# ONLINE APPENDIX:

## Job Transitions and Employee Earnings After Acquisitions: Linking Corporate and Worker Outcomes

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# A Robustness Checks

In Appendix A, we provide results from robustness tests discussed in Sections 4 – 6.

## A.1 Different Clustering

Our main firm-level results are based on clustering at the firm level and our main worker-level results are based on two-way clustering at both firm level and worker level. We also do robustness tests on the key firm-level and worker-level outcomes, where standard errors are clustered at the market level (defined at the four digit NAICS by commuting zone) for firm-level results, and are two-way clustered at the worker and market level for worker-level results. Figure A1 and Table A1 show that the results on employment, total revenue, profit margins, and worker-level earnings are similar to the main estimates. Note that the coefficient estimates on these outcomes are slightly different from our main estimates, even though we only change the way we cluster our standard errors. This is because some firms and workers have missing commuting zone information, so they are dropped from our analysis sample when we cluster the standard errors at the market level.

## A.2 Using Matched Control firms in Different Markets

Matching on size, province, and sector finds firms that would plausibly exhibit common trends in the absence of an M&A activity. However, it is possible that firms can be matched within the same market (defined at the four-digit NAICS industry by commuting zone), which is potentially concerning if M&As have impacts on local labor markets through increased concentration. If M&As have negative effects on firms in the same market, then the impact of M&As on firms and workers will be biased towards zero. To minimize this concern, we do a robustness check by matching firms within the same province, but across different markets, and find similar results to our main results where we allow M&A firms to be matched with control firms within the same market. Figure A2 and Table A2 show that the effects on the key firm-level and worker-level outcomes from this approach are qualitatively similar to our main estimates.

## A.3 Alternative Measures of Firm Performance

In Section 5, we show that profit margins for both treated and control firms decrease after M&As. We consider two alternative measures of firm performance used in the corporate finance and labor economics literature: (1) returns on assets, defined as net income divided by total assets, and

(2) EBITDA per worker. Figure A3 and Table A3 show that both return on assets and EBITDA per worker decrease for targets and acquirers after M&As, consistent with our results on profit margins. Therefore, we conclude that the decline in firm performance in the medium-run is robust and consistent across different measures.

## A.4 Outcomes in Levels (Replacing Missing Observations with Zeros)

We show results on the key outcomes, such as employment, revenue, average payrolls, and worker-level earnings, in logs. A potential concern with this approach is that we cannot account for firms and workers exiting the sample after M&As. This concern is especially relevant for target firms and for displaced workers from targets that might exit the sample. Although we find the the vast majority of target firms continue to operate independently and most displaced workers find a job at a different firm (see Figure A8), we run our main analyses in levels, replacing missing observations with zeros, to account for a small share of firms and workers who exit the sample after M&As. Figure A4 and Table A4 show that the main outcomes are qualitatively similar to the ones in logs.

## A.5 Aggregate Firm-level Outcomes Using Extended Sample

In Section 5, we show aggregate (targets and acquirers combined) firm-level outcomes. We repeat the same analysis by adding previously missing firms in target-acquirer pairs (mostly acquirers that were not matched to control firms) to our main analysis sample for this aggregate analysis, so that we can comprehensively look at the overall impacts of M&As on both targets and acquires combined. Figure A5 and Table A5 show that the results are qualitatively similar to the ones in Figure 3 and Table 3.

## A.6 Using Private Firms Only

Prior research points out that publicly listed firms engage in M&As more than private firms during merger waves, and that acquisitions can be efficiency improving, especially when buyers and sellers are publicly listed firms during on-the-wave mergers (Maksimovic et al., 2013). While the vast majority (96 percent) of firms that go through M&As in our matched sample are private, we repeat our analysis focusing only on private firms, since the effects of M&As on firm-level outcomes might be different between listed and private firms. Figure A6 and Table A6 show that the results on firm and worker outcomes are similar to our main results where we include publicly listed companies, implying that our results are robust to just focusing on private firms in our sample.

## A.7 AKM Assumptions

We test the main assumptions underlying the estimation of the AKM specification following Lachowska et al. (2020).

### A.7.1 Assumption 1: Sufficient Mobility

The firm wage premium in the AKM model is identified by workers who move between firms. For this reason, the sample formation strategy (and the underlying mobility pattern) need to exhibit sufficient mobility to allow the firm wage premiums to be estimated. In the average year during our sample period, roughly 18 workers per employer move to other firms. Among full-time workers, the average number of movers per employer is about 8. Across the entire sample, 77 percent of workers make at least one move to a different firm during our sample period. Therefore, the mobility rates in the sample we use to estimate the AKM model appear to be high and comparable to the mobility rate in the sample used by Lachowska et al. (2020).

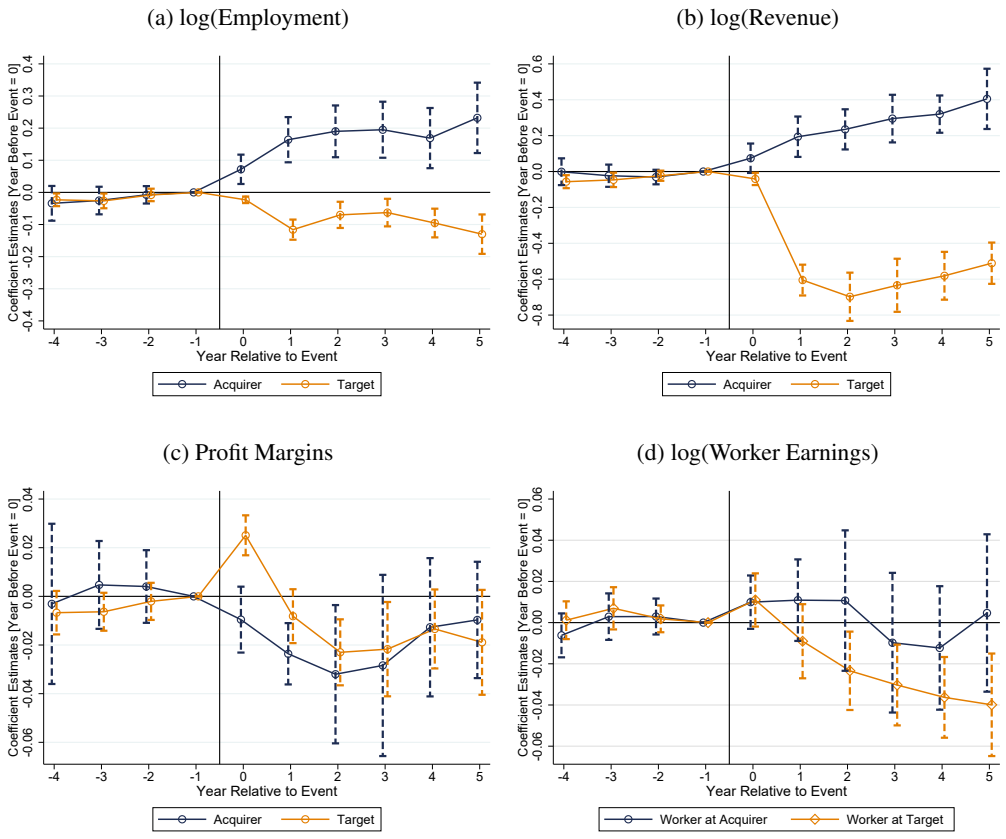
### A.7.2 Assumption 2: Exogenous Mobility

Since the firm wage premium in the AKM model is identified by workers who move between firms, the model requires an assumption of exogenous mobility of workers between firms. If this assumption fails, then the firm wage premium would be biased because the workers who move would be different than those who do not move. We test this using a similar test as in Lachowska et al. (2020) who builds off an exercise in Card et al. (2013). We group firms into quartiles by their estimated firm fixed effects and study the wages of workers who move between firms. If wages of movers are determined by the quartile of the firm effects symmetrically both when moving from high to low and low to high firms, this symmetry supports the assumption that mobility is exogenous. In contrast, if movers show systematic wage gains regardless of the fixed effects of the origin firms and destination firms, then the assumption of exogenous mobility could be violated.

In Figure A7, we plot the log wages of job movers for eight different quartile-to-quartile transitions. The top of the figure shows workers moving from the top (fourth) to the top quartile of firms. The wages of these workers are high and stay high. The same stable pattern can be seen for those going from the bottom (first) to the bottom quartile; their wages are low and stay relatively low. In contrast, for workers going from the fourth to the first quartile of firm fixed effects, their wages drop significantly. Symmetrically, those going from the first to the fourth quartile of firm fixed effects see a strong increase in wages. Because the wage quality of the firm drives the wage change of the moving worker, this provides support for the exogenous mobility assumption.

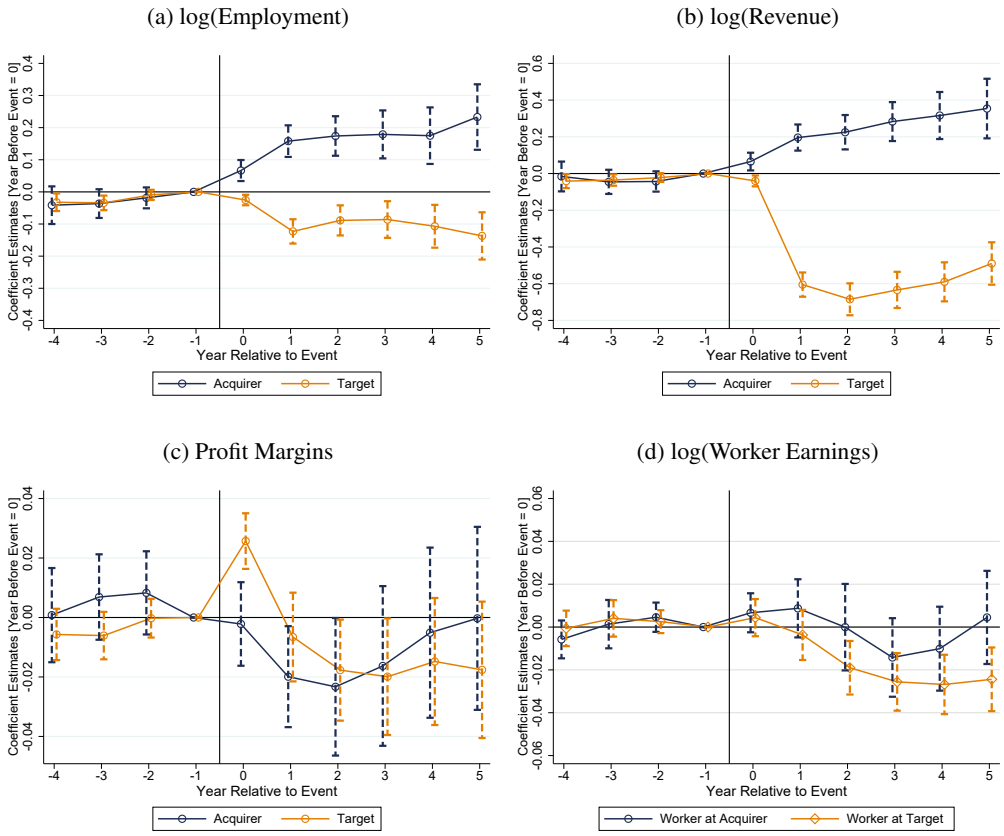
While the approximate symmetry of gains and losses implies that idiosyncratic match effects are not the main drivers behind changes in earnings of job movers in our entire sample, this symmetry may not hold for our analysis sample of M&A workers, thereby violating the exogenous mobility assumption and highlighting the importance of match effects within our sample of M&A firms and workers. A violation of the exogenous mobility assumption partly explains why we estimate the match effects to understand the role of worker-employer match quality behind changes in employee earnings after job transitions, following Woodcock (2015) and Lachowska et al. (2020).

Figure A1: Different Clustering



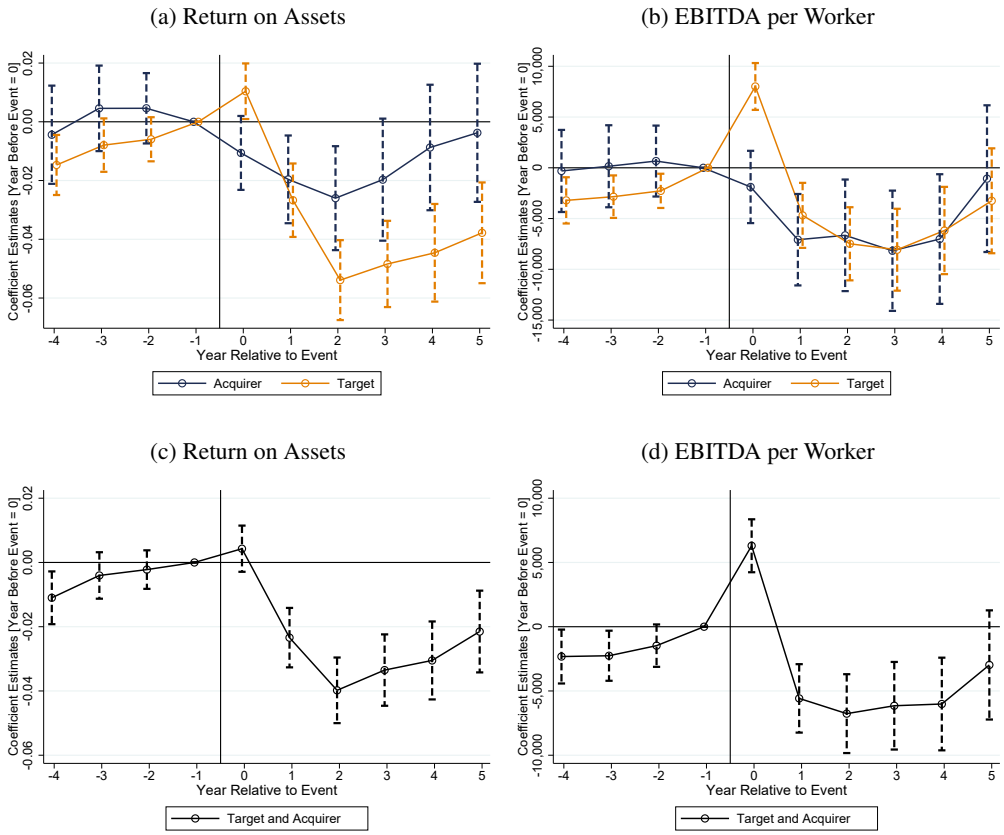

*Notes*: These figures display event-study estimates for the impact of M&As on the main firm-level and worker-level outcomes. Panel (a) shows the estimates for log of employment. Panel (b) shows the estimates for log of total revenue. Panel (c) shows the estimates for profit margins. Panel (d) shows the estimates for worker-level earnings. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the market-level (by 4-digit NAICS × commuting zone) for Panels (a) – (c) and at the worker and market level for Panel (d). The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure A2: Matched Control Firms in Different Markets



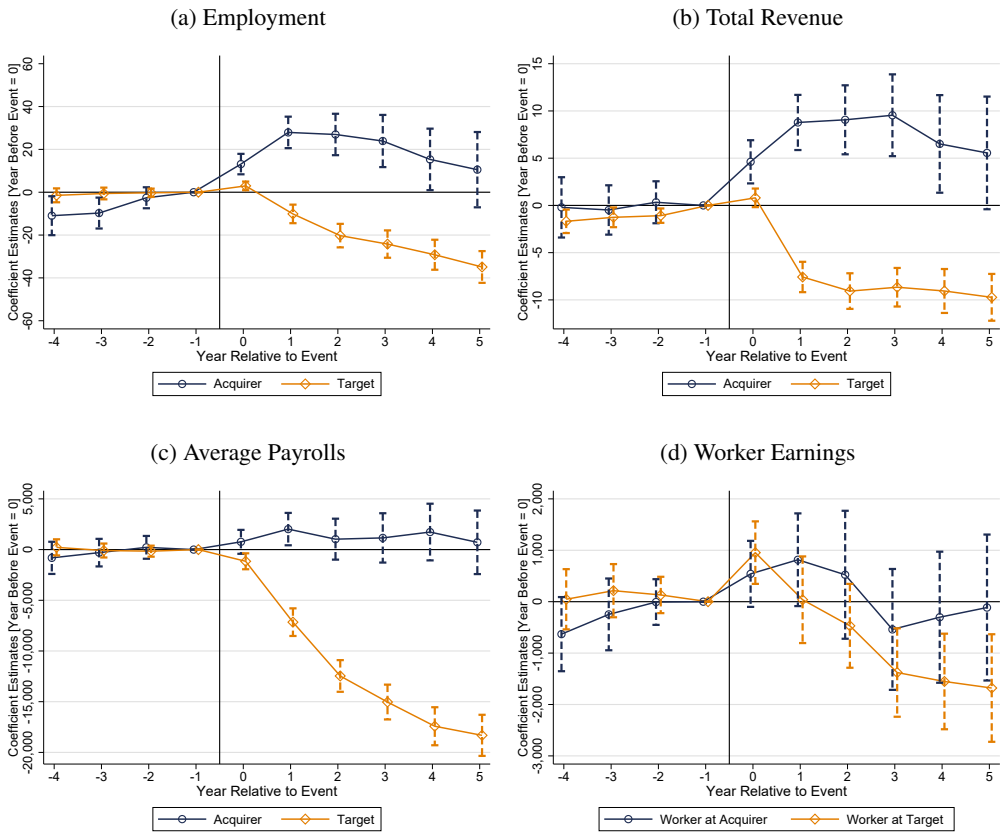

*Notes*: These figures display event-study estimates for the impact of M&As on the main firm-level and worker-level outcomes. For this analysis, we implement the same matching procedure (described in Section 4), except that we restrict M&A firms to be at different markets (defined by 4-digit NAICS × commuting zone) from matched control firms. Panel (a) shows the estimates for log of employment. Panel (b) shows the estimates for log of total revenue. Panel (c) shows the estimates for profit margins. Panel (d) shows the estimates for worker-level earnings. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm level for Panels (a) – (c) and at the worker and firm level for Panel (d). The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure A3: Alternative Measures of Firm Performance



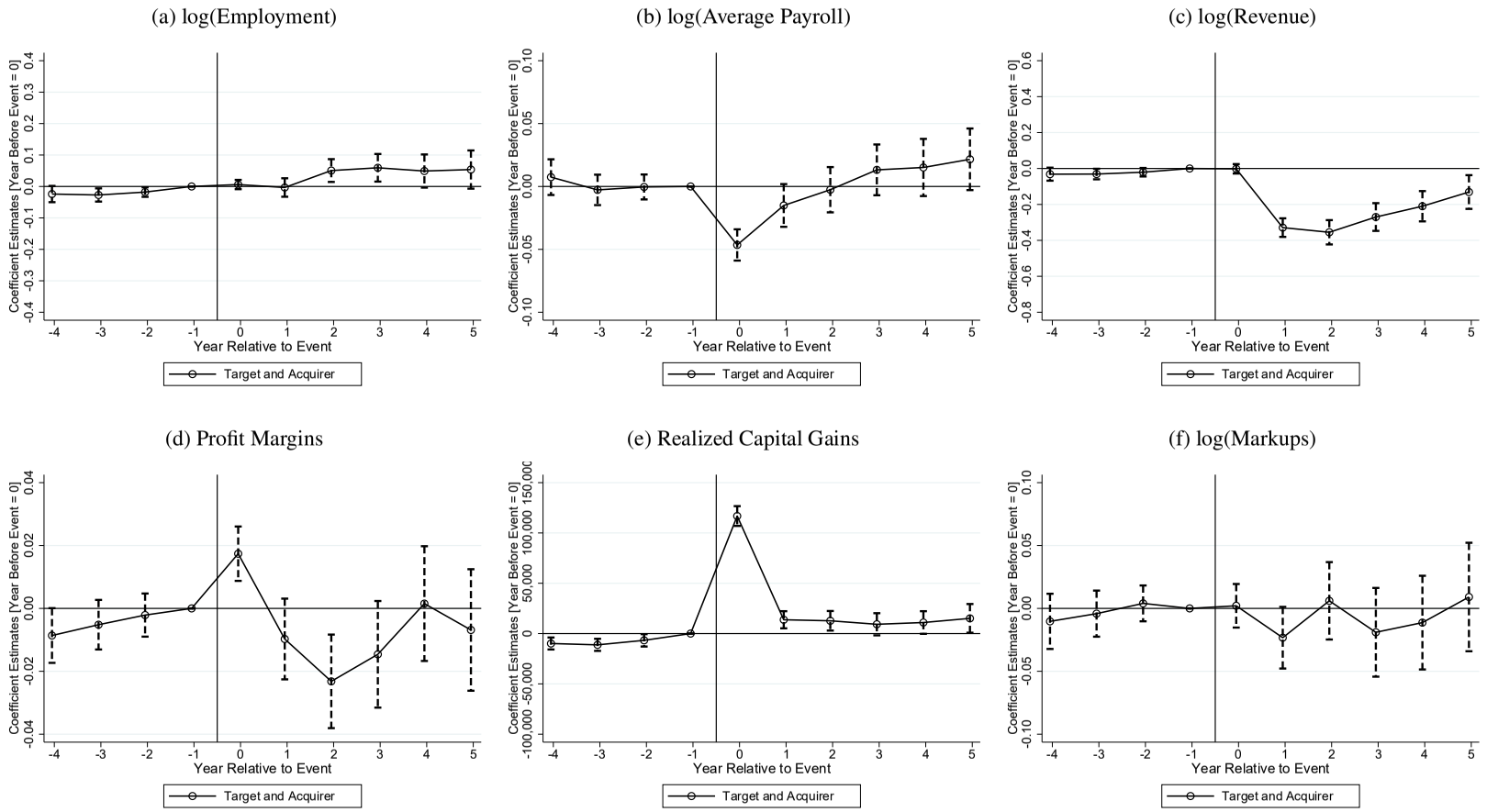

*Notes*: These figures display event-study estimates for the impact of M&As on firm performance using two alternative measures. Panel (a) shows the estimates for return on assets, defined as net income divided by total assets, separately for targets and for acquirers. Panel (b) shows the estimates for EBITDA per worker, separately for targets and for acquirers. Panel (c) and (d) show the estimates for return on assets and EBITDA per worker, respectively, for targets and acquirers combined. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure A4: Outcomes in Levels (Replacing Missing with Zeros)



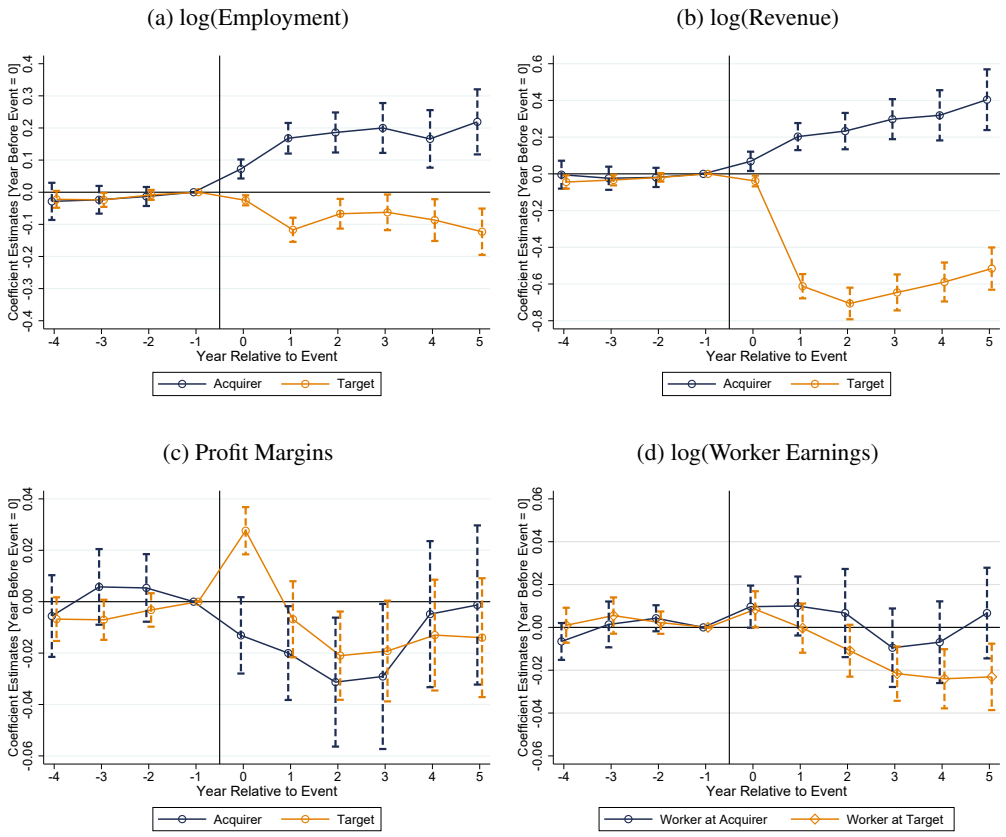

*Notes*: These figures display event-study estimates for the impact of M&As on the main firm-level and worker-level outcomes in levels, where we replace missing observations with zeros if the firms or workers exit the sample. Panel (a) shows the estimates for number of employees. Panel (b) shows the estimates for total revenue. Panel (c) shows the estimates for average payrolls. Panel (d) shows the estimates for worker-level earnings. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm level for Panels (a) – (c) and at the worker and firm level for Panel (d). The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure A5: Aggregate Firm Size and Performance After M&As



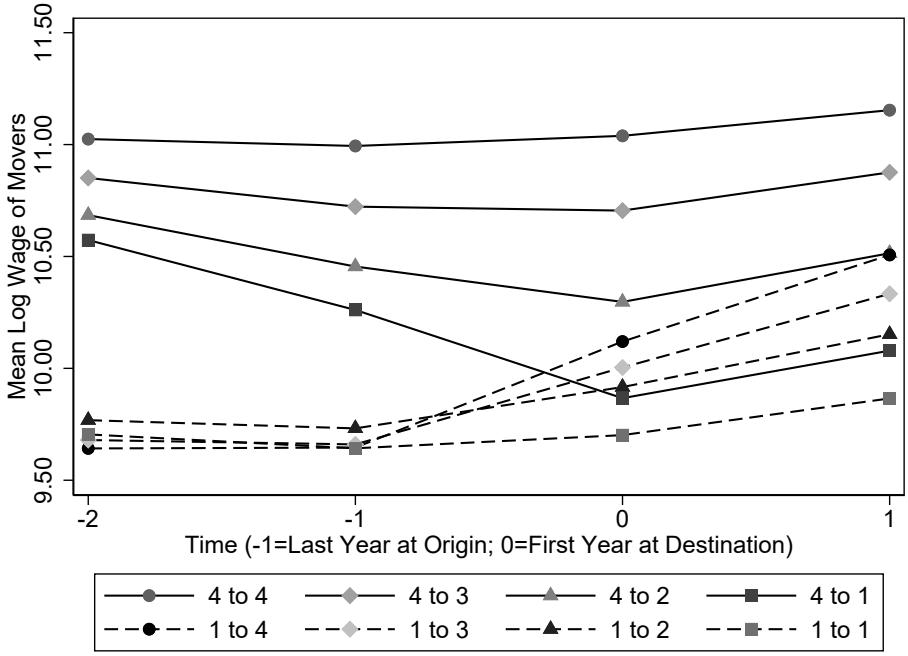

*Notes*: These figures display event-study estimates for the impact of M&As on aggregate firm-level (targets and acquirers combined) outcomes, where we add previously missing firms in target-acquirer pairs (mostly acquirers that were not matched to control firms) to our main analysis sample. Panel (a) shows the estimates for log of employment. Panel (b) shows the estimates for log of total revenue. Panel (c) shows the estimates for profit margins. Panel (d) shows the estimates for worker-level earnings. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm-level for Panels (a) – (c) and at the worker and firm level for Panel (d). The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure A6: Private Firms Only




*Notes*: These figures display event-study estimates for the impact of M&As on the main firm-level and worker-level outcomes only for private firms/workers in the matched sample. In our matched sample, 96 percent of firms are private throughout the sample period. Panel (a) shows the estimates for log of employment. Panel (b) shows the estimates for log of total revenue. Panel (c) shows the estimates for profit margins. Panel (d) shows the estimates for worker-level earnings. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm level for Panels (a) – (c) and at the worker and firm level for Panel (d). The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

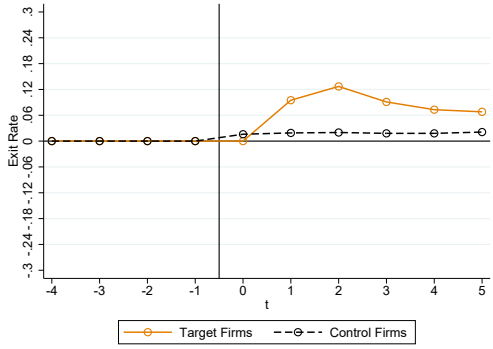
Figure A7: Exogenous Mobility Assumption



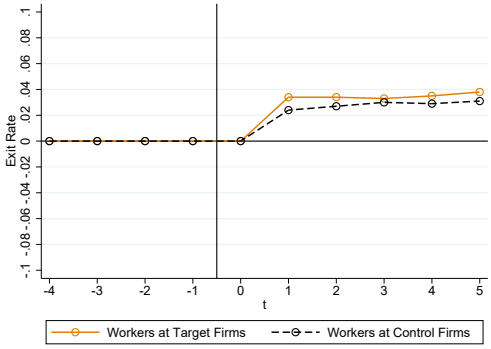

*Notes*: This figure reports the estimates of the average log earnings of movers for the four-year period around their transition. The estimates are classified based on the quartile of firm effects at origin firms (year = -1) and destination firms (year = 0).

Figure A8: Probability of Exit for Target Firms and Workers

(a) Firm Exit Rate




(b) Worker Exit Rate




*Notes*: Panel (a) displays the exit rate of firms in the matched sample, separately for target firms and their control firms. After the event, the probability of exiting the sample increases by 6.9 percentage points (SE = 0.002) for target firms relative to control firms on average. Panel (b) displays the exit rate of workers in the matched sample, separately for workers at target firms and for their control workers. After the event, the probability of exiting the sample increases by 0.5 percentage points (SE = 0.000) for target workers relative to their control workers on average.

Table A1: Different Clustering

| | (1) log(Employment) | (2) log(Revenue) | (3) Profit Margins | (4) log(Earnings) |
|---|---|---|---|---|
| Target | -0.083*** | -0.512*** | -0.010* | -0.021*** |
| | (0.011) | (0.049) | (0.005) | (0.008) |
| Mean at t = -1 | 3.97 | 16.35 | 0.01 | 11.02 |
| Adj. R squared | 0.872 | 0.820 | 0.361 | 0.650 |
| Firm/Worker-Year Obs. | 80,020 | 81,790 | 82,290 | 1,954,480 |
| Acquirer | 0.170*** | 0.254*** | -0.019** | 0.002 |
| | (0.035) | (0.048) | (0.009) | (0.012) |
| Mean at t = -1 | 4.54 | 17.00 | 0.02 | 11.03 |
| Adj. R squared | 0.888 | 0.857 | 0.355 | 0.642 |
| Firm/Worker-Year Obs. | 27,840 | 27,860 | 28,040 | 1,296,770 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on the main firm-level and worker-level outcomes. The outcome variables in column (1) to (4) are log of employment, log of total revenue, profit margins, and log of worker-level earnings. The standard errors of the firm-level estimates are clustered at the market level (defined by 4-digit NAICS $\times$ commuting zone). The standard errors of the worker-level estimates are two-way clustered at the worker and market level. Note that the coefficient estimates also changed from clustering at the market-level because the information on commuting zone is missing for a small share of firms and workers, resulting in a slightly different sample compared to our main analysis sample.

Table A2: Matched Control Firms in Different Markets

| | (1) log(Employment) | (2) log(Revenue) | (3) Profit Margins | (4) log(Earnings) |
|---|---|---|---|---|
| Target | -0.094*** | -0.507*** | -0.008 | -0.016*** |
| | (0.021) | (0.035) | (0.006) | (0.005) |
| Mean at t = -1 | 3.97 | 16.36 | 0.02 | 11.01 |
| Adj. R squared | 0.873 | 0.821 | 0.352 | 0.739 |
| Firm/Worker-Year Obs. | 79,290 | 81,370 | 81,900 | 1,960,640 |
| Acquirer | 0.164*** | 0.240*** | -0.011 | -0.001 |
| | (0.028) | (0.040) | (0.008) | (0.007) |
| Mean at t = -1 | 4.55 | 17.02 | 0.02 | 11.02 |
| Adj. R squared | 0.887 | 0.857 | 0.357 | 0.731 |
| Firm/Worker-Year Obs. | 27,670 | 27,780 | 27,960 | 1,282,810 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on the main firm-level and worker-level outcomes. For this analysis, we implement the same matching procedure (described in Section 4), except that we restrict M&A firms to be at different markets (defined by 4-digit NAICS × commuting zone) from matched control firms. The outcome variables in column (1) to (4) are log of employment, log of total revenue, profit margins, and log of worker-level earnings. The standard errors of firm-level estimates are clustered at the firm level. The standard errors of worker-level estimates are two-way clustered at the worker and firm level.

Table A3: Difference-in-differences Estimates on Firm Performance

| | (1) Return on Assets | (2) EBITDA per Worker |
|---|---|---|
| Target | -0.033*** | -3,609*** |
| | (0.005) | (13,434) |
| Mean at t = -1 | 0.07 | 15,557 |
| Adj. R squared | 0.387 | 0.431 |
| Firm-Year Obs. | 84,110 | 79,270 |
| Acquirer | -0.015** | -5,315*** |
| | (0.007) | (2013) |
| Mean at t = -1 | 0.05 | 17,261 |
| Adj. R squared | 0.421 | 0.463 |
| Firm-Year Obs. | 28,540 | 27,500 |
| Target and Acquirer | -0.024*** | -3,530*** |
| | (0.004) | (1,159) |
| Mean at t = -1 | 0.06 | 17,554 |
| Adj. R squared | 0.396 | 0.440 |
| Firm-Year Obs. | 127,600 | 119,060 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on firm performance using alternative measures. The outcome variables in column (1) and (2) are return on assets (defined as net income divided by total assets) and EBITDA per worker. The standard errors are clustered at the firm level.

Table A4: Outcomes in Levels (Replacing Missing with Zeros)

| | (1) Employment | (2) Revenue | (3) Average Payrolls | (4) Earnings |
|---|---|---|---|---|
| Target | -19.288*** | -7,214,683*** | -11,925*** | -681* |
| | (2.401) | (821,629) | (657) | (353) |
| Mean at t = -1 | 105.23 | 34,450,250 | 50,380 | 70,625 |
| Adj. R squared | 0.831 | 0.806 | 0.695 | 0.790 |
| Firm/Worker-Year Obs. | 89,440 | 93,600 | 89,300 | 2,026,430 |
| Acquirer | 19.632*** | 7,345,470*** | 1,234 | 154 |
| | (4.680) | (1,670,150) | (890) | (465) |
| Mean at t = -1 | 187.30 | 62,300,425 | 52,742 | 70,046 |
| Adj. R squared | 0.849 | 0.829 | 0.715 | 0.793 |
| Firm/Worker-Year Obs. | 30,070 | 30,690 | 30,000 | 1,345,330 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on the firm-level and worker-level outcomes in levels, where we replace missing observations with zeros if the firms or the workers exit the sample. The outcome variables in column (1) to (4) are employment, total revenue, average payroll, and worker-level earnings. The standard errors of firm-level estimates are clustered at the firm level. The standard errors of worker-level estimates are two-way clustered at the worker and firm level.

Table A5: Difference-in-differences Estimates on Aggregate Firm Outcomes

| | (1) log(Employment) | (2) log(Average Payrolls) | (3) log(Revenue) | (4) Profit Margins | (5) Realized Capital Gains | (6) log(Markups) |
|---|---|---|---|---|---|---|
| Target and Acquirer | 0.036** | -0.002 | -0.216*** | -0.006 | 29,757*** | -0.006 |
| | (0.017) | (0.007) | (0.028) | (0.005) | (3,501) | (0.012) |
| Mean at t = -1 | 4.27 | 10.71 | 16.57 | 0.01 | 41,821 | 0.42 |
| Adj. R squared | 0.885 | 0.792 | 0.83 | 0.366 | 0.255 | 0.758 |
| Firm-Year Obs. | 121,320 | 121,240 | 124,630 | 125,670 | 81,980 | 71,570 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on aggregate firm-level (targets and acquirers combined) outcomes, where we add previously missing firms in target-acquirer pairs (mostly acquirers that were not matched to control firms) to our main analysis sample. The outcome variables in column (1) to (6) are log of employment, log of average payroll, log of total revenue, profit margins, owners' realized capital gains aggregated at the firm level, and log of markups. The standard errors are clustered at the firm level.

Table A6: Private Firms Only

| | (1) log(Employment) | (2) log(Revenue) | (3) Profit Margins | (4) log(Earnings) |
|---|---|---|---|---|
| Target | -0.080*** | -0.518*** | -0.008 | -0.012** |
| | (0.021) | (0.034) | (0.006) | (0.005) |
| Mean at t = -1 | 3.97 | 16.36 | 0.02 | 11.01 |
| Adj. R squared | 0.873 | 0.82 | 0.352 | 0.739 |
| Firm/Worker-Year Obs. | 78,370 | 80,430 | 80,910 | 1,990,940 |
| Acquirer | 0.169*** | 0.254*** | -0.017** | 0.003 |
| | (0.028) | (0.042) | (0.008) | (0.007) |
| Mean at t = -1 | 4.56 | 17.00 | 0.02 | 11.02 |
| Adj. R squared | 0.893 | 0.862 | 0.354 | 0.732 |
| Firm/Worker-Year Obs. | 26,410 | 26,520 | 26,670 | 1,308,270 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on the main firm-level and worker-level outcomes using only private firms in the matched sample. In our matched sample, 96 percent of firms are private throughout the sample period. The outcome variables in column (1) to (4) are log of employment, log of total revenue, profit margins, and log of worker-level earnings. The standard errors of firm-level estimates are clustered at the firm level. The standard errors of worker-level estimates are two-way clustered at the worker and firm level.

Table A7: Mean Log Wage Before and After Employer Change by Quartile of Mean Workers' Wages at Origin and Destination Firms

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | | **Mean Log Wage of Movers** | | | | **Change from t = -2 to t=+1** | |
| Origin to Destination Quartile | Number of Observations | Two Years Before | One Year Before | One Year After | Two Year After | Unadjusted | Adjusted |
| 1 to 1 | 1,355,190 | 9.70 | 9.64 | 9.70 | 9.87 | 0.16 | 0.00 |
| 1 to 2 | 834,130 | 9.77 | 9.73 | 9.92 | 10.15 | 0.38 | 0.22 |
| 1 to 3 | 429,280 | 9.68 | 9.66 | 10.00 | 10.33 | 0.65 | 0.49 |
| 1 to 4 | 306,100 | 9.64 | 9.65 | 10.12 | 10.51 | 0.86 | 0.70 |
| 2 to 1 | 384,560 | 10.05 | 9.89 | 9.80 | 9.99 | -0.06 | -0.18 |
| 2 to 2 | 1,110,570 | 10.30 | 10.22 | 10.26 | 10.42 | 0.12 | 0.00 |
| 2 to 3 | 777,090 | 10.38 | 10.33 | 10.44 | 10.63 | 0.26 | 0.14 |
| 2 to 4 | 383,820 | 10.27 | 10.23 | 10.48 | 10.77 | 0.51 | 0.39 |
| 3 to 1 | 160,360 | 10.30 | 10.05 | 9.82 | 10.03 | -0.27 | -0.38 |
| 3 to 2 | 429,880 | 10.51 | 10.35 | 10.31 | 10.50 | -0.01 | -0.12 |
| 3 to 3 | 1,009,290 | 10.66 | 10.61 | 10.65 | 10.77 | 0.11 | 0.00 |
| 3 to 4 | 956,990 | 10.72 | 10.70 | 10.79 | 10.92 | 0.20 | 0.09 |
| 4 to 1 | 97,140 | 10.57 | 10.26 | 9.87 | 10.08 | -0.49 | -0.62 |
| 4 to 2 | 187,550 | 10.68 | 10.45 | 10.30 | 10.51 | -0.17 | -0.30 |
| 4 to 3 | 413,630 | 10.85 | 10.72 | 10.71 | 10.88 | 0.03 | -0.10 |
| 4 to 4 | 1,250,900 | 11.02 | 10.99 | 11.04 | 11.15 | 0.13 | 0.00 |

*Notes*: This table reports the average of log of earnings for workers who move and are observed for at least two years prior to a job transition, and for two years after. We define quartiles based on the average earnings of coworkers at the origin firm in the year prior to transition, and at the destination firm in the year after. The adjusted earnings change is estimated as the average change for each origin-destination group, minus the average change for switchers from the same origin quartile who remain in the same quartile.

Table A8: Characteristics of Unmatched M&A Firms

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Acquirer** | | **Target** | |
| | Without Restriction | With Restriction | Without Restriction | With Restriction |
| *Panel A: Firm Characteristics* | | | | |
| Total Revenue | 16 | 60 | 12 | 30 |
| Number of Employees | 171 | 342 | 91 | 187 |
| Average Wage Bill | 46,749 | 44,023 | 46,029 | 42,188 |
| Number of Firms | 2,690 | 640 | 4,560 | 1,420 |
| *Panel B: Sectors (Firms)* | | | | |
| Construction | 0.02 | 0.01 | 0.03 | 0.03 |
| Manufacturing | 0.06 | 0.15 | 0.09 | 0.13 |
| Wholesale | 0.04 | 0.05 | 0.06 | 0.08 |
| Retail | 0.02 | 0.03 | 0.04 | 0.03 |
| Transportation | 0.02 | 0.03 | 0.03 | 0.06 |
| Information | 0.05 | 0.14 | 0.09 | 0.18 |
| Services | 0.18 | 0.16 | 0.26 | 0.20 |
| Other Sectors | 0.62 | 0.43 | 0.41 | 0.30 |

*Notes*: This table reports descriptive statistics on M&A firms excluded from the matched sample, measured in one year prior to the event. Columns (1) and (2) report these statistics for acquiring firms and column (3) and (4) report these statistics for target firms. We use the following restrictions for matching: (1) firms must have at least 10 employees in one year prior to the event, (2) firms must not have any missing values for matching variables such as total revenue, average payrolls, age, sector, and province in one year prior to the event. Column (1) and (3) report these statistics for all unmatched M&A firms, and columns (2) and (4) report these statistics for unmatched M&A firms satisfying these restrictions. Panel A reports characteristics of firms such as total revenue, number of employees, and average payroll. Panel B reports the distribution of firms across 2-digit NAICS sectors. Other sectors include (1) Agriculture, forestry, and fishing, (2) Mining, quarrying, and oil and gas extraction, (3) Utilities, (4) Real estate and rental and leasing, (5) Arts, entertainment and recreation, (6) Accommodation and food services, (7) Other services, and (8) Public administration.

# B Additional Heterogeneity Results

In Appendix B, we provide heterogeneity results in addition to those discussed in Section 6. Here, we focus on target workers to see whether alternative mechanisms can explain the decline in their earnings after M&As. For most of the heterogeneity results, we separately look at stayers at targets and job movers from targets to get a better sense where the effects come from.

## B.1 By Local vs. National M&As

While checking common pre-trends is reassuring for a causal interpretation when implementing a difference-in-differences design, contemporaneous shocks that occur with M&A events could still bias our results. For example, there could be a negative demand shock that affects a commuting zone and causes both a decline in employment and an increase in M&A activities as firms get purchased before they shut down. In this case, M&A activities are correlated with shocks that decrease labor demand. We can also have the opposite scenario.

We address this concern by also looking at M&As that are less likely to have been triggered by local economic conditions of the firm. Specifically, we consider the impact of national M&As that occur among domestic firms with multiple establishments across different commuting zones. The intuition is that these changes in ownership are less likely to be driven by the local economic conditions of the firms or workers. Figure B1 and Table B1 show that the effect of local M&As on earnings of target workers is statistically indistinguishable from the effect of national M&As on the same outcome. Therefore, the decline in earnings of workers at target firms is unlikely driven by local economic conditions of firms where M&A activities occur.

## B.2 By Partial Acquisitions vs. Mergers

In our analysis sample, roughly 80 percent of M&A events are partial acquisitions (75 percent for the whole M&A events). In other words, the vast majority of M&A events in Canada (and in North America) involves an acquirer purchasing a part of a target's businesses. It is possible that a wage decline is larger (or smaller) in case of a full merger, where there is a complete transfer of ownership. We explore whether impacts on worker earnings are larger in case of a merger, compared to a partial acquisition. We examine these impacts separately for stayers and job movers, so that we can see in which group the effects are concentrated. In Figure B2 and Table B2, we find that decreases in workers' earnings in target firms where M&As involve mergers were not larger than decreases in workers' earnings where M&As involve partial acquisitions, suggesting that our

results are not driven by the fact the majority of our M&A events involves partial acquisitions. In other words, both merger and partial acquisition events create job separations of workers from target firms, resulting in a wage loss that we observe in the data.

## B.3 By Within vs. Across Labor Markets

We explore whether impacts on worker earnings are larger in markets where merging firms are located in the same labor market (defined at the four-digit industry by commuting zone level), following Prager and Schmitt (2021). Once again, we look at these impacts separately for stayers and job movers, so that we can see where the effects come from. In Figure B3 and Table B3, we find that decreases in workers' earnings in target firms where M&As occur within the same market were not larger than decreases in workers' earnings where M&As occur across different markets, suggesting a limited role for the change in concentration in explaining the change in worker earnings after M&As.

## B.4 Distribution of HHI Across Markets

Before we assess the heterogeneity based on the initial level of concentration (measured in Herfindahl-Hirschman Index) in labor markets, we examine the distribution of labor market concentration across different markets (defined at the four-digit industry by commuting zone level) in our data. Panel (a) in Figure B4 shows that the distribution of HHI across the entire labor market is a bit skewed towards the left, with some spikes around the middle and at the very right tail. Column (1) in Table B4 shows that the average and median HHI are 0.38 and 0.28 across the entire labor market in Canada during our sample, with roughly 12 percent of labor markets have a single employer in each market. Focusing on labor markets in the entire sample with any M&A event during our sample period, however, the distribution becomes a lot more left-skewed, with only 3 percent of labor markets having a single firm, as shown in panel (b) of Figure B3. Column (2) of Table B4 shows that the average and median HHI are 0.264 and 0.175. These statistics become even smaller (to 0.138 and 0.069, respectively, as shown in Column (3) of Table B4) when we zoom in on labor markets with any M&A event in our matched analysis sample, with less than one percent of labor markets having a single employer. Therefore, while the labor markets in the entire sample are reasonably concentrated, the markets in our analysis sample are not very concentrated on average to begin with, which can explain why M&A events in our analysis sample have little impacts on concentration in our setting.

## B.5 By Initial Level of Concentration

Our findings on the decreases in employment and worker-level earnings in target firms can be potentially rationalized by an increase in monopsony power of firms through increased concentration. Prager and Schmitt (2021) and Arnold (2021) study this channel in the U.S. context and find that M&A events that generate large shifts in concentration result in market-level declines in earnings. While this channel may still be a factor for a subset of the M&A events we study in Canada, we rule it out as being the only factor determining wage losses.

In particular, we find that 99 percent of M&A events have a zero predicted change in local labor-market concentration. This is consistent with the description on the distribution of HHI in our analysis sample in the previous subsection. In contrast, Prager and Schmitt (2021) and Arnold (2021) isolate M&A events with statistically significant increases in concentration.

To examine this in more detail, in Figure B5 and Table B5, we turn to a metric that antitrust authorities consider: the initial concentration level. To study this channel, we split the analysis sample by quintiles in the HHI measured in one year before the event. In both the high-concentration markets (fifth quintile) and the low-concentration markets (first quintile), we find similar levels of declines in earnings of either stayers at or job movers from target firms.[21] This is not surprising given most of these events do not actually increase concentration in the local labor market. Furthermore, Columns (3) and (4) of Table B4 show that these results hold even if we restrict our sample to be M&A events that happen within the same labor market, so that the change in market power would be more direct and meaningful.

Taken together, these results, along with the results from Section B3, suggest that increased monopsony power due to changes in local labor-market concentration or outside options is unlikely to be the primary driver of declines in worker earnings in our setting.[22]

## B.6 By Initial Level of (flows-adjusted) Concentration

In the previous subsection, we show our estimates on worker earnings, separately for markets with low level (below the first quintile) of HHI and for markets with high level (above the last quintile)

[21] Given that the change in concentration after M&As was close to zero for about 99 percent of labor markets in our sample, cutting our analysis sample based on the predicted change in HHI after M&As, as in Arnold (2021), is not meaningful in our setting due to the lack of variation in the predicted change in HHI.

[22] Even if the results are not driven by changes in concentration, changes in bargaining power of workers may be independent of concentration changes. For example, He and le Maire (2022) finds that M&A events in Denmark result in high-wage managers being replaced in target firms. Such a change in management may result in shifts in bargaining power of workers at target firms. However, a change in bargaining power through a change in management is only relevant for incumbent or new workers at target firms, and thus is unlikely to explain the decline in earnings of workers leaving target firms.

of HHI measured in one year before the event. A standard Herfindahl-Hirschmann Index (HHI) takes as given the definition of the market and then computes

$$HHI = \sum_j s_j^2, \tag{B1}$$

as the measure of concentration. We describe a flows-adjusted concentration measure that takes into account transitions across markets, following Arnold (2021). To begin, let market $m$ be defined by the interaction between 4-digit NAICS and commuting zone. The flows-adjusted concentrated measure (denoted $C$) requires computing transition rates across markets. While, in theory, transition rates across markets may change, we instead choose to pool the entire sample in order to retrieve a consistent and more precise measure of the rate of transitions across markets. The share of firm $j$ in market $m$ is given by:

$$\tilde{s}_{jm} = \frac{l_{jm}}{\sum_k \alpha_{m\to k} L_k} \tag{B2}$$

where

$$\alpha_{m\to k} = \frac{P(k|m)}{P(m|m)} \frac{L_m}{L_k} \tag{B3}$$

where $P(k|m)$ is the probability an individual from market $m$ transitions to market $k$ conditional on experiencing a transition. The intuition behind this formulation is that jobs in other markets likely provide viable options for workers. Arnold (2021) shows that one can use a discrete choice model and empirical flows across markets (*i.e.,* $\alpha_{k\to m}$) to measure the value a worker from a given market places on another market.

Intuitively, if we observe a large number of flows from market $m$ to $k$, then $k$ likely serves as a viable outside option. Additionally, we need to take into account the relative sizes of the markets. For example, if $k$ is a relatively small market, but we still observe high rates of flows to this market, it must provide a particularly good option for the workers. This is why the relative size between $m$ and $k$ is taken into account when determining the value individuals from $m$ place in receiving a job in market $k$. The concentration in market $m$ is given by:

$$\tilde{C} = \sum_j \tilde{s}_{jm}^2 \tag{B4}$$

One key difference in this formulation relative to Arnold (2021) is that transitions across both industries and locations are taken into account. In Arnold (2021), the market shares depend only employment in other industries within the same commuting zone. In this more general version, the

market share depends on employment in other commuting zones as well.

Second, the relative size term in $\alpha_{m\to k}$ (i.e. $\mathbb{E}[\frac{L_k}{L_m}]$) is now the expected relative size of industries across commuting zones. To understand this factor, imagine there are two equally sized industries that use similar workers but are generally located in different areas. For example, imagine plastic manufacturing and rubber manufacturing plants hire similar workers, but plastic manufacturing primarily takes place in Texas while rubber manufacturing primarily takes place in Ohio. In this case, the aggregate relative size of the industries will be quite different than the expected relative size within a commuting zone given the two industries primarily operate in different commuting zones. Therefore, a low volume of flows between the two industries does not necessarily reflect low substitutability, but rather they are generally located in different areas.

The flows-adjusted local labor market concentration measure, $C_{mc}$, is defined as:

$$C_{mc} = \sum_{j \in c} (\tilde{s}_{jmc})^2 \tag{B5}$$

Figure B6 and Table B6 show the effects of M&As on earnings of workers at target firms, separately for markets with high (flow-adjusted) HHI and for markets with low (flow-adjusted) HHI. Similar to our main results based on the regular HHI, these results show that the decline in worker earnings is not larger for high-HHI markets.

## B.7 By Tradable vs. Non-Tradable Sectors

There are several results that suggest product market power is not the main driver of the observed labor-market impacts. First, we find that profit margins decrease for both target and acquiring firms. If product market power increased on average after M&A events, we would expect to see a rise in profits, not a decline. Additionally, we estimate markups and do not find any statistically significant impacts of M&A events on markups for either target or acquiring firms.

To explore this channel further, we also conduct our analysis separately by tradable and non-tradable goods sectors. The intuition is that an M&A would have a larger impact on a firm's market power if the firm does not face competition outside its geographical (i.e., international) markets. We define firms as active in tradable good sectors if they fall under Agriculture, Forestry, Fishing, Mining, Quarrying, and Oil and Gas Extraction, and Manufacturing. Firms active in other sectors (i.e., Construction, Retail, Real Estate, Services, etc) are defined as falling under non-tradable sectors (Berger et al., 2022; Delgado et al., 2014). Figure B7 and Table B7 show that the declines in worker earnings at target firms are similar for tradable and for non-tradable sectors. Therefore,

this finding, along with the results on decreased profit margins without a much change in markups, suggests that an increase in product market concentration seems to be unlikely the key driver behind the decline in target workers' earnings.

## B.8 By Within vs. Between Industry M&As

In the previous subsection, we show that the decline in earnings of workers at target firms is similar between M&As that happen in tradable sectors and those that happen in non-tradable sectors, suggesting a limited role for the change in product market power in explaining the change in worker earnings. To further support this conclusion, we also conduct our analysis separately by within-industry M&As and between-industry M&As. The intuition is that an M&A would have a larger impact on firms' market power if the acquirer buys another firm within the same industry (i.e., horizontal mergers). We divide our sample of all M&A firms based on the industries of the parties involved in a transaction. A merger is a within-industry M&A if the industries (4-digit NAICS) of both parties are identical and it is between-industry M&A (i.e., vertical mergers) if the industries are different. For firms with one transaction, we define a firm as "within" if it participated in a within-industry M&A and as "between" if it participated in a between-industry M&A. For firms with multiple M&A deals, we consider the majority of transactions to determine the within- and between-indicator. Figure B8 and Table B8 show that the difference in the decline in worker earnings is statistically indistinguishable from zero between within-industry M&As and across-industry M&As. These results imply that a rise in product market power is unlikely the main driver behind the results on worker earnings.

## B.9 By One-time vs. Repeat Acquirers

Prior research points out that a part of motives behind M&As involves empire-building, which could result in losses in efficiency and profitability after the event (Jensen, 1986). Even though it is practically difficult to discern whether a particular acquirer is an empire-builder in our data, we test whether the effects on firm sizes and profitability are different depending on whether an acquirer engages in multiple M&A transactions. Specifically, we compare the outcomes of acquirers involved in a single M&A deal relative to the outcomes of acquirers involved in multiple M&A deals during our sample period. Figure B9 and Table B9 show that acquirers involved in repeat M&A transactions tend to grow larger, in terms of the number of employees and total revenue, pay higher average salaries, but become less profitable after the event, compared to acquirers involved in a single M&A deal. While these results provide suggestive evidence consistent with the empire-building story, these differences could be also simply driven by the fact that acquirers involved

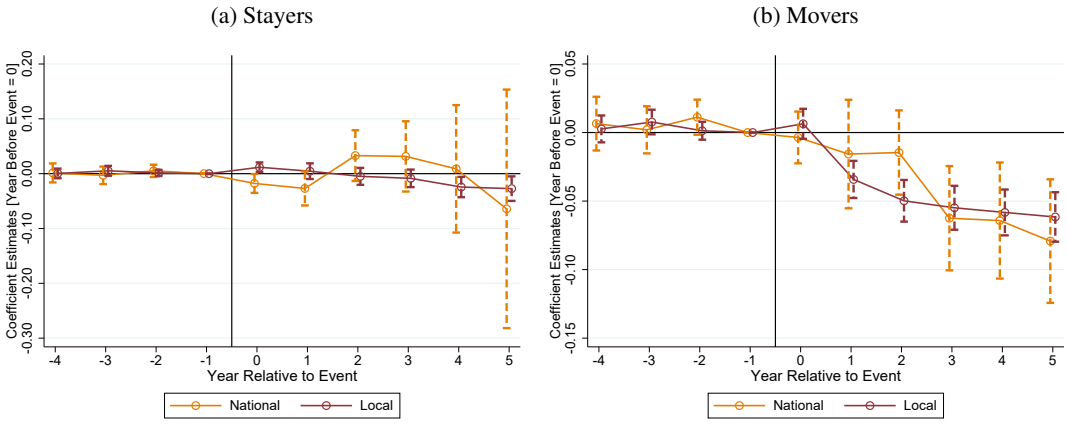
in multiple deals might mechanically increase in sizes more, and lose more profits through larger accumulated acquisition costs.

## B.10 By Worker Characteristics

We additionally explore whether the decline in earnings of workers at target firms is different based on worker characteristics, such as gender and age. Prior studies have found differential impacts of firm-level shocks on worker earnings depending on their gender and age (Kline et al. 2019; Saez et al. 2019). Figure B10 and Table B10 show that the decline of workers' earnings at target firms is similar between male workers and female workers.

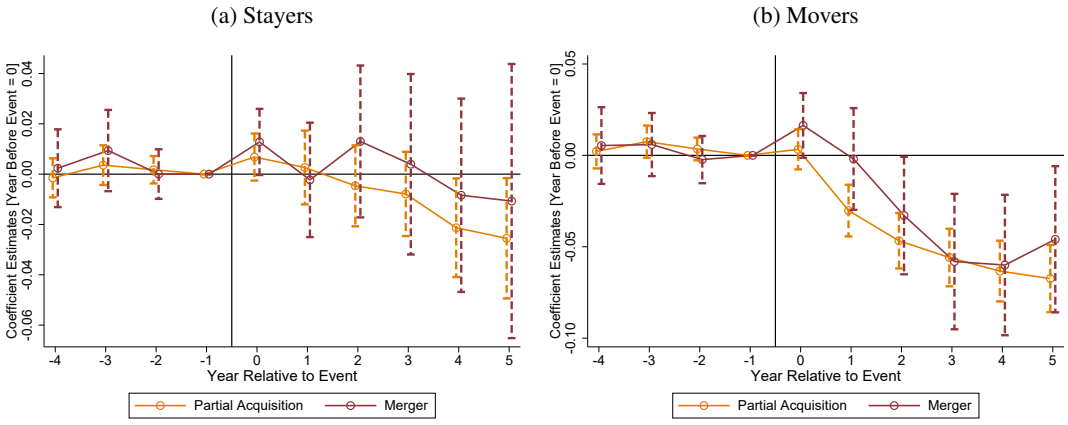
As shown in Section 6, the decline in workers' earnings at target firms is entirely driven by those who move to other firms after the M&A event. Therefore, we focus on the job movers from target firms, and estimate what happens to their earnings, job transitions, employer fixed effects, and match effects separately across different age groups. Figure B11 and Table B11 show that while we observe declines in earnings and match effects across all age groups for workers moving from target firms, the decline in earnings and match effects is largest among movers who are at least 50 years old before the event, without a much change in wage premiums. Taken together, these results imply that there exists a substantial degree of heterogeneity across age groups for changes in worker earnings, employer fixed effects, and match effects after the M&A event, and that older workers end up moving to other firms with worse match qualities, likely because of greater accumulation of firm-specific human capital at their previous firms. These results are consistent with our main results based on worker tenure in Section 6.

Figure B1: By National M&As vs. Local M&As (Targets)



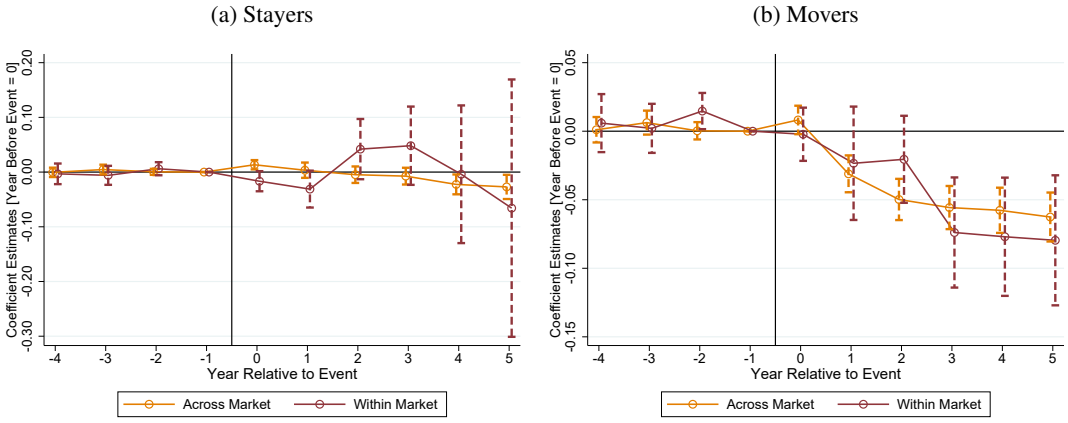

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for national M&A deals and local M&A deals. Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from target firms. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker-firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B2: By Partial Acquisitions vs. Mergers (Targets)




*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for partial acquisitions and full mergers. Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from targets. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

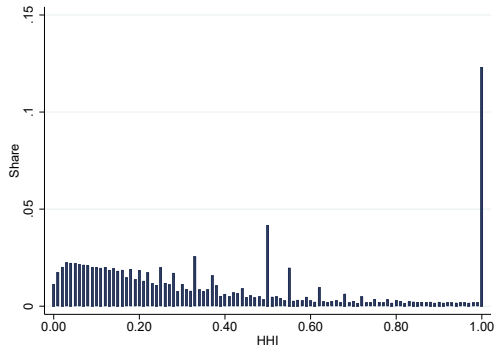
Figure B3: By Within Market M&As vs. Across Market M&As (Targets)



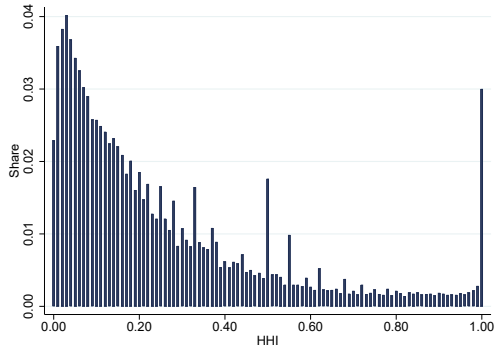

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for M&As that happen within the same labor market and for M&As that happen across different labor markets. Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from targets. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B4: Distribution of Concentration across Labor Markets

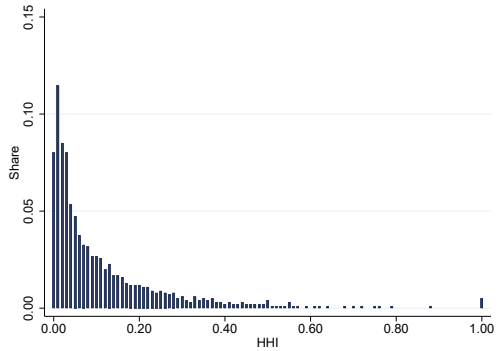
(a) All Markets in the Entire Sample




(b) Markets with any M&A Deal in the Entire Sample

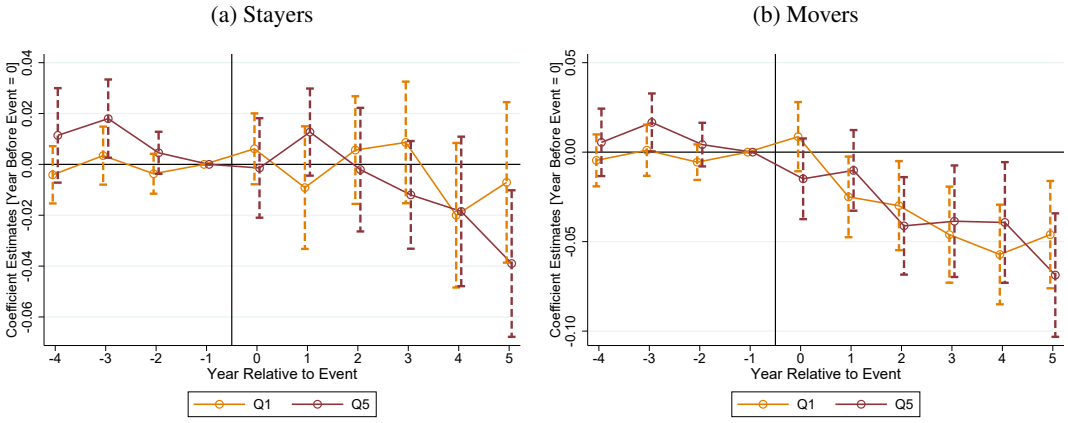



(c) Markets with any M&A Deal in the Matched Sample



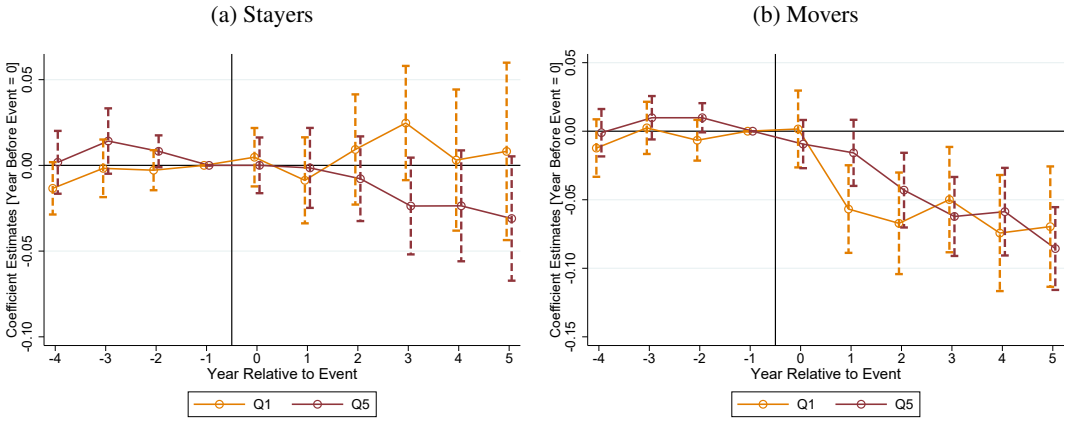

*Notes*: These figures display the distribution of concentration (measured by HHI) across labor markets. Panel (a) displays the distribution across all labor markets in the entire sample. Panel (b) displays the distribution across labor markets with at least one M&A deal in the entire sample during our sample period. Panel (c) displays the distribution across labor markets with at least one M&A deal in our matched sample (used for the main analyses).

Figure B5: By Initial Level of Concentration (Targets)



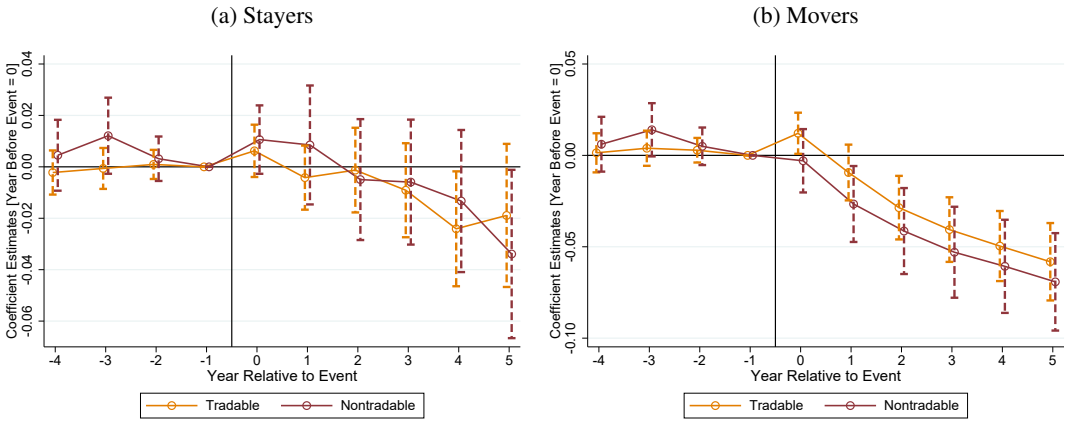

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for workers in markets with low initial level of concentration (first quintile) and for workers in markets with high initial level of concentration (fifth quintile). Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from target firms. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker-firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B6: By Initial Level of Flows-adjusted Concentration (Targets)



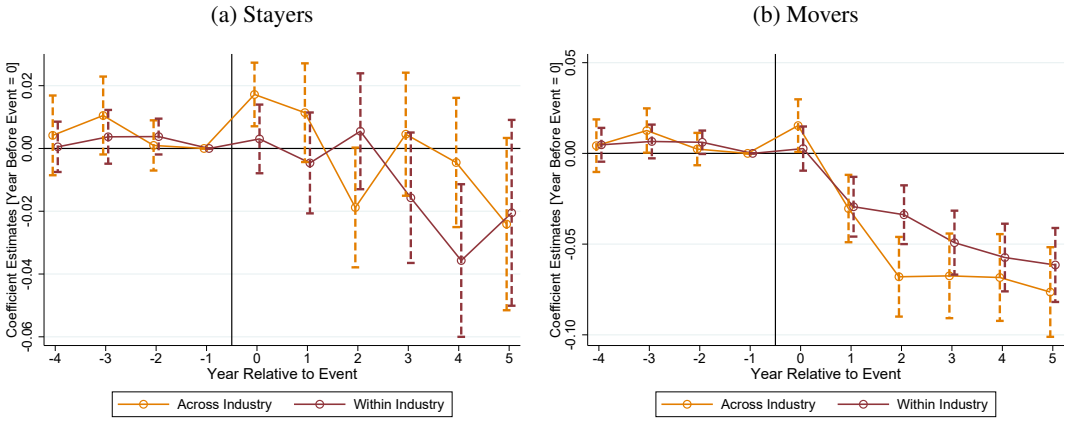

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for workers in markets with low initial level of concentration (first quintile) and for workers in markets with high initial level of concentration (fifth quintile). Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from target firms. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker-firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B7: By Tradable Sectors vs. Non-tradable Sectors



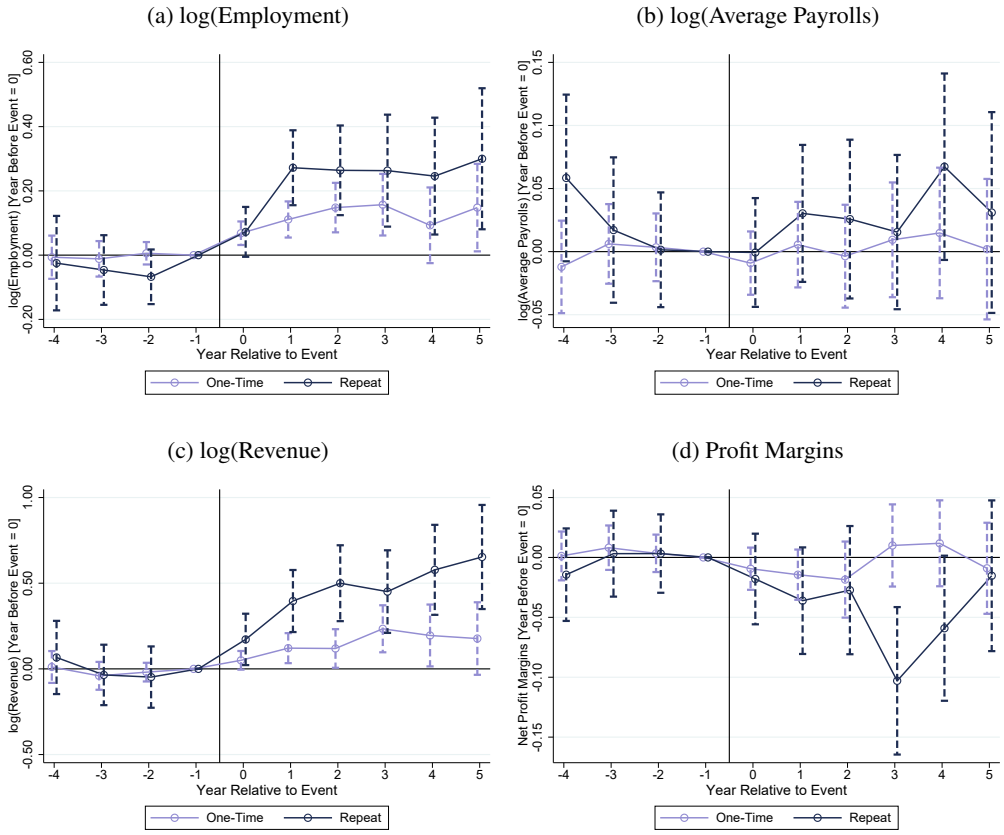

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings, separately for workers in tradable sectors and for workers in non-tradable sectors, as defined in Section B7. Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from target firms. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B8: By Within-Industry M&As vs. Across-Industry M&As (Targets)



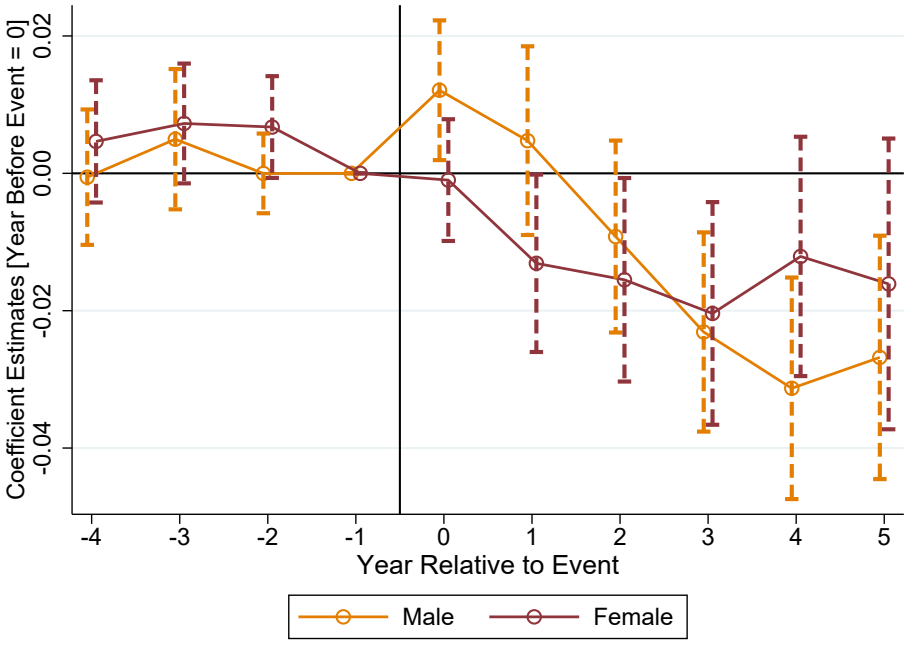

*Notes*: These figures display event-study estimates for the impact of M&As on log of total earnings for workers at target firms, separately for (horizontal) M&As that happen within the same industry and for (vertical) M&As that happen across different industries. Panel (a) displays the estimates for stayers and panel (b) displays the estimates for workers moving from targets. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B9: By One-time vs. Repeat M&As (Acquirers)



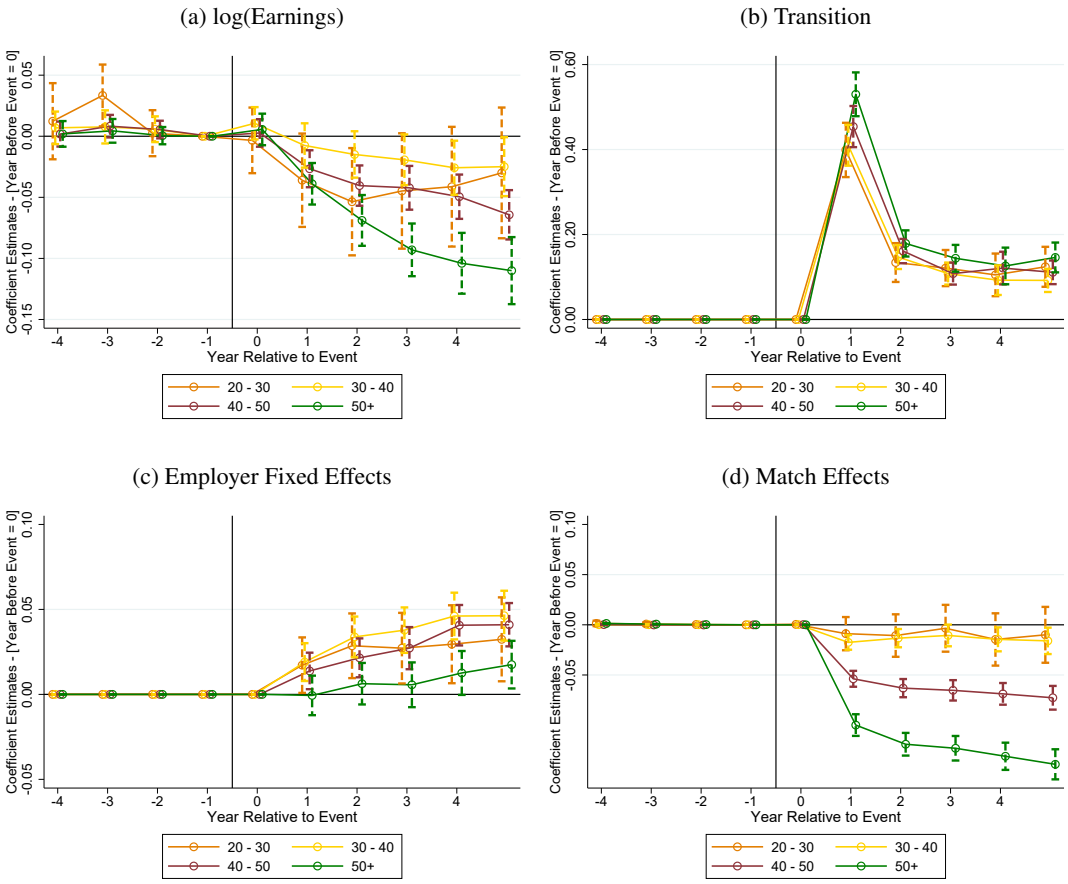

*Notes*: These figures display event-study estimates for the impact of M&As on the main firm-level outcomes, separately for acquiring firms that go through an M&A only once throughout our sample period and for acquiring firms with repeated M&A events. The dashed lines indicate 95 percent confidence intervals where the standard errors are clustered at the firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B10: By Worker Gender (Targets)




*Notes*: This figure displays event-study estimates of the impact of M&As on log of total earnings for workers at target firms, separately for male workers and for female workers. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Figure B11: Workers Moving from Targets – By Worker Age




*Notes*: These figures display event-study estimates of the impact of M&As on worker-level outcomes for workers moving from target firms, separately for various age groups. Panel (a) shows the estimates for log of total earnings. Panel (b) shows the estimates for job transition probabilities. Panel (c) shows the estimates for employer fixed effects. Panel (d) shows the estimates for worker-employer match effects. The dashed lines indicate 95 percent confidence intervals where the standard errors are two-way clustered at the worker and firm level. The M&A event is in year 0 and the coefficient estimate is normalized to be zero in year -1.

Table B1: By National M&As vs. Local M&As (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | -0.010* | -0.043*** |
| | (0.006) | (0.006) |
| Post × Treated × Local | 0.003 | 0.000 |
| | (0.016) | (0.012) |
| Mean at t = -1 (National = 1) | 11.00 | 10.96 |
| Mean at t = -1 (Local = 1) | 11.09 | 11.09 |
| Adj. R squared | 0.797 | 0.734 |
| Worker-Year Obs. (National = 1) | 1,373,320 | 804,430 |
| Worker-Year Obs. (Local = 1) | 193,360 | 180,900 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms involved in national M&As. The triple interaction term captures the triple-difference estimates for workers at target firms in local M&As. Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B2: By Partial Acquisitions vs. Mergers (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | -0.008 | -0.044*** |
| | (0.006) | (0.006) |
| Post × Treated × Merger | -0.004 | 0.015 |
| | (0.013) | (0.013) |
| Mean at t = -1 (Partial Acquisition = 1) | 11.01 | 10.98 |
| Mean at t = -1 (Merger = 1) | 11.01 | 11.01 |
| Adj. R squared | 0.797 | 0.734 |
| Worker-Year Obs. (Partial Acquisition = 1) | 1,365,630 | 868,030 |
| Worker-Year Obs. (Merger = 1) | 216,200 | 125,780 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms involved in partial acquisitions. The triple interaction term captures the triple-difference estimates for workers at target firms involved in full mergers. Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B3: By Within Market M&As vs. Across Market M&As (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | -0.010* | -0.043*** |
| | (0.006) | (0.006) |
| Post × Treated × Within Market | 0.002 | -0.006 |
| | (0.016) | (0.012) |
| Mean at t = -1 (Across Market = 1) | 11.00 | 10.96 |
| Mean at t = -1 (Within Market = 1) | 11.10 | 11.10 |
| Adj. R squared | 0.798 | 0.734 |
| Worker-Year Obs. (Across Market = 1) | 1,387,180 | 811,090 |
| Worker-Year Obs. (Within Market = 1) | 171,090 | 160,590 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms involved in M&As that happen across different labor markets (defined at the four-digit NAICS by commuting zone). The triple interaction term captures the triple-difference estimates for workers at target firms involved in M&As that happen within the same labor market. Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B4: Summary Statistics on Concentration across Labor Markets

| | (1) All Markets | (2) Markets with M&A (Entire Sample) | (3) Markets with M&A (Matched Sample) |
|---|---|---|---|
| Average | 0.3827 | 0.264 | 0.1383 |
| Median | 0.28 | 0.1753 | 0.0694 |
| Min | 0.0002 | 0.0003 | 0.0004 |
| Max | 1 | 1 | 1 |
| Market-Year Obs. | 745,849 | 177,629 | 10,120 |

*Notes*: This table reports summary statistics (average, median, min and max) on concentration, measured by HHI, (1) across all labor markets in the entire sample, (2) across labor markets with at least one M&A event in the entire sample, and (3) across labor markets with at least one M&A event in the matched analysis sample.

Table B5: By Initial Level of Concentration (Targets)

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Without Restriction** | | **Within-Market Restriction** | |
| | Stayers | Movers | Stayers | Movers |
| Post × Treated | 0.002 | -0.037*** | -0.057 | -0.039** |
| | (0.009) | (0.008) | (0.047) | (0.017) |
| Post × Treated × Q5 | -0.016 | -0.014 | 0.076 | -0.030 |
| | (0.012) | (0.014) | (0.047) | (0.027) |
| Mean at t = -1 (Q1 = 1) | 11.04 | 11.02 | 11.27 | 11.25 |
| Mean at t = -1 (Q5 = 1) | 11.03 | 10.99 | 10.95 | 10.97 |
| Adj. R squared | 0.797 | 0.734 | 0.79 | 0.737 |
| Worker-Year Obs. (Q1 = 1) | 384,680 | 244,130 | 59,070 | 54,290 |
| Worker-Year Obs. (Q5 = 1) | 379,950 | 212,820 | 30,480 | 26,830 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms in markets with initially low level of concentration (first quintile). The triple interaction term captures the triple-difference estimates for workers at target firms in markets with initially high level of concentration (fifth quintile). Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. Column (3) and (4) report the estimates for the same analysis, where we additionally restrict our analysis sample to M&A deals where acquiring firms and target firms are in the same labor market. The standard errors are two-way clustered at the worker and firm level.

Table B6: By Initial Level of Flows-adjusted Concentration (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | 0.004 | -0.064*** |
| | (0.010) | (0.012) |
| Post × Treated × Q5 | -0.019 | 0.019 |
| | (0.014) | (0.014) |
| Mean at t = -1 (Q1 = 1) | 11.06 | 11.00 |
| Mean at t = -1 (Q5 = 1) | 10.97 | 10.93 |
| Adj. R squared | 0.797 | 0.734 |
| Worker-Year Obs. (Q1 = 1) | 166,760 | 88,280 |
| Worker-Year Obs. (Q5 = 1) | 395,900 | 285,200 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms in markets with initially low level of concentration (first quintile). The triple interaction term captures the triple-difference estimates for workers at target firms in markets with initially high level of concentration (fifth quintile). Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B7: By Tradable Sectors vs. Non-tradable Sectors (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | -0.009 | -0.051*** |
| | (0.008) | (0.009) |
| Post × Treated × Nontradable | -0.001 | 0.019 |
| | (0.011) | (0.012) |
| Mean at t = -1 (Tradable = 1) | 10.97 | 10.94 |
| Mean at t = -1 (Nontradable = 1) | 11.06 | 11.03 |
| Adj. R squared | 0.797 | 0.734 |
| Worker-Year Obs. (Tradable = 1) | 826,180 | 455,230 |
| Worker-Year Obs. (Nontradable = 1) | 755,750 | 538,740 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers in tradable sectors. The triple interaction term captures the triple-difference estimates for workers in non-tradable sectors. Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B8: By Within Industry M&As vs. Across Industry M&As (Targets)

| | (1) Stayers | (2) Movers |
|---|---|---|
| Post × Treated | -0.014** | -0.046*** |
| | (0.007) | (0.008) |
| Post × Treated × Within Industry | 0.006 | 0.005 |
| | (0.010) | (0.010) |
| Mean at t = -1 (Across Industry = 1) | 10.97 | 10.91 |
| Mean at t = -1 (Within Industry = 1) | 11.04 | 11.03 |
| Adj. R squared | 0.797 | 0.733 |
| Worker-Year Obs. (Across Industry = 1) | 679,830 | 354,080 |
| Worker-Year Obs. (Within Industry = 1) | 902,090 | 639,880 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for workers at target firms involved in (vertical) M&As that happen across different industries. The triple interaction term captures the triple-difference estimates for workers at target firms involved in (horizontal) M&As that happen within the same industry. Column (1) and column (2) display the estimates for stayers at target firms and workers moving from target firms, respectively. The standard errors are two-way clustered at the worker and firm level.

Table B9: By One-time vs. Repeat M&As (Acquirers)

| | (1) log(Employment) | (2) log(Average Payrolls) | (3) log(Revenue) | (4) Profit Margins |
|---|---|---|---|---|
| Post × Treated | 0.111*** | 0.012 | 0.151*** | -0.003 |
| | (0.033) | (0.014) | (0.047) | (0.009) |
| Post × Treated × Repeat Acquirer | 0.143** | -0.003 | 0.274*** | -0.042** |
| | (0.057) | (0.025) | (0.085) | (0.019) |
| Mean at t = -1 (One-Time Acquirer = 1) | 4.39 | 10.74 | 16.85 | 0.01 |
| Mean at t = -1 (Repeat Acquirer = 1) | 4.85 | 10.76 | 17.32 | 0.04 |
| Adj. R squared | 0.878 | 0.787 | 0.840 | 0.373 |
| Firm-Year Obs. (One-Time Acquirer = 1) | 19,430 | 19,380 | 19,580 | 19,680 |
| Firm-Year Obs. (Repeat Acquirer = 1) | 9,130 | 9,110 | 9,110 | 9,190 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on the main firm-level outcomes for acquiring firms with only one M&A event during our sample period. The triple interaction term captures the triple-difference estimates for acquiring firms with repeated M&A events. Column (1) displays the estimates for log of employment. Column (2) displays the estimates for log of average payrolls. Column (3) displays the estimates for log of total revenue, and column (4) displays the estimates for profit margins. The standard errors are clustered at the firm level.

Table B10: By Worker Gender (Targets)

| | (1)<br>log(Earnings) |
|---|---|
| Post × Treated | -0.014*** |
| | (0.005) |
| Post × Treated × Female | 0.001 |
| | (0.007) |
| Mean at t = -1 (Male = 1) | 11.13 |
| Mean at t = -1 (Female = 1) | 10.76 |
| Adj. R squared | 0.739 |
| Worker-Year Obs. (Male = 1) | 1,391,660 |
| Worker-Year Obs. (Female = 1) | 634,370 |

*Notes*: This table reports the difference-in-differences estimates of the impact of M&As on log of total earnings for male workers at target firms. The triple interaction term captures the triple-difference estimates for female workers at target firms. The standard errors are two-way clustered at the worker and firm level.

Table B11: Workers Moving from Targets – By Worker Age

| | (1) log(Earnings) | (2) Transition | (3) Employer FE | (4) Match Effect |
|---|---|---|---|---|
| 20s | -0.035** | 0.147*** | 0.022*** | -0.008 |
| | (0.017) | (0.011) | (0.008) | (0.008) |
| Mean at t = -1 | 10.66 | 0.00 | 0.13 | 0.05 |
| Adj. R squared | 0.756 | 0.239 | 0.872 | 0.341 |
| Worker-Year Obs. | 46,560 | 46,610 | 45,900 | 44,230 |
| 30s | -0.014* | 0.141*** | 0.030*** | -0.012*** |
| | (0.008) | (0.008) | (0.005) | (0.004) |
| Mean at t = -1 | 10.96 | 0.00 | 0.24 | 0.04 |
| Adj. R squared | 0.729 | 0.211 | 0.862 | 0.196 |
| Worker-Year Obs. | 226,580 | 226,800 | 224,240 | 221,800 |
| 40s | -0.037*** | 0.159*** | 0.024*** | -0.054*** |
| | (0.006) | (0.008) | (0.004) | (0.004) |
| Mean at t = -1 | 11.05 | 0.00 | 0.25 | 0.05 |
| Adj. R squared | 0.773 | 0.268 | 0.896 | 0.242 |
| Worker-Year Obs. | 364,530 | 365,080 | 362,070 | 359,730 |
| 50+ | -0.068*** | 0.188*** | 0.007 | -0.102*** |
| | (0.008) | (0.008) | (0.005) | (0.004) |
| Mean at t = -1 | 10.98 | 0.00 | 0.22 | 0.06 |
| Adj. R squared | 0.75 | 0.298 | 0.916 | 0.353 |
| Worker-Year Obs. | 353,530 | 354,620 | 351,900 | 348,400 |

*Notes*: This table reports the difference-in-differences estimates for the impacts of M&As on worker-level outcomes for moving workers from target firms across various age groups. Columns (1) displays the estimates log of total earnings. Column (2) displays the estimates for the transition probabilities. Column (3) displays the estimates for employer fixed effects. Column (4) displays the estimates for worker-employer match effects. The standard errors are two-way clustered at the worker and firm level.