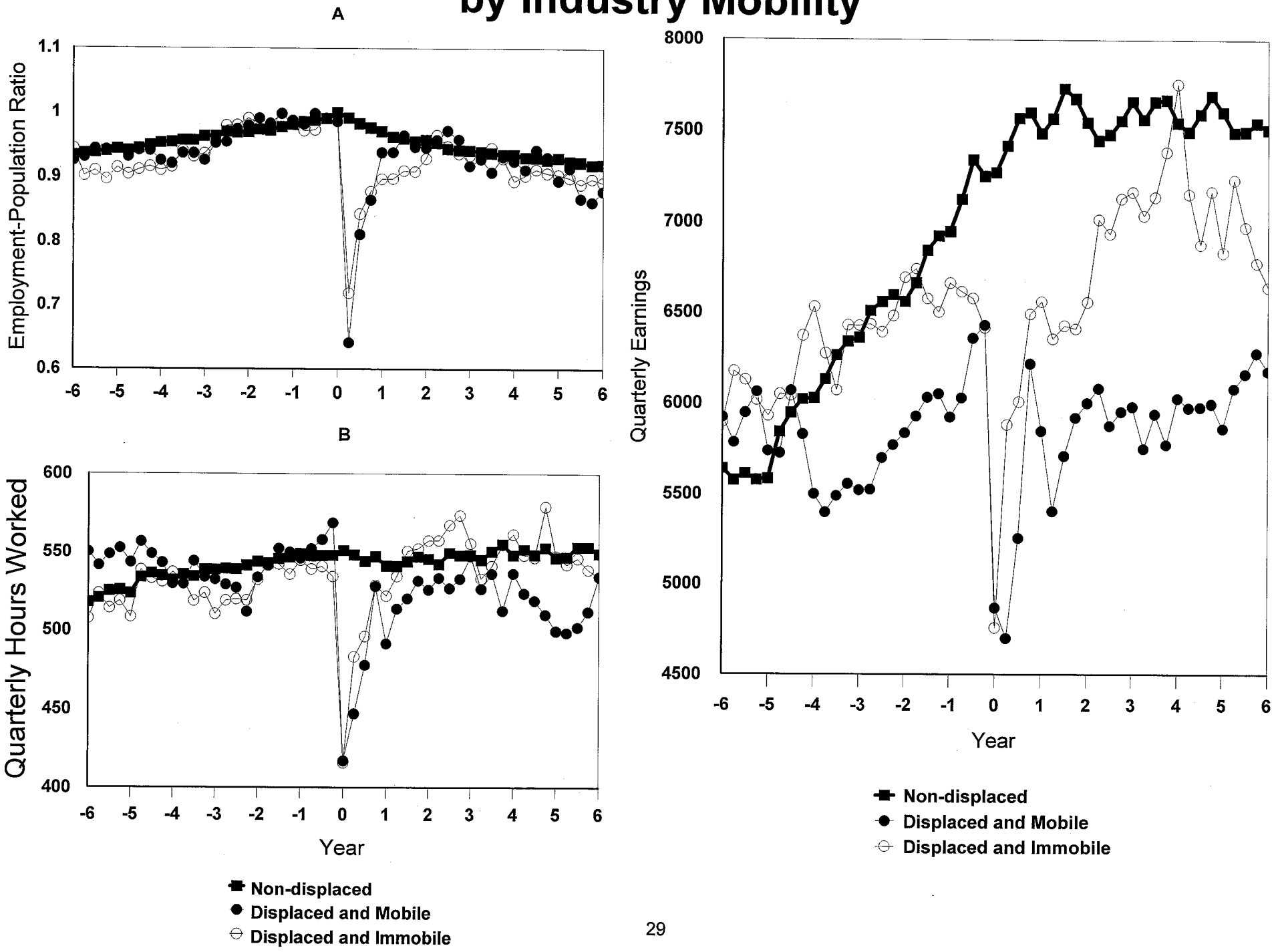

Figure IV: Mean Labor Market Outcomes by Occupation Mobility

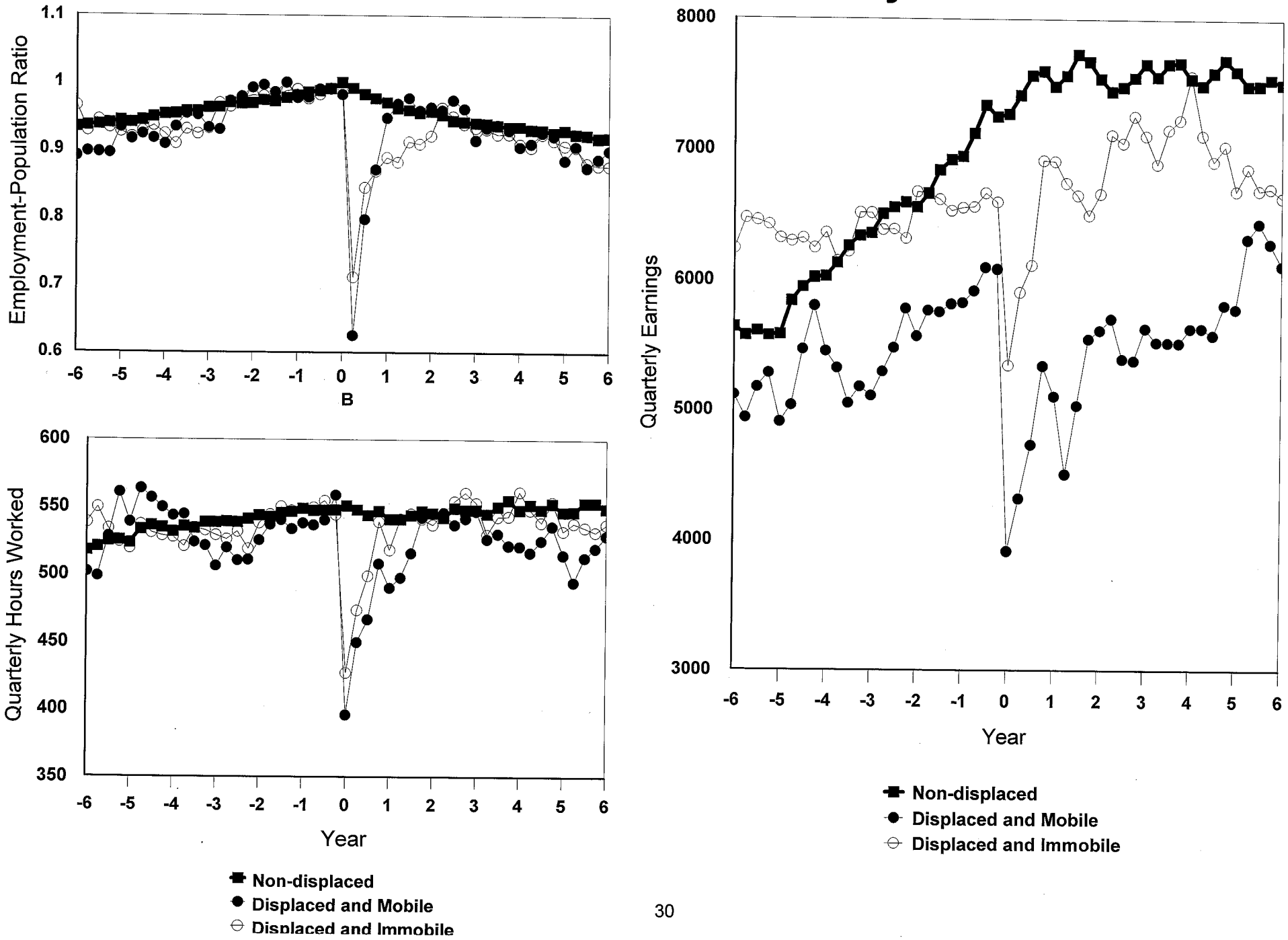

Figure V: Regression Estimates -- Differences in Labor Market Outcomes

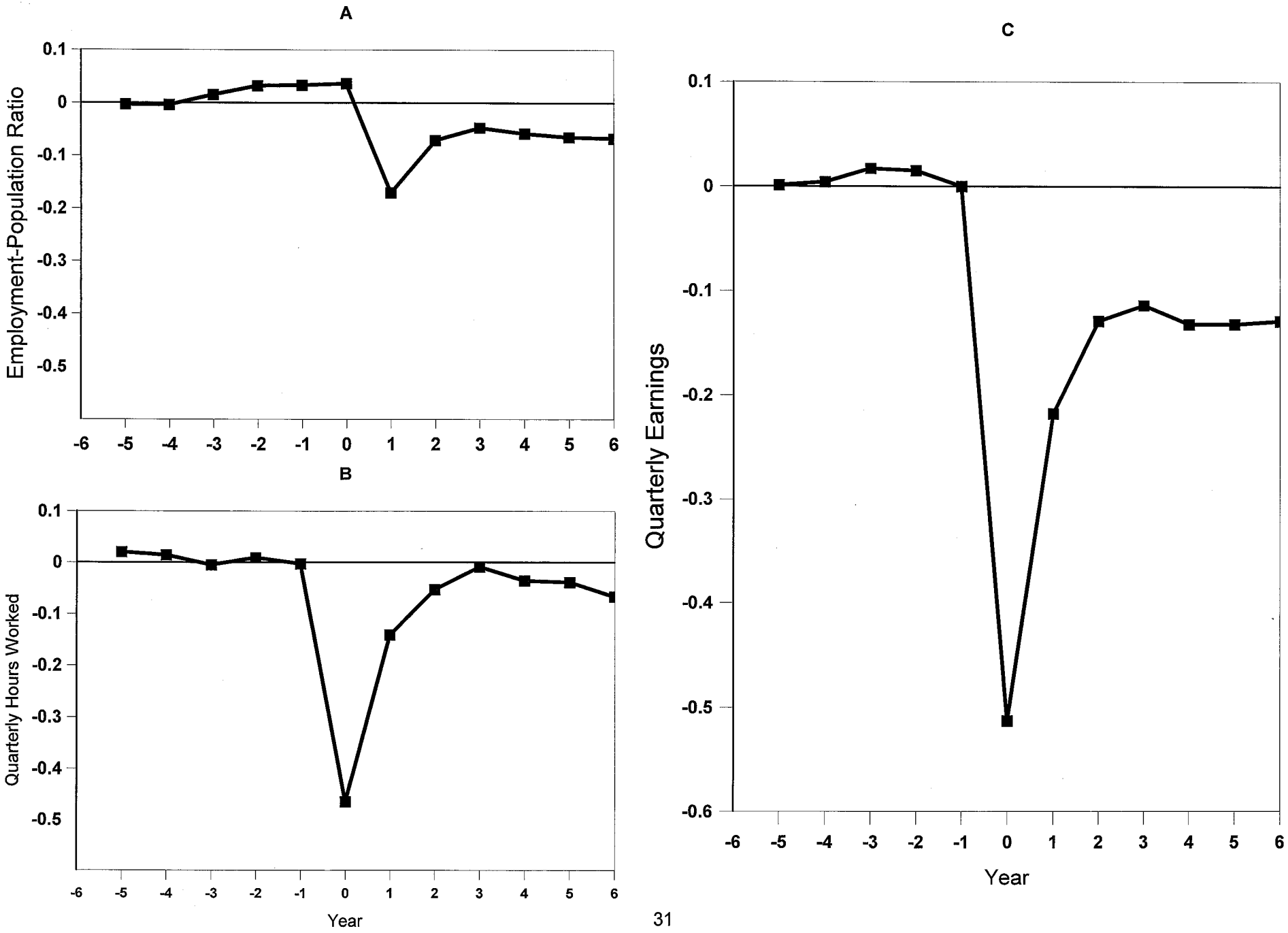

Figure VI: Regression Estimates -- Differences in Labor Market Outcomes by Location Mobility

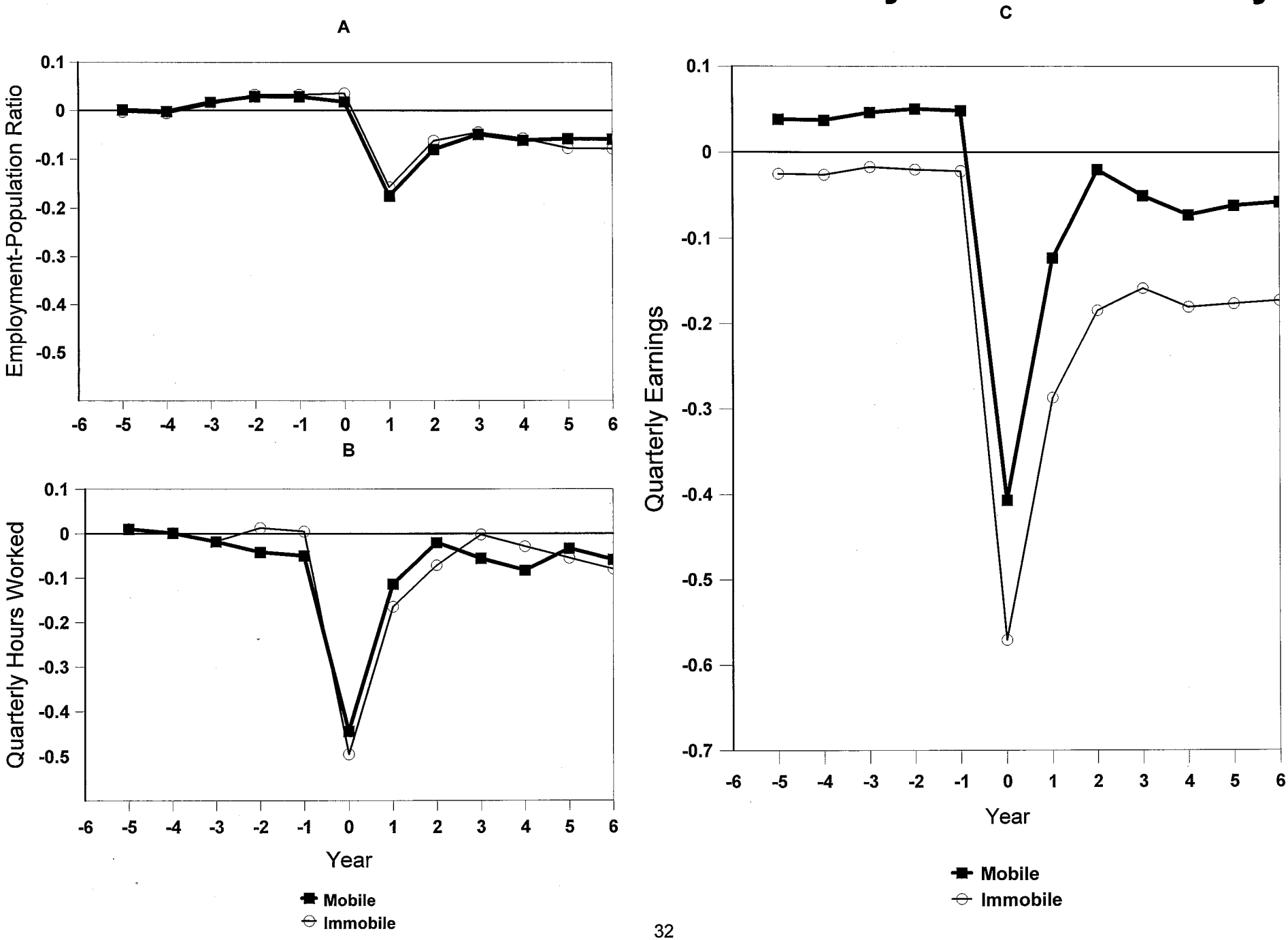

Figure VII: Regression Estimates -- Differences in Labor Market Outcomes by Industry Mobility

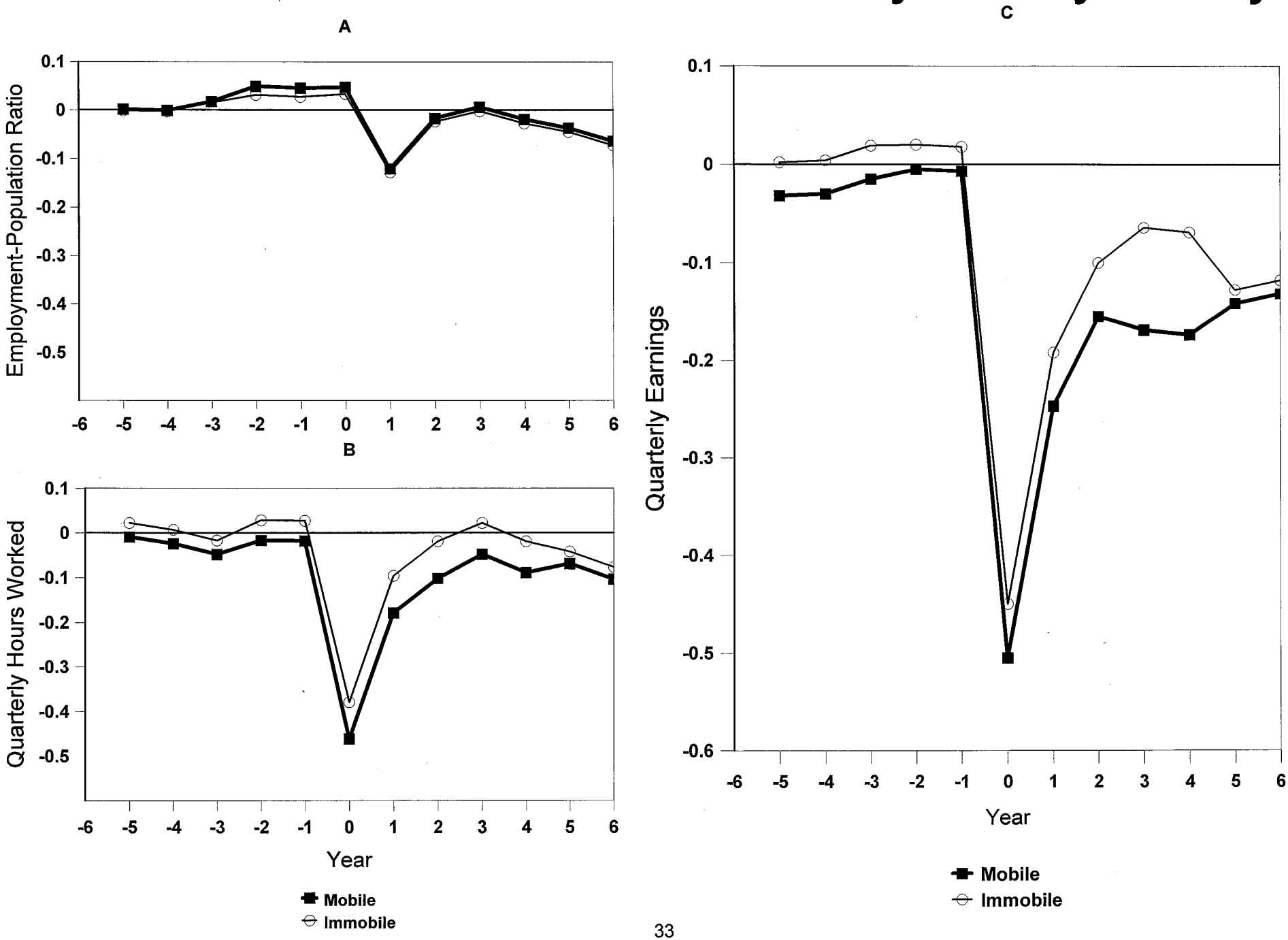

Figure VIII: Regression Estimates -- Differences in Labor Market Outcomes by Occupation Mobility

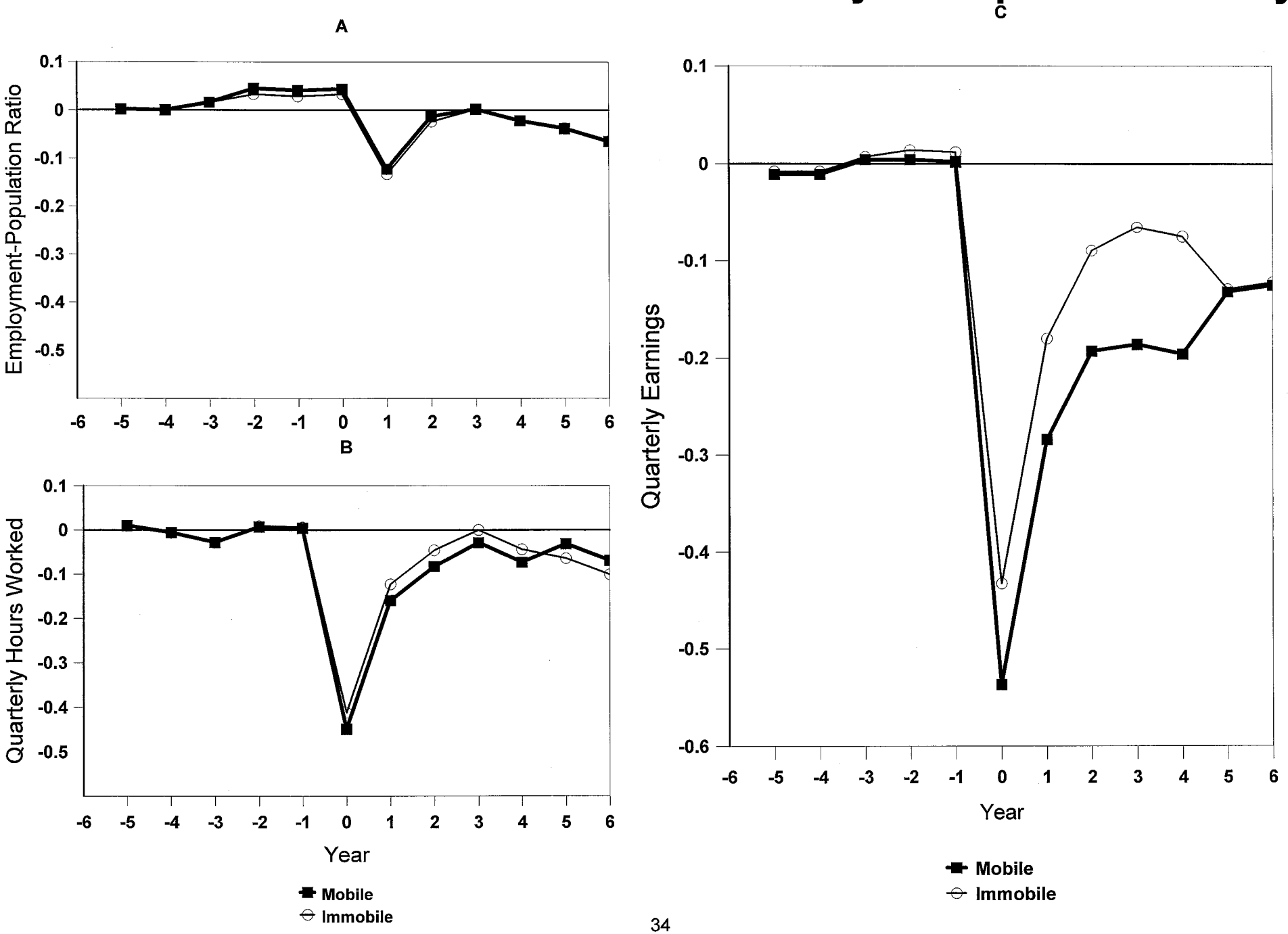

Table I: Mean Characteristics by Displaced Status

	Non-displaced	Displaced	Displaced in DWS
DEMOGRAPHICS:			
Average Age	**28.17**	**28.82**	37.0
	(1.91)	(3.20)	
% Female	**48.88**	**40.00**	33.7
	(49.99)	(49.02)	
% Black	**4.74**	**9.28**	17.2
	(21.25)	(29.03)	
% Hispanic	**10.66**	**14.28**	13.1
	(30.86)	(35.01)	
% High School Graduate or less	**54.86**	**68.11**	64.7
	(49.77)	(46.63)	
% Some College	**20.84**	**17.47**	20.7
	(40.63)	(37.99)	
% College Degree of Higher	**24.29**	**14.42**	14.5
	(42.89)	(35.15)	
% Married of Men	**53.97**	**50.77**	
	(35.41)	(40.16)	
% Married of Women	56.66	53.78	
	(35.26)	(39.32)	
Average Number of Children of Men	**0.70**	**0.79**	
	(0.76)	(0.97)	
Average Number of Children of Women	**0.87**	**1.04**	
	(0.82)	(0.98)	
% Urban Residence	78.96	77.43	
	(36.17)	(38.23)	
LABOR FORCE CHARACTERISTICS:			
Average Weeks Worked Per Year	**47.28**	**45.18**	
	(6.35)	(7.25)	
Average Weeks Unemployed Per Year	**1.19**	**3.00**	
	(2.18)	(3.77)	
Average Weeks Out of the Labor Force Per Year	3.41	3.70	
	(5.65)	(6.06)	
Average Quarterly Earnings (in 1994 $)	**6,878**	**6,319**	
	(4146)	(3564)	
Average Experience (in years)	**6.96**	**7.48**	
	(1.55)	(2.83)	
Average Quarterly Hours Worked	**536.38**	**527.14**	
	(108.52)	(106.77)	
Average Tenure (in years)	**4.04**	**2.97**	
	(2.58)	(2.27)	
Average % Unionized	16.13	17.76	
	(27.41)	(27.68)	
% Usually in Particular Industries:			
Agriculture and Forestry	**1.57**	**0.55**	
Mining	**0.69**	**2.32**	1.1
Construction	**5.53**	**11.78**	15.7
Manufacturing	**21.88**	**30.60**	31.0
Transportation/communication	7.22	6.60	6.4
Wholesale and retail trade	**18.94**	**21.72**	19.0
FIRE and Professional services	**30.65**	**16.55**	14.2
Non-professional services	8.67	8.65	12.2
Public administration	**4.86**	**1.23**	
% Usually in Particular Occupations:			
Professional, Managerial, Technical	**33.35**	**21.94**	19.4
Sales	4.63	4.39	7.3
Administrative	21.58	20.57	15.5
Crafts and Foremen	**11.13**	**16.54**	22.5
Operatives and Laborers	**17.15**	**28.83**	26.5
Farmers and farm laborers	**0.43**	**0.03**	
Service and private household	**11.73**	**7.70**	8.8
Number of observations	3,901	872	

Notes: Standard errors are in parenthesis below the means. All means are weighted by the NLSY sampling weights to provide nationally representative statistics. Means in bold imply that the mean for the displaced is significantly different from the mean for the non-displaced at the 10-percent level. Kletzer (1998) is the source of the statistics on the displaced from the 1992 January Displaced Worker Survey.

Table II: Mobility Choices by Worker Characteristics

	Move Location/Industry/Occupation	All	Male	Female	Age<29	Age>=29
No moves	No/No/No	153	100	53	85	68
		29.7%	31.3%	27.0%	31.7%	27.4%
	Yes/No/No	45	30	15	32	13
		8.7%	9.4%	7.7%	11.9%	5.2%
One move	No/Yes/No	99	59	40	45	54
		19.2%	18.4%	20.4%	16.8%	21.8%
	No/No/Yes	70	41	29	38	32
		13.6%	12.8%	14.8%	14.2%	12.9%
	Yes/Yes/No	21	11	10	11	10
		4.1%	3.4%	5.1%	4.1%	4.0%
Two moves	Yes/No/Yes	17	11	6	7	10
		3.3%	3.4%	3.1%	2.6%	4.0%
	No/Yes/Yes	91	57	34	38	53
		17.6%	17.8%	17.3%	14.2%	21.4%
Three moves	Yes/Yes/Yes	20	11	9	12	8
		3.9%	3.4%	4.6%	4.5%	3.2%
	Total	516	320	196	268	248
		100%	100%	100%	100%	100%

Table III: Mean Characteristics of Displaced Sample by Mobility

	Location		Industry		Occupation	
	Mobile	Immobile	Mobile	Immobile	Mobile	Immobile
DEMOGRAPHICS:						
Average Age	**27.84**	**28.67**	28.42	28.23	28.42	28.32
	(2.91)	(3.17)	(2.99)	(3.09)	(3.13)	(3.01)
% Female	36.62	42.21	39.03	35.63	36.43	38.69
	(48.34)	(49.43)	(48.88)	(47.97)	(48.24)	(48.78)
% Black	**5.53**	**10.18**	6.65	9.06	5.98	8.98
	(22.94)	(30.26)	(24.98)	(28.76)	(23.77)	(28.64)
% Hispanic	**10.42**	**15.86**	15.84	14.60	16.83	14.02
	(30.65)	(36.56)	(36.58)	(35.37)	(37.51)	(34.77)
% High School Graduate or less	70.48	69.67	69.57	70.81	72.28	69.44
	(45.77)	(46.42)	(46.11)	(45.54)	(44.87)	(46.14)
% Some College	14.13	18.40	19.22	14.98	15.33	17.75
	(34.95)	(38.78)	(39.49)	(35.75)	(36.11)	(38.27)
% College Degree of higher	15.39	12.93	11.21	14.21	11.40	12.81
	(36.21)	(33.58)	(31.62)	(34.98)	(33.03)	(33.47)
% Married of Men	51.93	49.97	53.88	50.49	51.30	52.62
	(35.47)	(40.58)	(40.54)	(37.89)	(40.24)	(38.47)
% Married of Women	53.61	55.19	53.28	54.27	59.07	51.24
	(35.71)	(39.13)	(38.12)	(39.60)	(40.04)	(38.35)
Average Number of Children for Men	0.67	0.84	0.76	0.83	0.87	0.75
	(0.74)	(0.99)	(0.98)	(0.91)	(1.06)	(0.86)
Average Number of Children for Women	**0.76**	**1.11**	0.92	1.07	1.09	0.96
	(0.80)	(0.99)	(0.95)	(0.99)	(0.91)	(1.01)
% Urban Residence	74.00	76.86	78.55	77.43	76.68	78.61
	(33.10)	(40.33)	(37.98)	(38.37)	(39.21)	(37.69)
DISPLACED JOB CHARACTERISTICS:						
Average Experience (in years)	7.45	7.86	7.66	7.83	7.69	7.84
	(3.02)	(3.25)	(3.20)	(3.06)	(3.16)	(3.12)
% Unionized	18.29	18.65	17.43	21.67	19.65	19.45
	(38.82)	(38.98)	(38.02)	(41.27)	(39.84)	(39.65)
Average Tenure (in years)	4.78	5.16	5.01	5.13	5.03	5.13
	(2.52)	(2.95)	(2.86)	(2.94)	(2.68)	(3.02)
% Plant Closure (versus Layoff)	29.98	34.34	**27.87**	**37.98**	**31.46**	**34.20**
	(45.97)	(47.52)	(44.93)	(48.62)	(46.55)	(47.51)
% Displaced in Particular Industries:						
Mining	1.85	3.01	3.63	2.02	**1.13**	**3.81**
Construction	**15.02**	**9.90**	9.26	12.96	9.46	12.23
Manufacturing	32.72	30.76	29.98	32.91	33.31	30.22
Transportation/communication	6.55	6.83	**9.05**	**5.35**	6.66	7.36
Wholesale and retail trade	16.44	22.21	21.55	19.06	**25.21**	**17.56**
FIRE and Prof. services	18.19	15.61	14.72	18.30	15.22	17.37
Non-professional services	9.22	11.68	11.80	9.40	9.00	11.45
% Displaced in Particular Occupations:						
Professional./Managerial	25.93	23.31	21.41	27.56	**20.31**	**26.90**
Sales	5.03	4.86	4.19	4.24	**6.53**	**2.71**
Clerical, Administrative	23.42	17.83	**23.23**	**13.52**	16.87	20.32
Craftsmen, foremen	13.85	17.94	**14.14**	**21.62**	18.94	17.22
Operatives and Laborers	27.83	28.14	30.42	27.63	29.74	27.98
Farmers and farm laborers	0.00	0.06	0.10	0.00	0.00	0.08
Service and private household	3.94	7.86	6.51	5.43	7.61	4.81
POST DISPLACEMENT CHARACTERISTICS						
Average Weeks Worked Per Year	41.88	41.85	44.49	44.67	44.55	44.36
	(11.33)	(12.41)	(8.32)	(8.16)	(8.36)	(8.63)
Average Weeks Unemployed Per Year	4.74	4.96	4.72	4.27	4.29	4.66
	(6.00)	(7.23)	(6.21)	(6.05)	(5.89)	(6.39)
Average Weeks Out of the Labor Force Per Year	5.31	5.02	2.66	2.85	2.95	2.85
	(10.01)	(10.13)	(4.96)	(5.57)	(5.58)	(5.81)
Average Quarterly Earnings (in 1994 $)	**6,535**	**5,260**	**5,886**	**6,474**	**5,470**	**6,594**
	(4,098)	(3,354)	(3,485)	(4,215)	(3,000)	(4,299)
Average Quarterly Hours Worked	457.84	436.21	**482.08**	**485.07**	479.05	484.05
	(193.84)	(197.02)	(155.60)	(170.53)	(159.98)	(166.61)
% Unionized	10.29	12.48	12.90	12.59	14.70	11.61
	(23.93)	(28.21)	(29.38)	(27.31)	(30.95)	(26.47)
Number of observations	147	623	240	288	201	331

Notes: Standard errors are in parenthesis below the means. All means are weighted by the NLSY sampling weights to provide nationally representative statistics. Means in bold imply that the mean for the mobile is significantly different from the mean for the immobile at the 10-percent level.

Table IV: The Effect of Displacement on Employment

	(1)	(2)	(3)	(4)
17-20 Qtrs. Before Displacement	**-0.019**	-0.004	0.009	0.008
	(0.011)	(0.009)	(0.011)	(0.010)
13-16 Qtrs. Before Displacement	-0.014	-0.005	0.016	0.011
	(0.009)	(0.009)	(0.011)	(0.011)
9-12 Qtrs. Before Displacement	**0.017**	**0.024**	**0.048**	**0.040**
	(0.007)	(0.007)	(0.011)	(0.011)
5-8 Qtrs. Before Displacement	**0.043**	**0.047**	**0.074**	**0.063**
	(0.005)	(0.005)	(0.011)	(0.011)
1-4 Qtrs. Before Displacement	**0.045**	**0.047**	**0.080**	**0.064**
	(0.004)	(0.005)	(0.012)	(0.012)
Qtr. of Displacement	**0.050**	**0.051**	**0.085**	**0.068**
	(0.005)	(0.006)	(0.012)	(0.012)
1-4 Qtrs. After Displacement	**-0.181**	**-0.173**	**-0.148**	**-0.155**
	(0.015)	(0.015)	(0.018)	(0.018)
5-8 Qtrs. After Displacement	**-0.078**	**-0.075**	**-0.044**	**-0.054**
	(0.014)	(0.014)	(0.018)	(0.017)
9-12 Qtrs. After Displacement	**-0.058**	**-0.052**	-0.026	**-0.033**
	(0.013)	(0.012)	(0.017)	(0.016)
13-16 Qtrs. After Displacement	**-0.065**	**-0.063**	**-0.034**	**-0.042**
	(0.014)	(0.014)	(0.018)	(0.017)
17-20 Qtrs. After Displacement	**-0.066**	**-0.071**	**-0.043**	**-0.051**
	(0.015)	(0.015)	(0.018)	(0.018)
21-24 Qtrs. After Displacement	**-0.071**	**-0.072**	**-0.050**	**-0.054**
	(0.020)	(0.019)	(0.022)	(0.022)
Experience		**0.018**		**0.039**
		(0.002)		(0.005)
Experience Squared		**-0.000**		**-0.001**
		(0.000)		(0.000)
Married - Men		**0.013**		0.003
		(0.004)		(0.004)
Married - Women		**-0.055**		**-0.085**
		(0.006)		(0.007)
Number of Children - Men		**-0.005**		**-0.008**
		(0.002)		(0.002)
Number of Children – Women		**-0.035**		**-0.028**
		(0.004)		(0.006)
Urban		0.005		0.009
		(0.005)		(0.004)
Female		**0.009**		
		(0.004)		
Black		**0.010**		
		(0.006)		
Hispanic		**-0.010**		
		(0.005)		
High School Graduate		**0.022**		
		(0.007)		
Some College		**0.062**		
		(0.007)		
College		**0.086**		
		(0.008)		
Individual Fixed Effects	No	No	Yes	Yes
R-Squared	0.0176	0.0751	0.2123	0.2271
Sample Size	224,205	217,151	224,205	217,151
Long-Term Effects of Displacement	-0.066	-0.077	-0.074	-0.074

Note: All regressions include quarter and state fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table V: The Effect of Displacement on Log Earnings

	(1)	(2)	(3)	(4)
17-20 Qtrs. Before Displacement	**-0.078**	-0.004	0.010	0.001
	(0.030)	(0.025)	(0.020)	(0.020)
13-16 Qtrs. Before Displacement	**-0.082**	0.002	0.013	0.004
	(0.026)	(0.021)	(0.022)	(0.022)
9-12 Qtrs. Before Displacement	**-0.071**	0.018	0.034	0.017
	(0.025)	(0.021)	(0.023)	(0.022)
5-8 Qtrs. Before Displacement	**-0.069**	0.013	**0.049**	0.015
	(0.026)	(0.023)	(0.025)	(0.025)
1-4 Qtrs. Before Displacement	**-0.081**	-0.012	**0.048**	0.000
	(0.027)	(0.024)	(0.026)	(0.026)
Qtr. of Displacement	**-0.611**	**-0.519**	**-0.473**	**-0.513**
	(0.044)	(0.044)	(0.044)	(0.045)
1-4 Qtrs. After Displacement	**-0.277**	**-0.107**	**-0.236**	**-0.218**
	(0.037)	(0.035)	(0.036)	(0.039)
5-8 Qtrs. After Displacement	**-0.217**	-0.044	**-0.144**	**-0.129**
	(0.031)	(0.030)	(0.030)	(0.032)
9-12 Qtrs. After Displacement	**-0.190**	-0.036	**-0.143**	**-0.114**
	(0.036)	(0.034)	(0.033)	(0.035)
13-16 Qtrs. After Displacement	**-0.189**	**-0.064**	**-0.142**	**-0.132**
	(0.041)	(0.037)	(0.036)	(0.036)
17-20 Qtrs. After Displacement	**-0.202**	**-0.070**	**-0.166**	**-0.132**
	(0.043)	(0.041)	(0.040)	(0.041)
21-24 Qtrs. After Displacement	**-0.170**	-0.063	**-0.148**	**-0.129**
	(0.046)	(0.039)	(0.040)	(0.041)
Experience		**0.071**		**0.153**
		(0.005)		(0.011)
Experience Squared		**-0.003**		**-0.004**
		(0.000)		(0.000)
Tenure		**0.027**		**0.010**
		(0.002)		(0.002)
Union		**0.120**		**0.100**
		(0.013)		(0.012)
Married - Men		**0.101**		**0.036**
		(0.016)		(0.012)
Married - Women		**-0.105**		**-0.116**
		(0.016)		(0.014)
Number of Children - Men		**-0.021**		-0.005
		(0.009)		(0.007)
Number of Children - Women		**-0.094**		**-0.101**
		(0.012)		(0.013)
Urban		**0.138**		**0.039**
		(0.017)		(0.018)
Female		**-0.213**		
		(0.018)		
Black		**-0.074**		
		(0.021)		
Hispanic		**-0.156**		
		(0.016)		
High School Graduate		**0.178**		
		(0.020)		
Some College		**0.381**		
		(0.024)		
College		**0.692**		
		(0.028)		
Individual Fixed Effects	No	No	Yes	Yes
R Squared	0.1267	0.3436	0.6029	0.6194
Sample Size	178,750	160,073	178,750	160,107
Long-Term Effects of Displacement	-0.093	-0.068	-0.167	-0.136

Note: All regressions include quarter, state, and industry fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table VI: The Effect of Displacement on Log Hours

	(1)	(2)	(3)	(4)
17-20 Qtrs. Before Displacement	-0.009	0.007	**0.035**	0.020
	(0.016)	(0.015)	(0.015)	(0.015)
13-16 Qtrs. Before Displacement	-0.007	0.007	**0.035**	0.014
	(0.014)	(0.013)	(0.018)	(0.017)
9-12 Qtrs. Before Displacement	**-0.023**	-0.010	0.021	-0.005
	(0.013)	(0.012)	(0.018)	(0.017)
5-8 Qtrs. Before Displacement	-0.014	0.000	**0.038**	0.009
	(0.015)	(0.015)	(0.018)	(0.018)
1-4 Qtrs. Before Displacement	-0.025	-0.018	0.031	-0.003
	(0.016)	(0.016)	(0.020)	(0.020)
Qtr. of Displacement	**-0.487**	**-0.482**	**-0.427**	**-0.465**
	(0.035)	(0.036)	(0.039)	(0.039)
1-4 Qtrs. After Displacement	**-0.140**	**-0.119**	**-0.116**	**-0.141**
	(0.021)	(0.021)	(0.025)	(0.027)
5-8 Qtrs. After Displacement	**-0.054**	**-0.034**	-0.014	**-0.053**
	(0.018)	(0.019)	(0.023)	(0.025)
9-12 Qtrs. After Displacement	-0.017	0.011	0.014	-0.009
	(0.019)	(0.018)	(0.024)	(0.025)
13-16 Qtrs. After Displacement	-0.036	-0.025	0.003	-0.036
	(0.023)	(0.022)	(0.026)	(0.028)
17-20 Qtrs. After Displacement	-0.036	-0.032	-0.004	-0.039
	(0.022)	(0.024)	(0.026)	(0.029)
21-24 Qtrs. After Displacement	**-0.050**	**-0.058**	-0.024	**-0.067**
	(0.024)	(0.024)	(0.027)	(0.030)
Experience		**0.018**		**0.042**
		(0.003)		(0.008)
Experience Squared		**-0.001**		**-0.001**
		(0.000)		(0.000)
Tenure		**0.005**		0.000
		(0.001)		(0.001)
Union		**-0.017**		-0.012
		(0.007)		(0.008)
Married - Men		**0.028**		0.003
		(0.008)		(0.007)
Married - Women		**-0.132**		**-0.130**
		(0.009)		(0.011)
Number of Children - Men		0.004		-0.004
		(0.004)		(0.004)
Number of Children - Women		**-0.075**		**-0.086**
		(0.008)		(0.010)
Urban		-0.009		-0.006
		(0.009)		(0.013)
Female		**-0.049**		
		(0.009)		
Black		0.007		
		(0.010)		
Hispanic		-0.006		
		(0.009)		
High School Graduate		**0.039**		
		(0.012)		
Some College		**0.080**		
		(0.014)		
College		**0.116**		
		(0.016)		
Individual Fixed Effects	No	No	Yes	Yes
R Squared	0.0412	0.1341	0.3226	0.3376
Sample Size	177,696	159,152	177,696	159,186
Long-Term Effects of Displacement	-0.037	-0.059	-0.054	-0.077

Note: All regressions include quarter, state, and industry fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table VII: The Effects of Displacement by Worker Characteristics

	9-20 Qtrs. Before	1-8 Qtrs. Before	0-8 Qtrs. After	0-16 Qtrs. After	17-24 Qtrs. After	Long-Term Effect
Employment						
All	**0.020**	**0.063**	**-0.086**	**-0.038**	**-0.053**	-0.073
	(0.009)	(0.011)	(0.015)	(0.016)	(0.018)	
Men	**0.021**	**0.046**	**-0.062**	-0.013	-0.010	-0.031
	(0.010)	(0.012)	(0.015)	(0.015)	(0.018)	
Women	0.020	**0.094**	**-0.113**	**-0.062**	**-0.104**	-0.124
	(0.018)	(0.020)	(0.028)	(0.031)	(0.036)	
HS Degree or less	**0.030**	**0.067**	**-0.094**	**-0.045**	**-0.056**	-0.086
	(0.011)	(0.013)	(0.018)	(0.019)	(0.021)	
Some college or more	-0.004	**0.045**	**-0.073**	-0.025	-0.059	-0.055
	(0.018)	(0.021)	(0.027)	(0.028)	(0.037)	
1-year tenure restriction	0.009	**0.061**	**-0.069**	**-0.040**	**-0.048**	-0.057
	(0.009)	(0.011)	(0.013)	(0.014)	(0.016)	
3-year tenure restriction	**0.028**	**0.043**	**-0.114**	**-0.066**	**-0.081**	-0.109
	(0.009)	(0.011)	(0.016)	(0.018)	(0.022)	
Manufacturing	0.024	**0.047**	**-0.135**	**-0.090**	**-0.083**	-0.107
	(0.018)	(0.021)	(0.029)	(0.031)	(0.033)	
Non-manufacturing	0.016	**0.074**	**-0.085**	-0.024	**-0.057**	-0.073
	(0.012)	(0.014)	(0.020)	(0.020)	(0.026)	
Blue-collar	**0.023**	**0.047**	**-0.098**	**-0.037**	**-0.046**	-0.069
	(0.013)	(0.015)	(0.019)	(0.020)	(0.025)	
White-collar	0.015	**0.080**	**-0.103**	**-0.054**	**-0.086**	-0.101
	(0.014)	(0.017)	(0.025)	(0.027)	(0.032)	
Layoffs	**0.030**	**0.063**	**-0.091**	**-0.040**	**-0.059**	-0.089
	(0.012)	(0.014)	(0.017)	(0.018)	(0.023)	
Plant closed	0.002	**0.064**	**-0.077**	-0.034	-0.042	-0.044
	(0.014)	(0.018)	(0.027)	(0.029)	(0.029)	
Earnings						
All	0.007	0.007	**-0.230**	**-0.132**	**-0.140**	-0.147
	(0.019)	(0.024)	(0.031)	(0.033)	(0.038)	
Men	0.021	0.025	**-0.240**	**-0.129**	**-0.117**	-0.138
	(0.025)	(0.031)	(0.040)	(0.039)	(0.043)	
Women	-0.008	-0.006	**-0.211**	**-0.135**	**-0.167**	-0.159
	(0.028)	(0.038)	(0.050)	(0.060)	(0.077)	
HS Degree or less	0.014	0.010	**-0.228**	**-0.120**	**-0.123**	-0.137
	(0.022)	(0.030)	(0.036)	(0.040)	(0.044)	
Some college or more	-0.015	-0.005	**-0.228**	**-0.154**	**-0.171**	-0.156
	(0.038)	(0.040)	(0.061)	(0.059)	(0.079)	
1-year tenure restriction	0.003	0.006	**-0.184**	**-0.084**	**-0.102**	-0.105
	(0.017)	(0.021)	(0.027)	(0.029)	(0.034)	
3-year tenure restriction	0.041	-0.001	**-0.264**	**-0.150**	**-0.152**	-0.193
	(0.020)	(0.027)	(0.035)	(0.038)	(0.011)	
Manufacturing	-0.004	-0.042	**-0.282**	**-0.124**	**-0.173**	-0.169
	(0.026)	(0.033)	(0.043)	(0.044)	(0.056)	
Non-manufacturing	0.019	0.038	**-0.220**	**-0.131**	**-0.123**	-0.142
	(0.027)	(0.034)	(0.045)	(0.047)	(0.053)	
Blue-collar	0.012	-0.006	**-0.278**	**-0.126**	**-0.135**	-0.147
	(0.028)	(0.034)	(0.044)	(0.047)	(0.051)	
White-collar	0.013	0.029	**-0.208**	**-0.131**	**-0.145**	-0.158
	(0.028)	(0.036)	(0.049)	(0.051)	(0.061)	
Layoffs	0.015	0.015	**-0.249**	**-0.128**	**-0.115**	-0.130
	(0.023)	(0.029)	(0.037)	(0.037)	(0.041)	
Plant closed	-0.008	-0.009	**-0.190**	**-0.133**	**-0.189**	-0.181
	(0.032)	(0.041)	(0.053)	(0.060)	(0.074)	

Note: All regressions include quarter, state, industry and individual fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table VIII: The Effects of Displacement by Location Mobility

	Employment	Log Earnings	Log Hours
17-20 Qtrs. Before Displacement	0.014	-0.025	0.011
	(0.013)	(0.024)	(0.018)
13-16 Qtrs. Before Displacement	0.014	-0.026	0.002
	(0.014)	(0.026)	(0.021)
9-12 Qtrs. Before Displacement	**0.042**	-0.017	-0.017
	(0.014)	(0.026)	(0.021)
5-8 Qtrs. Before Displacement	**0.072**	-0.020	0.013
	(0.015)	(0.029)	(0.023)
1-4 Qtrs. Before Displacement	**0.073**	-0.022	0.005
	(0.015)	(0.030)	(0.024)
Qtr. of Displacement	**0.079**	**-0.571**	**-0.495**
	(0.016)	(0.048)	(0.042)
1-4 Qtrs. After Displacement	**-0.137**	**-0.287**	**-0.165**
	(0.021)	(0.043)	(0.031)
5-8 Qtrs. After Displacement	**-0.040**	**-0.184**	**-0.071**
	(0.020)	(0.036)	(0.029)
9-12 Qtrs. After Displacement	-0.025	**-0.158**	-0.002
	(0.019)	(0.039)	(0.029)
13-16 Qtrs. After Displacement	**-0.035**	**-0.180**	-0.029
	(0.020)	(0.038)	(0.031)
17-20 Qtrs. After Displacement	**-0.053**	**-0.176**	**-0.055**
	(0.021)	(0.045)	(0.032)
21-24 Qtrs. After Displacement	**-0.055**	**-0.172**	**-0.080**
	(0.025)	(0.046)	(0.034)
Mobile * 9-20 Qtrs. Before Displacement	-0.008	0.063	-0.001
	(0.019)	(0.047)	(0.039)
Mobile * 1-8 Qtrs. Before Displacement	-0.027	0.070	-0.055
	(0.027)	(0.062)	(0.049)
Mobile * 0-8 Qtrs. After Displacement	-0.042	**0.164**	0.051
	(0.036)	(0.075)	(0.054)
Mobile * 9-16 Qtrs. After Displacement	-0.019	0.108	-0.054
	(0.036)	(0.083)	(0.063)
Mobile * 17-24 Qtrs. After Displacement	0.014	0.115	0.021
	(0.041)	(0.091)	(0.065)
R-Squared	0.2270	0.6175	0.3347
Sample Size	214,551	158,105	157,200
Long-Term Effects if Immobile	-0.078	-0.149	-0.079
Long-Term Effects if Mobile	-0.056	-0.097	-0.057

Note: Regressors include experience, experience squared, a married and male dummy, a married and female dummy, number of kids if male, number of kids of female, and an urban dummy in addition to quarter, state, and individual fixed effects. The earnings and hours worked regressions also include tenure and union regressors and industry fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table IX: The Effects of Displacement by Location Mobility and Worker Characteristics

	9-20 Qtrs. Before	1-8 Qtrs. Before	0-8 Qtrs. After	9-16 Qtrs. After	17-24 Qtrs. After	Mobile and 9-20 Qtrs. Before	Mobile and 1-8 Qtrs. Before	Mobile and 0-8 Qtrs. After	Mobile and 9-16 Qtrs. After	Mobile and 17-24 Qtrs. After	Immobile's Long-Term Effect	Mobile's Long-Term Effect
Employment												
All	**0.024**	**0.072**	**-0.072**	-0.031	**-0.055**	-0.008	-0.027	-0.041	-0.019	0.015	-0.079	-0.056
	(0.012)	(0.014)	(0.018)	(0.019)	(0.022)	(0.019)	(0.027)	(0.036)	(0.036)	(0.041)		
Men	0.016	**0.037**	**-0.065**	-0.019	-0.028	0.022	0.030	0.027	0.033	**0.075**	-0.044	0.009
	(0.011)	(0.014)	(0.017)	(0.017)	(0.021)	(0.023)	(0.036)	(0.041)	(0.040)	(0.044)		
Women	0.033	**0.122**	**-0.077**	-0.041	**-0.087**	-0.041	**-0.089**	**-0.127**	-0.071	-0.055	-0.120	-0.134
	(0.024)	(0.027)	(0.035)	(0.038)	(0.043)	(0.031)	(0.038)	(0.063)	(0.065)	(0.081)		
HS Degree or less	**0.040**	**0.083**	**-0.070**	-0.033	**-0.049**	-0.027	-0.052	**-0.073**	-0.028	-0.016	-0.089	-0.078
	(0.015)	(0.018)	(0.021)	(0.023)	(0.025)	(0.023)	(0.032)	(0.045)	(0.043)	(0.050)		
Some college or more	-0.020	0.035	**-0.085**	-0.035	**-0.093**	**0.048**	0.040	0.055	0.030	**0.130**	-0.073	0.009
	(0.021)	(0.025)	(0.033)	(0.032)	(0.046)	(0.029)	(0.046)	(0.055)	(0.056)	(0.060)		
Layoffs	**0.036**	**0.067**	**-0.077**	**-0.041**	**-0.066**	-0.024	-0.024	-0.046	0.002	0.026	-0.102	-0.052
	(0.015)	(0.018)	(0.021)	(0.022)	(0.027)	(0.022)	(0.028)	(0.039)	(0.034)	(0.048)		
Plant closed	0.001	**0.081**	**-0.063**	-0.013	-0.035	0.026	-0.031	-0.027	-0.063	-0.004	-0.036	-0.066
	(0.020)	(0.023)	(0.033)	(0.033)	(0.033)	(0.039)	(0.065)	(0.083)	(0.091)	(0.084)		
No return restriction on mobility	**0.025**	**0.074**	**-0.071**	-0.028	**-0.052**	-0.010	-0.035	-0.041	-0.029	0.003	-0.077	-0.064
	(0.012)	(0.015)	(0.018)	(0.019)	(0.022)	(0.019)	(0.026)	(0.035)	(0.034)	(0.041)		
Earnings												
All	-0.022	-0.021	**-0.286**	**-0.175**	**-0.182**	0.062	0.070	**0.166**	0.107	0.117	-0.160	-0.105
	(0.023)	(0.028)	(0.036)	(0.036)	(0.043)	(0.047)	(0.062)	(0.075)	(0.083)	(0.091)		
Men	-0.010	-0.008	**-0.299**	**-0.182**	**-0.162**	0.076	0.099	**0.212**	0.159	0.148	-0.152	-0.080
	(0.031)	(0.033)	(0.046)	(0.042)	(0.048)	(0.065)	(0.089)	(0.099)	(0.098)	(0.104)		
Women	-0.035	-0.026	**-0.268**	**-0.174**	**-0.224**	0.056	0.040	0.131	0.096	0.158	-0.189	-0.087
	(0.034)	(0.048)	(0.057)	(0.065)	(0.086)	(0.072)	(0.085)	(0.119)	(0.157)	(0.183)		
HS Degree or less	-0.008	0.002	**-0.259**	**-0.133**	**-0.131**	0.057	0.042	0.089	0.035	0.019	-0.123	-0.161
	(0.028)	(0.036)	(0.042)	(0.044)	(0.049)	(0.053)	(0.076)	(0.090)	(0.103)	(0.109)		
Some college or more	-0.061	**-0.076**	**-0.338**	**-0.260**	**-0.310**	0.083	0.157	**0.377**	**0.299**	**0.430**	-0.249	-0.098
	(0.040)	(0.040)	(0.067)	(0.061)	(0.086)	(0.099)	(0.101)	(0.130)	(0.122)	(0.147)		
Layoffs	-0.008	0.000	**-0.303**	**-0.172**	**-0.156**	0.044	0.025	**0.175**	0.118	0.124	-0.148	-0.068
	(0.028)	(0.035)	(0.043)	(0.043)	(0.050)	(0.055)	(0.067)	(0.087)	(0.083)	(0.086)		
Plant closed	-0.047	-0.060	**-0.250**	**-0.172**	**-0.226**	0.095	0.162	0.147	0.077	0.053	-0.179	-0.221
	(0.039)	(0.047)	(0.060)	(0.061)	(0.075)	(0.090)	(0.139)	(0.152)	(0.209)	(0.259)		
No return restriction on mobility	-0.022	-0.019	**-0.289**	**-0.176**	**-0.172**	0.058	0.057	**0.166**	0.106	0.072	-0.150	-0.136
	(0.022)	(0.027)	(0.036)	(0.035)	(0.041)	(0.050)	(0.066)	(0.075)	(0.085)	(0.095)		

Note: All regressions include quarter, state, industry and individual fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficient.

Table X: The Effects of Displacement by Industry Mobility

	Employment	Log Earnings	Log Hours
17-20 Qtrs. Before Displacement	0.006	0.002	0.022
	(0.017)	(0.031)	(0.024)
13-16 Qtrs. Before Displacement	0.008	0.004	0.007
	(0.018)	(0.034)	(0.026)
9-12 Qtrs. Before Displacement	**0.035**	0.019	-0.017
	(0.018)	(0.033)	(0.025)
5-8 Qtrs. Before Displacement	**0.057**	0.020	0.028
	(0.019)	(0.041)	(0.026)
1-4 Qtrs. Before Displacement	**0.052**	0.018	0.027
	(0.020)	(0.038)	(0.027)
Qtr. of Displacement	**0.057**	**-0.450**	**-0.379**
	(0.021)	(0.058)	(0.046)
1-4 Qtrs. After Displacement	**-0.104**	**-0.192**	**-0.096**
	(0.024)	(0.050)	(0.032)
5-8 Qtrs. After Displacement	-0.002	**-0.100**	-0.019
	(0.023)	(0.047)	(0.031)
9-12 Qtrs. After Displacement	0.019	-0.064	0.022
	(0.022)	(0.049)	(0.032)
13-16 Qtrs. After Displacement	-0.002	-0.069	-0.019
	(0.023)	(0.049)	(0.033)
17-20 Qtrs. After Displacement	-0.019	**-0.128**	-0.042
	(0.027)	(0.052)	(0.036)
21-24 Qtrs. After Displacement	-0.044	**-0.118**	**-0.077**
	(0.034)	(0.052)	(0.041)
Mobile * 9-20 Qtrs. Before Displacement	-0.005	-0.034	-0.031
	(0.021)	(0.044)	(0.035)
Mobile*1-8 Qtrs. Before Displacement	0.001	-0.025	-0.045
	(0.025)	(0.052)	(0.041)
Mobile*0-8 Qtrs. After Displacement	-0.003	-0.055	**-0.083**
	(0.029)	(0.068)	(0.051)
Mobile*9-16 Qtrs. After Displacement	-0.006	-0.105	-0.070
	(0.028)	(0.069)	(0.049)
Mobile*17-24 Qtrs. After Displacement	-0.004	-0.014	-0.027
	(0.039)	(0.078)	(0.057)
R-Squared	0.2126	0.6179	0.3365
Sample Size	205,607	152,222	151,373
Long-Term Effects if Immobile	-0.060	-0.126	-0.081
Long-Term Effects if Mobile	-0.059	-0.106	-0.077

Note: Regressors include experience, experience squared, a married and male dummy, a married and female dummy, number of kids if male, number of kids of female, and an urban dummy in addition to quarter, state, and individual fixed effects. The earnings and hours worked regressions also include tenure and union regressors and industry fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table XI: The Effects of Displacement by Industry Mobility and Worker Characteristics

	9-20 Qtrs. Before	1-8 Qtrs. Before	0-8 Qtrs. After	9-16 Qtrs. After	17-24 Qtrs. After	Mobile and 9-20 Qtrs. Before	Mobile and 1-8 Qtrs. Before	Mobile and 0-8 Qtrs. After	Mobile and 9-16 Qtrs. After	Mobile and 17-24 Qtrs. After	Immobile's Long-Term Effect	Mobile's Long-Term Effect
Employment												
All	0.017	**0.054**	**-0.041**	0.008	-0.031	-0.005	0.000	-0.004	-0.007	-0.004	-0.048	-0.047
	(0.016)	(0.019)	(0.022)	(0.021)	(0.029)	(0.021)	(0.025)	(0.029)	(0.028)	(0.039)		
Men	**0.025**	0.030	**-0.040**	-0.004	-0.018	-0.013	0.023	-0.003	0.003	0.024	-0.043	-0.006
	(0.011)	(0.019)	(0.020)	(0.020)	(0.031)	(0.020)	(0.027)	(0.031)	(0.029)	(0.040)		
Women	0.010	**0.110**	-0.029	0.035	-0.037	-0.001	-0.049	-0.014	-0.027	-0.046	-0.047	-0.092
	(0.040)	(0.037)	(0.047)	(0.045)	(0.052)	(0.046)	(0.047)	(0.057)	(0.055)	(0.078)		
HS Degree or less	**0.041**	**0.063**	-0.029	0.011	-0.003	-0.034	-0.005	-0.038	-0.011	-0.057	-0.044	-0.067
	(0.017)	(0.024)	(0.026)	(0.027)	(0.029)	(0.024)	(0.031)	(0.034)	(0.033)	(0.044)		
Some college or more	**-0.059**	0.013	**-0.089**	-0.017	**-0.143**	**0.074**	0.026	**0.084**	0.014	**0.167**	-0.084	0.009
	(0.034)	(0.016)	(0.030)	(0.020)	(0.064)	(0.041)	(0.039)	(0.048)	(0.042)	(0.071)		
Displaced-Manufacturing	0.004	0.028	**-0.100**	-0.042	**-0.081**	0.018	0.020	0.039	0.054	0.079	-0.085	-0.024
	(0.016)	(0.020)	(0.031)	(0.032)	(0.045)	(0.034)	(0.044)	(0.056)	(0.049)	(0.059)		
Displaced-Non-manu.	0.022	**0.067**	-0.012	0.033	-0.004	-0.016	-0.010	-0.028	-0.036	-0.045	-0.026	-0.055
	(0.023)	(0.027)	(0.028)	(0.027)	(0.035)	(0.027)	(0.031)	(0.033)	(0.033)	(0.049)		
Layoffs	0.007	0.014	**-0.085**	-0.024	**-0.080**	0.016	0.041	0.038	0.021	0.053	-0.087	-0.050
	(0.018)	(0.015)	(0.019)	(0.017)	(0.033)	(0.025)	(0.026)	(0.030)	(0.028)	(0.045)		
Plant closed	0.034	**0.123**	0.032	0.064	0.058	-0.051	-0.068	-0.072	-0.043	-0.112	0.024	-0.037
	(0.031)	(0.041)	(0.047)	(0.049)	(0.047)	(0.038)	(0.050)	(0.059)	(0.057)	(0.070)		
No return restriction on mobility	0.009	**0.055**	**-0.052**	0.001	**-0.058**	0.010	-0.001	0.015	0.007	0.043	-0.067	-0.034
	(0.019)	(0.020)	(0.025)	(0.023)	(0.033)	(0.023)	(0.026)	(0.030)	(0.029)	(0.041)		
Earnings												
All	0.009	0.019	**-0.187**	-0.071	**-0.128**	-0.035	-0.026	-0.060	-0.106	-0.015	-0.137	-0.117
	(0.030)	(0.038)	(0.045)	(0.047)	(0.049)	(0.044)	(0.052)	(0.069)	(0.070)	(0.079)		
Men	-0.005	0.001	**-0.244**	**-0.133**	**-0.174**	0.030	0.022	0.010	0.015	0.139	-0.169	-0.060
	(0.038)	(0.047)	(0.054)	(0.058)	(0.061)	(0.060)	(0.069)	(0.091)	(0.082)	(0.090)		
Women	0.044	0.074	-0.074	0.055	-0.021	**-0.118**	-0.097	**-0.187**	**-0.319**	**-0.313**	-0.065	-0.260
	(0.055)	(0.064)	(0.082)	(0.078)	(0.086)	(0.068)	(0.080)	(0.107)	(0.121)	(0.156)		
HS Degree or less	0.029	0.040	**-0.174**	-0.050	**-0.099**	-0.033	-0.009	-0.038	-0.070	0.010	-0.128	-0.085
	(0.033)	(0.043)	(0.050)	(0.055)	(0.054)	(0.048)	(0.062)	(0.077)	(0.084)	(0.091)		
Some college or more	-0.058	-0.047	**-0.225**	-0.131	**-0.211**	-0.040	-0.068	-0.109	**-0.202**	0.079	-0.153	-0.034
	(0.066)	(0.078)	(0.099)	(0.090)	(0.105)	(0.094)	(0.095)	(0.142)	(0.123)	(0.154)		
Displaced-Manufacturing	-0.027	-0.037	**-0.259**	**-0.095**	**-0.204**	0.026	-0.002	0.041	-0.011	0.121	-0.177	-0.082
	(0.034)	(0.044)	(0.056)	(0.049)	(0.066)	(0.054)	(0.065)	(0.088)	(0.087)	(0.102)		
Displaced-Non-manu.	0.029	0.049	**-0.147**	-0.053	-0.084	-0.067	-0.046	-0.113	**-0.157**	-0.089	-0.113	-0.135
	(0.043)	(0.054)	(0.061)	(0.065)	(0.064)	(0.061)	(0.072)	(0.093)	(0.095)	(0.107)		
Layoffs	0.009	-0.010	**-0.264**	**-0.114**	**-0.172**	-0.037	0.001	-0.003	-0.060	0.050	-0.181	-0.094
	(0.036)	(0.044)	(0.053)	(0.056)	(0.058)	(0.056)	(0.065)	(0.084)	(0.079)	(0.086)		
Plant closed	0.022	0.083	-0.051	0.022	-0.032	-0.043	-0.089	-0.139	-0.206	-0.182	-0.054	-0.193
	(0.054)	(0.071)	(0.078)	(0.081)	(0.084)	(0.066)	(0.081)	(0.119)	(0.148)	(0.181)		
No return restriction on mobility	0.008	0.021	**-0.180**	-0.059	**-0.132**	-0.026	-0.025	-0.061	-0.103	-0.009	-0.140	-0.123
	(0.032)	(0.040)	(0.050)	(0.051)	(0.054)	(0.044)	(0.053)	(0.068)	(0.069)	(0.075)		

Note: All regressions include quarter, state, industry and individual fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table XII: The Effects of Displacement by Occupation Mobility

	Employment	Log Earnings	Log Hours
17-20 Qtrs. Before Displacement	-0.013	-0.008	0.009
	(0.014)	(0.025)	(0.019)
13-16 Qtrs. Before Displacement	-0.011	-0.008	-0.007
	(0.015)	(0.027)	(0.022)
9-12 Qtrs. Before Displacement	0.015	0.007	-0.029
	(0.014)	(0.028)	(0.021)
5-8 Qtrs. Before Displacement	**0.036**	0.014	0.009
	(0.013)	(0.034)	(0.023)
1-4 Qtrs. Before Displacement	**0.032**	0.012	0.006
	(0.013)	(0.032)	(0.025)
Qtr. of Displacement	**0.032**	**-0.433**	**-0.412**
	(0.015)	(0.055)	(0.046)
1-4 Qtrs. After Displacement	**-0.133**	**-0.180**	**-0.123**
	(0.020)	(0.046)	(0.031)
5-8 Qtrs. After Displacement	-0.027	**-0.089**	-0.046
	(0.018)	(0.041)	(0.031)
9-12 Qtrs. After Displacement	0.000	-0.065	0.000
	(0.016)	(0.041)	(0.028)
13-16 Qtrs. After Displacement	-0.022	**-0.075**	-0.044
	(0.018)	(0.042)	(0.030)
17-20 Qtrs. After Displacement	**-0.038**	**-0.129**	**-0.064**
	(0.022)	(0.047)	(0.033)
21-24 Qtrs. After Displacement	**-0.063**	**-0.122**	**-0.101**
	(0.030)	(0.047)	(0.037)
Mobile * 9-20 Qtrs. Before Displacement	**0.043**	-0.003	0.001
	(0.022)	(0.051)	(0.040)
Mobile*1-8 Qtrs. Before Displacement	**0.052**	-0.010	-0.002
	(0.029)	(0.056)	(0.044)
Mobile*0-8 Qtrs. After Displacement	**0.060**	-0.104	-0.037
	(0.032)	(0.075)	(0.055)
Mobile*9-16 Qtrs. After Displacement	0.039	-0.121	-0.029
	(0.031)	(0.079)	(0.056)
Mobile*17-24 Qtrs. After Displacement	0.040	-0.003	0.032
	(0.041)	(0.090)	(0.064)
R-Squared	0.2126	0.6181	0.3366
Sample Size	205,734	152,320	151,471
Long-Term Effects if Immobile	-0.060	-0.119	-0.092
Long-Term Effects if Mobile	-0.063	-0.119	-0.061

Note: Regressors include experience, experience squared, a married and male dummy, a married and female dummy, number of kids if male, number of kids of female, and an urban dummy in addition to quarter, state, and individual fixed effects. The earnings and hours worked regressions also include tenure and union regressors and industry fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Table XIII: The Effects of Displacement by Occupation Mobility and Worker Characteristics

	9-20 Qtrs. Before	1-8 Qtrs. Before	0-8 Qtrs. After	9-16 Qtrs. After	17-24 Qtrs. After	Mobile and 9-20 Qtrs. Before	Mobile and 1-8 Qtrs. Before	Mobile and 0-8 Qtrs. After	Mobile and 9-16 Qtrs. After	Mobile and 17-24 Qtrs. After	Immobile's Long-Term Effect	Mobile's Long-Term Effect
Employment												
All	-0.003	**0.034**	**-0.068**	-0.011	**-0.049**	**0.043**	**0.051**	**0.058**	0.038	0.038	-0.046	-0.051
	(0.013)	(0.013)	(0.016)	(0.016)	(0.024)	(0.022)	(0.029)	(0.032)	(0.031)	(0.041)		
Men	0.017	**0.032**	**-0.045**	0.003	-0.010	0.004	0.022	0.009	0.003	0.007	-0.027	-0.024
	(0.013)	(0.015)	(0.019)	(0.018)	(0.027)	(0.019)	(0.031)	(0.033)	(0.031)	(0.043)		
Women	-0.028	**0.047**	**-0.090**	-0.012	**-0.092**	**0.096**	**0.091**	**0.126**	0.079	0.076	-0.064	-0.084
	(0.025)	(0.022)	(0.031)	(0.031)	(0.046)	(0.048)	(0.053)	(0.060)	(0.060)	(0.082)		
HS Degree or less	0.014	**0.042**	**-0.068**	-0.005	-0.029	0.028	0.045	0.043	0.022	-0.005	-0.043	-0.076
	(0.014)	(0.017)	(0.021)	(0.021)	(0.026)	(0.025)	(0.034)	(0.037)	(0.036)	(0.047)		
Some college or more	-0.041	0.012	**-0.075**	-0.028	**-0.110**	0.064	0.051	0.086	0.063	**0.149**	-0.069	0.016
	(0.026)	(0.012)	(0.024)	(0.018)	(0.052)	(0.046)	(0.056)	(0.061)	(0.057)	(0.071)		
Displaced-Blue-collar Occ	0.024	0.028	**-0.081**	-0.016	-0.030	0.001	0.028	0.027	0.011	0.007	-0.054	-0.048
	(0.018)	(0.020)	(0.025)	(0.026)	(0.034)	(0.033)	(0.037)	(0.043)	(0.040)	(0.050)		
Displaced-White-collar Occ	-0.026	**0.040**	**-0.056**	-0.004	**-0.069**	**0.083**	**0.077**	**0.091**	0.066	0.074	-0.043	-0.052
	(0.018)	(0.016)	(0.022)	(0.019)	(0.035)	(0.030)	(0.044)	(0.046)	(0.047)	(0.066)		
Layoffs	0.009	**0.028**	**-0.068**	-0.008	**-0.053**	0.013	0.015	-0.001	-0.020	-0.006	-0.062	-0.081
	(0.016)	(0.014)	(0.018)	(0.017)	(0.031)	(0.024)	(0.028)	(0.031)	(0.029)	(0.045)		
Plant closed	-0.025	**0.046**	**-0.068**	-0.015	-0.037	**0.096**	**0.121**	**0.180**	**0.156**	0.125	-0.012	0.017
	(0.020)	(0.024)	(0.034)	(0.033)	(0.032)	(0.046)	(0.061)	(0.064)	(0.067)	(0.079)		
No return restriction on mobility	0.001	**0.038**	**-0.082**	-0.012	-0.045	0.026	0.031	**0.072**	0.031	0.023	-0.046	-0.049
	(0.011)	(0.014)	(0.019)	(0.019)	(0.029)	(0.021)	(0.025)	(0.029)	(0.028)	(0.039)		
Earnings												
All	-0.003	0.013	**-0.177**	**-0.075**	**-0.132**	-0.002	-0.010	-0.104	-0.122	-0.001	-0.129	-0.128
	(0.024)	(0.032)	(0.040)	(0.039)	(0.043)	(0.051)	(0.057)	(0.076)	(0.079)	(0.090)		
Men	0.004	-0.005	**-0.212**	**-0.111**	**-0.156**	0.013	0.037	-0.081	-0.043	0.133	-0.160	-0.040
	(0.034)	(0.043)	(0.051)	(0.053)	(0.058)	(0.065)	(0.071)	(0.099)	(0.087)	(0.093)		
Women	-0.007	0.064	**-0.118**	-0.011	-0.068	-0.014	-0.097	-0.145	**-0.256**	-0.313	-0.061	-0.360
	(0.034)	(0.045)	(0.066)	(0.055)	(0.068)	(0.081)	(0.091)	(0.118)	(0.155)	(0.201)		
HS Degree or less	0.010	0.047	**-0.161**	-0.036	**-0.107**	0.023	-0.019	-0.079	-0.114	0.044	-0.117	-0.096
	(0.026)	(0.038)	(0.047)	(0.047)	(0.050)	(0.053)	(0.064)	(0.078)	(0.090)	(0.098)		
Some college or more	-0.053	-0.087	**-0.232**	**-0.183**	**-0.198**	-0.116	-0.024	-0.182	-0.183	-0.203	-0.145	-0.232
	(0.047)	(0.054)	(0.071)	(0.067)	(0.081)	(0.135)	(0.123)	(0.197)	(0.171)	(0.215)		
Displaced-Blue-collar Occ	-0.002	-0.016	**-0.263**	**-0.124**	**-0.203**	0.026	0.039	0.017	0.026	**0.216**	-0.201	-0.011
	(0.033)	(0.042)	(0.055)	(0.055)	(0.064)	(0.070)	(0.080)	(0.095)	(0.105)	(0.105)		
Displaced-White-collar Occ	-0.012	0.034	**-0.101**	-0.027	-0.055	-0.024	-0.059	**-0.218**	**-0.267**	**-0.238**	-0.043	-0.257
	(0.033)	(0.045)	(0.054)	(0.053)	(0.055)	(0.072)	(0.078)	(0.116)	(0.114)	(0.141)		
Layoffs	0.003	0.006	**-0.236**	**-0.099**	**-0.149**	-0.019	-0.026	-0.071	-0.119	0.023	-0.152	-0.110
	(0.031)	(0.038)	(0.045)	(0.046)	(0.050)	(0.063)	(0.070)	(0.094)	(0.088)	(0.097)		
Plant closed	-0.010	0.035	-0.053	-0.009	-0.086	0.031	0.020	-0.168	-0.136	-0.063	-0.076	-0.170
	(0.033)	(0.054)	(0.071)	(0.067)	(0.078)	(0.083)	(0.092)	(0.123)	(0.161)	(0.191)		
No return restriction on mobility	0.006	0.025	**-0.185**	**-0.089**	**-0.164**	-0.021	-0.032	-0.061	-0.062	0.052	-0.170	-0.097
	(0.025)	(0.034)	(0.041)	(0.042)	(0.046)	(0.045)	(0.053)	(0.069)	(0.070)	(0.077)		

Note: All regressions include quarter, state, industry and individual fixed effects. Coefficients in bold are significant at the 10-percent level. Standard errors, adjusted for non-independence within individuals, are in parenthesis below the coefficients.

Appendix A: Industry of Displacement by New Industry

Industry of Displacement	Agriculture	Mining	Construction	Manufacturing	Trans./Comm.	Trade	FIRE	Services	Public Admin.	Total
Mining	0	0	3	1	0	2	0	1	0	7
	(0.00)	(0.00)	(42.86)	(14.29)	(0.00)	(28.57)	(0.00)	(14.29)	(0.00)	(100.00)
Construction	1	1	0	9	2	2	3	3	3	24
	(4.17)	(4.17)	(0.00)	(37.50)	(8.33)	(8.33)	(12.50)	(12.50)	(12.50)	(100.00)
Manufacturing	1	0	8	0	10	21	17	10	5	72
	(1.39)	(0.00)	(11.11)	(0.00)	(13.89)	(29.17)	(23.61)	(13.89)	(6.94)	(100.00)
Trans., communications	1	1	2	2	0	9	5	3	1	24
	(4.17)	(4.17)	(8.33)	(8.33)	(0.00)	(37.50)	(20.83)	(12.50)	(4.17)	(100.00)
Trade	2	0	5	17	4	0	19	4	1	52
	(3.85)	(0.00)	(9.62)	(32.69)	(7.69)	(0.00)	(36.54)	(7.69)	(1.92)	(100.00)
FIRE	0	0	2	6	6	11	0	6	3	34
	(0.00)	(0.00)	(5.88)	(17.65)	(17.65)	(32.35)	(0.00)	(17.65)	(8.82)	(100.00)
Services	0	0	1	6	0	10	6	0	3	26
	(0.00)	(0.00)	(3.85)	(23.08)	(0.00)	(38.46)	(23.08)	(0.00)	(11.54)	(100.00)
Total	5	2	21	41	22	55	50	27	16	239
	(2.09)	(0.84)	(8.79)	(17.15)	(9.21)	(23.01)	(20.92)	(11.30)	(6.69)	(100.00)

Appendix B: Occupation of Displacement by New Occupation

	New Occupation						
Occupation of Displacement	Professional, Managers	Sales	Clerical	Crafts, foremen	Operatives	Service	Total
Professional, Managers	0	6	13	6	8	3	36
	(0.00)	(16.67)	(36.11)	(16.67)	(22.22)	(8.33)	(100.00)
Sales	3	0	5	2	2	1	13
	(23.08)	(0.00)	(38.46)	(15.38)	(15.38)	(7.69)	(100.00)
Clerical	13	3	0	2	11	9	38
	(34.21)	(7.89)	(0.00)	(5.26)	(28.95)	(23.68)	(100.00)
Crafts, foremen	6	0	3	0	22	5	36
	(16.67)	(0.00)	(8.33)	(0.00)	(61.11)	(13.89)	(100.00)
Operatives	7	4	13	24	0	14	62
	(11.29)	(6.45)	(20.97)	(38.71)	(0.00)	(22.58)	(100.00)
Service	2	0	2	4	7	0	15
	(13.33)	(0.00)	(13.33)	(26.67)	(46.67)	(0.00)	(100.00)
Total	31	13	36	38	50	32	200
	(15.50)	(6.50)	(18.00)	(19.00)	(25.00)	(16.00)	(100.00)