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SHOULD I STAY OR SHOULD I GO? EFFECTS OF BEING ACQUIRED ON EMPLOYEE OUTCOMES: EVIDENCE FROM BRAZIL

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Should I stay or should I go?

Effects of being acquired on employee outcomes: evidence from Brazil.

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Abstract

This paper examines the diverse impacts of corporate acquisitions on employees with data from Brazil's formal employment sector (RAIS survey, 2007-2015) and the Thomson Reuters SDC Platinum Database. Employing a matched event studies design, I navigate labor market complexities, revealing heterogeneous effects at individual and firm levels. Notably, the analysis uncovers a significant short-term increase in wages for individuals in acquired firms, particularly in the immediate 0 to 1 years following events; however, separation outcomes predominantly occur in the same year as the acquisition. Job changes play a pivotal role, with incumbents and voluntary leavers experiencing positive outcomes, while involuntary terminations lead to declines, also in the long-run. The study explores age-related, educational, skill-based, and occupational differences, showing diverse impacts across these dimensions. Additionally, firm size emerges as a critical factor, influencing wages and separation outcomes. Ultimately, the change in firm productivity or firm-specific wage premiums drives observed effects, underlining one mechanism of M&A impacts on the workforce.

Keywords: Takeovers, Corporate Acquisitions, Employee Outcomes, Wage Dynamics, Separation Rates, Matched Event Studies, Brazilian Labor Market, Mergers and Acquisitions (M&A), Firm Productivity, Wage Differentials, Labor Market Heterogeneities

JEL Classification: G34, J21, J63, J31, J42, L20, C23

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1 Introduction

My mother used to hold a managerial position within an investment fund. Despite her relatively mature career status, the acquisition of the fund by a bigger bank ushered her career in a transformative phase, prompting a profound reevaluation of her professional trajectory. In the aftermath of the acquisition, as the organizational charts were reshaped and roles redefined, my mother made a striking observation: her counterpart in the acquiring firm, who performed an equivalent role, was notably younger and received a compensation that amounted to a mere fraction of her wage. This realization prompted her to reassess her future professional trajectory, leading to a consequential decision to resign from her job. This departure, however, meant a shift to a superior role in a prominent financial institution. The acquisition had not only impacted her immediate financial standing but had also steered her towards a more lucrative and elevated position within a bigger banking institution.

Inspired by this story, I aim to understand corporate acquisitions effects on the employees of the acquired firms. Specifically, I aim to discern how various factors influence the outcomes experienced by individuals in the aftermath of an acquisition. Through this exploration, I aspire to contribute valuable insights to the broader understanding of the impact of corporate acquisitions on the trajectories of different employee outcomes.

Mergers and acquisitions (M&A) are pivotal events that reshape the corporate landscape, with profound implications for various stakeholders, e.g. the workforce. This paper explores the heterogeneous impacts of being acquired on workers, employing a matched event-studies analysis grounded in matched employer-employee data sourced from Brazil's formal employment sector, specifically utilizing the Relação Anual de Informações Sociais (RAIS) survey, encompassing workers in acquired firms between 2007 and 2015. The mergers are drawn from the extensive Thomson Reuters SDC Platinum Database, encompassing a comprehensive sample of acquisition events in 2011 and 2012.

To discern the direct effects of a takeover on workers, I employ a difference-in-differences design, comparing outcomes for acquired workers against a matched never treated control group before and after the Acquisition event. This approach allows me to navigate the complexities of labor market dynamics, while accounting for heterogeneities at both the individual and firm levels.

The analysis extends beyond a mere examination of overall impacts, offering an exploration of labor market outcomes for distinct groups of employees. This investigation into heterogeneities is critical, considering the varied effects that M&A events can have on different segments of the workforce.

The analysis of wage dynamics following acquisitions reveals that, on average, individuals working at later-acquired firms experience a significant increase in wages, amounting to approximately 2% over the entire post-acquisition period. This effect is concentrated in the short run, particularly in the immediate 0 to 1 years following the events. The examination of separation outcomes indicates a statistically significant increase in the likelihood of separation concentrated in the short run, specifically in the immediate 0 to 1 years following acquisition events.

The wage effects are further dissected by exploring job changes, categorizing workers into three groups: involuntary leavers, voluntary leavers, and stayers. This illustrates that incumbents and voluntary leavers end

up with better wages, while those with involuntary separation experience a decline. This provides valuable insights into the differential impact of acquisitions on wages based on job changes. The study also uncovers substantial effects on the probability of switching occupation and industry, with a more pronounced impact observed in the industry switch.

In exploring heterogeneities, age-related differences emerge, with older individuals experiencing a relatively smaller increase in separation rates and younger individuals enjoying a higher positive effect on wages following acquisitions. Educational attainment complexities are unveiled, where, in general, higher-educated individuals fare better after acquisitions, but non-graduates among incumbents exhibit a more favorable change in wages relative to their counterparts. High-skilled workers, as defined by individual wage premium, experience more favorable wage effects than low-skilled counterparts. Occupationally, Scientists/Artists exhibit a less pronounced wage effect compared to other worker types, indicating occupation-specific differences. Finally, firm size plays a crucial role, with workers in larger firms experiencing a decline in wages and a higher probability of being laid off, while workers in smaller firms observe positive changes and a lower probability of separation.

Ultimately, the main driver of the observed effects is the change in productivity of the firm, emphasizing the pivotal role of firm-specific wage premiums, while separation outcomes by duplication roles may also contribute significantly to the overall dynamics, market power difference are present.

This paper mainly contributes to the literature on the labour market effects of M&A on workers. Drawing on the work of Brown and Medoff (1988); Siegel and Simons (2010); Currie et al. (2005); Prager and Schmitt (2021); Arnold (2019) and Todd and Heining (2024), the study is situated within a broader context, examining the Brazilian formal sector landscape and isolating the role of specific heterogeneities (such as workers separated voluntary or involuntary), thereby advancing the understanding of the diverse effects of M&A on workers. In this sense, I follow with some changes the methodology proposed by Arnold (2022, 2019).

In addition to this contribution, this study aligns with a growing literature on retrospective merger analysis in industrial organization, as exemplified by works like Ashenfelter et al. (2013, 2015) and Dafny et al. (2019)[1]. Departing from the prevailing reliance on structural demand models, my approach utilizes a matched difference-in-differences design (as in Arnold (2022); Freedman et al. (2023); Wing et al. (2024)) to assess the labor market impacts of completed mergers, offering a unique perspective in this domain. The empirical findings in the existing literature on how employer mergers and acquisitions affect wages are mixed, with some studies indicating negative effects Lichtenberg and Siegel (1990); Prager and Schmitt (2021), others finding no discernible impact Brown and Medoff (1988); Currie et al. (2005) and yet others reporting positive effects Dranove and Lindrooth (2003). The paper offers insights grounded in the Brazilian context of whole formal labor force.

Furthermore, this research integrates with the broader literature on wage dispersion across firms, linking to studies by Card et al. (2018); Song et al. (2018), thereby enriching the discourse on wage dynamics amid M&A activities as a way of interpreting the productivity effects on wages.

Subsequent sections are organized as follows: Section 2 introduces and describes the data related to mergers and employer-employee interactions. In Section 3, I present the methodology, including matching event studies

[1] Other examples may be found in Lewis and Pflum (2017); Dafny et al. (2019); Miller and Weinberg (2017); Eliason et al. (2020) and Luco and Marshall (2018).

and heterogeneous effects to explore. The main results are outlined in Section 4, providing a detailed account of the observed impacts. Mechanisms underlying the main observed outcomes are explored in Section 5. Heterogeneities across various dimensions are discussed in Section 6. Finally, Section 7 serves as the conclusion, summarizing key insights and implications drawn from the analysis.

2 Data

2.1 Mergers

Data on mergers and acquisitions is obtained from the **LSEG Merger and Acquisitions dataset** accessed through its Workspace. This dataset offers comprehensive coverage, data analysis, and information on over a million transactions globally, utilizing **Thomson Reuters SDC Platinum** as input.

For this study, I focused on M&A transactions in Brazil within the period from January 2011 to December 2012. The dataset provided a total of 1693 observations (out of which 282 are considered majority stake acquisitions or takeovers), covering various deal statuses and forms. When utilizing the dataset, the sample is restricted to the years 2011 and 2012[2], adhering to the restrictions outlined in later sections related to tenure and year bins.

Four acquisition activities are excluded, where a specific group of state-owned enterprise assets was acquired, as it was not possible to separate them from the entire state-owned enterprise.

The dataset encompasses key information such as date announced, date completed (if applicable), deal status (e.g., pending, completed, or rumored), target and acquirer nation, names, industry, public status, and form of the deal (e.g., merger, majority stake, or partial stake acquisition).

To uniquely identify the firms involved, the Cadastro Nacional da Pessoa Jurídica (CNPJ or Brazilian Registry of Legal Entities) is required, a fourteen-digit identifier. The first eight digits are retained, serving as a unique firm identifier, excluding the establishment/branch ID and check digits. As this information was absent in the LSEG Database, the CNPJ data of each firm was cross-referenced using the legal business name with the CNPJ database, managed by the Special Secretariat of the Federal Revenue of Brazil (RFB), applying a direct matching procedure with the majority and a fuzzy matching procedure with the remaining ones. This database stores registration information for legal entities and entities of interest to tax administrations at different levels of government. With this refined dataset, the M&A transactions are matched with employee data.

2.2 Employer-Employee

This study's analysis utilizes administrative data from the *Relação Anual de Informações Sociais* (RAIS) spanning the years 2007 to 2016 (to have 4 years before and after each event).

RAIS is a comprehensive longitudinal matched employer-employee dataset covering the entire formal labor market in Brazil. Collected by the Ministry of Labor and Employment (MTE), firms are obligated to submit

[2]The original plan involved dedicating a decade to this endeavor; however, due to constraints related to deadlines and computational capacity, the execution of this project will be deferred to a later time.

annual information on all formal job contracts from the preceding year to the federal government. This information is crucial for calculating various worker and firm benefits, and firms providing inaccurate or incomplete information face fines. Formal job rights and obligations are coded in the *Consolidacao das Leis Do Trabalho* (CLT),

Each RAIS entry represents an employee-employer match, with individuals and establishments assigned unique administrative identifiers that remain constant over time— the first 8 digits of CNPJ for firms, the last 6 digits for establishments, and CPF (*Cadastro de Pessoas Físicas*) for individuals. Worker-level variables include education, gender, ethnicity, and age. Job-related information encompasses occupation, tenure, wage, hours, type of labor contract, job termination date, and reasons for termination. Establishment-level data includes region and industry.

This study focuses on workers aged 18 to 65 engaged in full-time employment , excluding individuals with invalid identifiers. The dataset includes a variable indicating the type of employment contract, with the most common being the *Consolidação das Leis do Trabalho* (CLT), the standard full-time employment contract in Brazil. CLT contracts come with government-mandated benefits, such as severance pay for unfair dismissal.

Importantly, as mentioned earlier, RAIS provides information on labor contract terminations, allowing the distinction between involuntary and voluntary separations. Voluntary separations correspond to employee-induced terminations (e.g., resignations), while involuntary separations encompass employer-induced terminations, including layoffs and fixed-contract terminations without subsequent renewal. Within-firm transfers, retirements, and reported deaths are excluded from the analysis. Although data are collected annually, the analysis of layoffs is performed using the date of the contract termination and merger event, leveraging information on the months corresponding to the start and end of the employer-employee relationship, except for wages, which are reported as of December or the last wage if terminated. Also, information on regular salary and average remuneration is present in the data set.

It is important to note that Brazil has a substantial informal sector, constituting approximately 33% of the workforce. Therefore, periods of zero earnings in the dataset do not necessarily indicate unemployment. As described later on, this study will specifically concentrate on the formal sector.

3 Research Design

This section aims to present the approach to capture the effects of being acquired on specific employee outcomes. To aisle the causal impact of being acquired, a matching algorithm is employed to identify a comparable control group for acquired workers, and event studies are estimated around the privatization period. To build the control group, a matching algorithm is utilized, identifying non-acquired workers with similarities to those in acquired firms. Prior to this matching process, the sample is narrowed down to individuals employed in the same establishment in the years preceding the event (those who worked at the same firm in years $t = -2$ and $t = -1$ relative to acquisition year), ensuring the analysis focuses on workers with established connections to the organization. I precisely match workers based on two-digit occupation codes (CBO), two-digit industry codes

(CNAE), gender, education, firm size decile, municipality and two-year age bins. The matching procedure is done considering the year previous to the event.

No match is applied to workers eventually exposed to acquisition activity (eventually working at an acquirer or target at the acquisition time). Individuals treated more than once are dropped. These restrictions impose a loss of under 1% of the sample.

I also impose a tenure restriction -the two years previous to the event the worker must be working in the same firm- standard in this literature (Arnold, 2022, 2019) and a continuous appearence in the sample three years before and after the event, so I am considering effects on employees who stay in the formal sector, as to exclude any informality frictions. It is noteworthy that the prevalence of mergers primarily within the formal sector substantiates this observation.

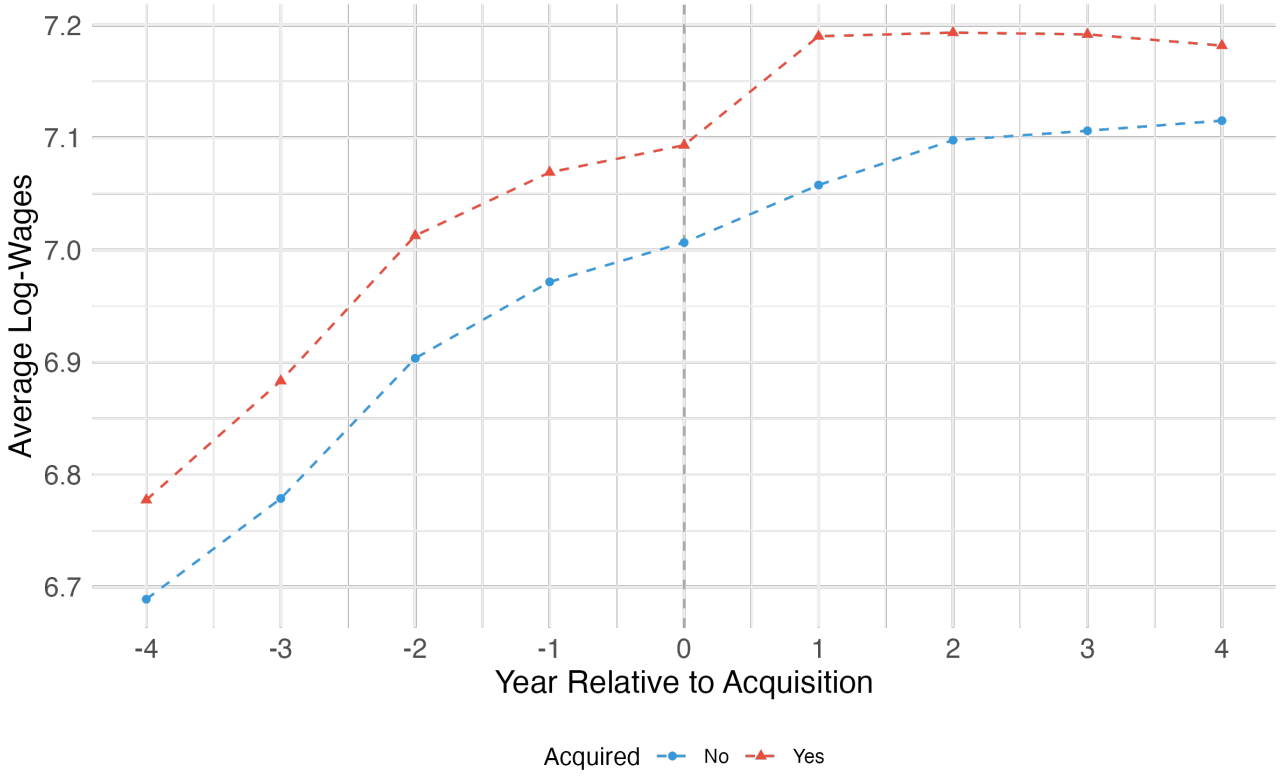
Matching workers based on earnings is not performed, given that this is the endogenous outcome of interest. The employed matching algorithm aligns with approaches in recent studies, such as Arnold (2022, 2019), although the match is at a different level. In Table 1, summary statistics of the matched data are presented. Concurrently, Figure 1 illustrates the temporal evolution, categorized by the acquisition or absence of the main outcome variables under consideration. Figure 1a presents the evolution of average log-wages, while Figure 1b illustrates the average separation of the labor relationship (it is important to note that the abrupt decline at $t \in \{-1, -2\}$ is attributed to the aforementioned tenure restrictions).

Table 1: Summary statistics at $t = -1$

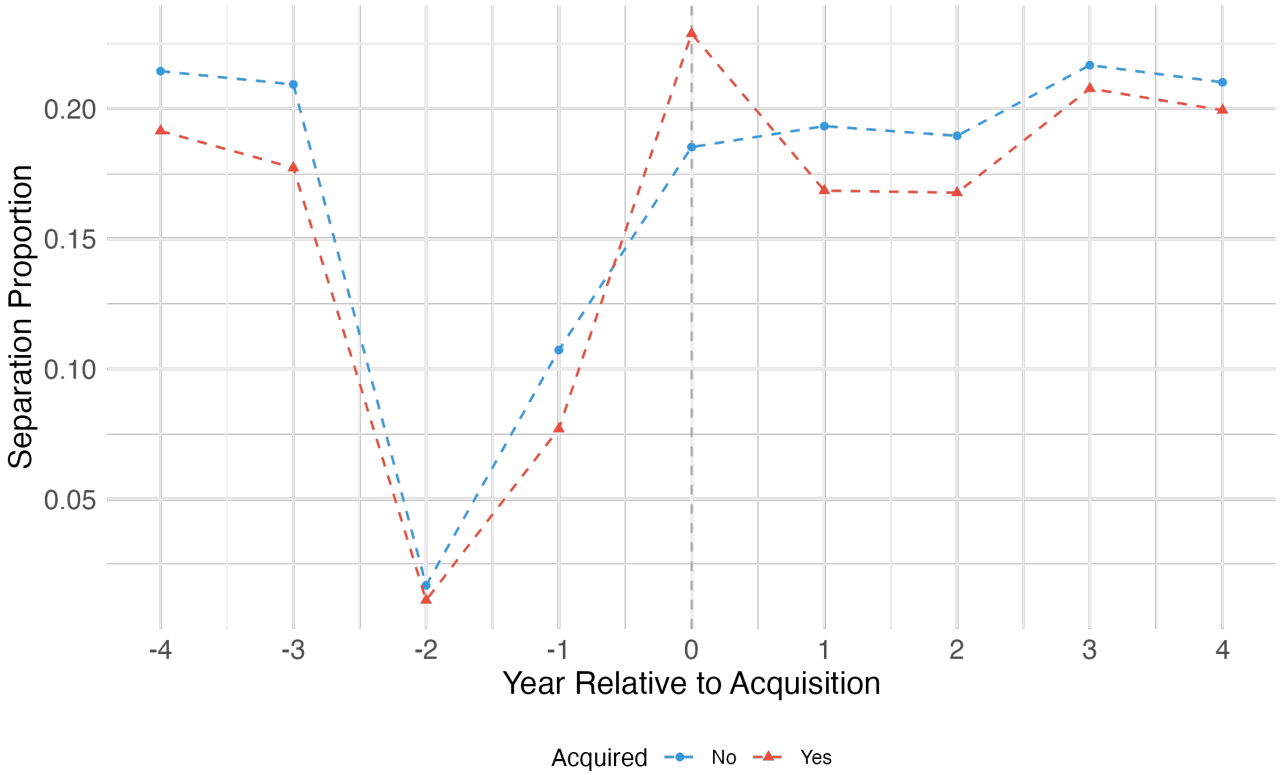
	Treatment			**Control**		
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**
Worker						
Log-Wage	7.02	6.94	0.756	6.98	6.83	0.797
Observations %		18			18.2	
Age	34.6	33	9.38	33.2	31	8.65
Years of Schooling	12.5	12	2.10	12.7	12	1.86
Male %		65.9			61	
College Graduated %		18			18.2	
Firm						
Firms		176			8556	
Firm Size	3260	310	14005.7	2114.73	184,5	11434.24
Merger						
Same Industry %			49			

Figure 1: Evolution of main outcome variables.

(a) Evolution of average log-wages in acquired and control workes.



(b) Evolution of average separation in acquired and control workes.



Since the treatment implementation is staggered, to recover worker-level effects of being acquired, I estimate a matched stacked event studies design of the following form

$$y_{itm} = \sum_{\substack{k=-4 \\ k\neq -1}}^{4} \delta_k \mathbb{I}_{\{t_i=k\}} \times \text{Acq}_i + \omega_i + \tau_{tm} + u_{it} \tag{1}$$

Here, y_{itm} denotes the outcome variable for worker i related to event of merger m (even for matched controls) at time t normalized to 0 in event date, within the window $t \in \{-4; 4\}$. The model includes worker fixed effects (ω_i, note that since each worker is considered only in one subexperiment, this is equivalent to employing individual-merger fixed effects), time-merger fixed effects (τ_{tm}), and an error term (u_{it}). If a firm is acquired at $t = t^{Acq}$, the term δ_k represents the treatment effect for time $t = k$, and $\mathbb{I}_{\{t_i=k\}}$ is an indicator variable that equals 1 if t_i equals k and 0 otherwise. The variable Acq_i is the treatment indicator variable. To enhance robustness, all standard errors are computed using a two-way clustering, considering clustering at both the firm and 2 digits CNAE by microregion levels.

To summarize the event studies results, regression outcomes from the following specifications are presented in tables:

$$y_{itm} = \delta \times \text{Post} \times \text{Acq}_i + \omega_i + \tau_{tm} + u_{it} \tag{2}$$

$$y_{itm} = \delta_{\text{SR}} \times \text{Post}_{\text{SR}} \times \text{Acq}_i + \delta_{\text{LR}} \times \text{Post}_{\text{LR}} \times \text{Acq}_i + \omega_i + \tau_{tm} + u_{it} \tag{3}$$

Here, Post is a dummy variable that specifies if $t \in \{0, 1, 2, 3, 4\}$, Post_{SR} is a dummy variable for the short-run post that specifies if $t \in \{0, 1\}$, and Post_{LR} is a dummy variable for the long-run post that specifies if $t \in \{2, 3, 4\}$.

In the stacked Difference-in-Differences (DiD) framework, as equation 1, each merger adoption is treated as a distinct sub-experiment, ensuring independent and unconfounded DID comparisons. This approach employs a fixed event time window uniformly across all sub-experiments and recenters them. The selection of observations for each sub-experiment adheres to three inclusion criteria: (i) Homogeneous Treatment Timing, ensuring uniform treatment adoption dates, (ii) Clean Controls, where the control group comprises units unexposed to treatment during the event study period, and (iii) Admissible Calendar Periods, restricting observations to time periods falling within the designated event window. Despite resembling a typical Two-Way Fixed Effects (TWFE) regression estimate, this method uniquely incorporates clean controls due to the data structure, making it straightforward to estimate using regression methods.

The only difference between this functional form and the standard event-study DID estimand is that it is needed to saturate the unit and time fixed effects with indicators for the specific stacked dataset. In this way, it is important to note that fixed and time effects differ for each sub-experiment, and the event study main effects are omitted as they mirror the full set of time×sub-experiment fixed effects. This streamlined approach allows for a simple estimation of the TWFE-kind regression. This methodology is applied in a similar fashion in other studies, as evidenced by its implementation in Cengiz et al. (2019); Deshpande and Li (2019) and Butters et al.

(2022) and detailed technical notes in Freedman et al. (2023) and Wing et al. (2024).

The specified approach utilizes a matched control group that remains untreated, effectively sidestepping the identification issues associated with conventional event-study designs involving never-treated units (Borusyak et al., 2021), difference-in-differences designs with multiple time periods (Callaway and Sant'Anna, 2021) or staggered timing (Goodman-Bacon, 2021) (for which the stacked methodology is used) or design. In this context, identification is solely derived from observing differences in outcomes over time between consistently treated and never-treated units, correcting problems with particular fixed effects, eliminating the complexities associated with units entering and exiting treatment or comparing with eventually treated units.

While the employed scheme exhibits imperfections by not offering an ideal method for weighting and summing event-specific treatment effects, it does establish safeguards against problematic comparisons, thereby enhancing robustness to biases originating from such comparisons broadly discussed in the overwhelming recent DID literature, keeping things as simple as possible. Despite these advantages, it is important to note that the scheme does not inherently unveil the intricacies of time-varying effects, but it rather weights them (considering only positive weights) acording to Freedman et al. (2023).

The key identifying assumption in this study is that outcomes for workers from acquired would resemble those of control never treated workers (pure controls) in the absence of a merger. However, this assumption may be strong since mergers result from firms' endogenous decisions. I rely on the premise that acquisitions can be construed as exogenous occurrences for employees, given that, with the exception of specific managerial roles, they typically lack influence over such events. This assertion finds support in recent work, such as Maksimovic et al. (2011). In this sense, the identification assumptions are parallel trends and no anticipation.

However, the effects of acquisitions may extend to other firms through alterations in product-market dynamics and shifts in the outside options available to workers. These external impacts can introduce a bias that tends to nullify the direct effect of being acquired. Consequently, the estimates presented should be considered as conservative lower bounds of the whole effect of the mergers, or as a treatment effect on the treated only. An additional consideration involves individuals persisting in informal sector employment, despite the exclusion of this demographic from the analysis, which exclusively focuses on the formal sector.

Nevertheless, acquiring companies might strategically focus on profitable enterprises, resulting in a potential overestimation of the impact of acquisitions on earnings. Conversely, if acquiring firms target underperforming businesses, estimates may be downwardly biased due to a decline in earnings for the target firms preceding the merger. To evaluate potential bias, a comparison is conducted between the outcomes for workers of the acquired firms and those of control firms in the years leading up to the event, as a test of common trends.

It is also conceivable that rumors or indications of impending acquisition activity could impact the behavior of workers, creating anticipation of the event. This anticipation might lead to reduced work effort, lower earnings, or voluntary resignations in anticipation of potential changes associated with the acquisition.

Given that wage data is available on an annual basis, and considering that the time span between the announcement and completion of mergers is relatively short, potential issues related to anticipation of treatment may not be a significant concern.

As an extra experiment, another treatment is introduced considering the withdrawal and rumored announcement dates of potential acquisitions that were not completed from Reuters SDC data is considered as treatment.

The study considers various heterogeneities to understand the impacts of acquisitions and investigates the underlying mechanisms. Occupational differences, based on CBO classifications, are analyzed to uncover potential variations in the effects across different job roles. The analysis also explores industry or occupation switching (up to a 2 digits level). Gender-based differences are examined to determine if the impact of acquisitions varies between male and female employees. Additionally, the size of firms is considered to see if the effects differ based on the scale of the workforce in acquired entities.

Wage dynamics are assessed by differentiating between incumbents and leavers, considering both voluntary and forced departures, using data from RAIS. This differentiation aims to capture the differential impact on those who choose to stay and those who may leave due to various acquisition-related circumstances.

To understand potential mechanisms shaping outcomes, the analysis includes horizontal or conglomerate mergers to asses market power. This approach aims to investigate whether significant shifts in market concentration are a driving force behind the observed changes, and interacting it with a skill measure, aligning with the arguments presented by Prager and Schmitt (2021) at a market level for hospitals.

Following from Card et al. (2018), a standard AKM (Abowd et al., 1999) model is employed in this study to disentangle firm and worker premiums within the matched data[3]. Leveraging employer-employee matched data affords the opportunity to scrutinize both facets of the labor market. The fundamental specification of the TWFE model is expressed as follows:

$$\ln(w_{it}) = \alpha_i + \psi_{F(i,t)} + \gamma_t + x'_{it}\beta + \varepsilon_{it} \tag{4}$$

where α_i is an individual fixed effect, ψ_j is a firm fixed effect, γ_t is a year indicator, x'_{it} are time varying covariates which include education and an age cubic interacted with year indicators, and $F(i,t)$ is a function which indicates the firm individual i is employed at in time period t. Given the individual fixed effects, the firm-specific wage premium ψ_j is interpreted as the premium paid by firm j controlling for the quality of workers employed at firm j.

Identification is derived solely from individuals who have changed their employment status, with the main assumption resting on the notion that mobility exhibits no correlation with unobservable factors, and that all workers within the same firm receive an identical wage premium (additivity). It is importnant to note that this specification precludes sorting based on the competitive advantage of workers in specific firms. Fixed effects will be biased unless job changes are uncorrelated with the time-varying component of wages. However, this model allows me to get a proxy of firm productivity and worker skill. Consequently, individuals are categorized as High and Low Skilled (above or below median infividual FE) to introduce heterogeneity in our event study specification. Subsequently, a regression is conducted against the firm-specific wage premium instead of wages to examine mechanisms.

[3]While it would be ideal to conduct this procedure using the entire RAIS dataset, computational limitations render this practically unfeasible. I am mindful of the constraints associated with this; nevertheless, the model adequately captures the essential forces I seek to analyze.

4 Effects of Being Acquired on Workers

4.1 Broad Effects

As depicted in Figure 2a, wages for individuals working at later-acquired firms in $t = -1$ trend similarly to the controls in the years preceding the mergers. The average effect in the 4 years after the event is an increase of 0.02^{**} (SE $= 0.008$). This corresponds to an approximate extra 2% premium for the acquired ones throughout the entire post period. However, as observed in Figure 2a and column (2) of Table 2, the entire effect concentrates in years 0 through 1 following the events. Since it is inarithms, this implies differential behavior relative to $t = -1$.

Similarly, the examination of separation outcomes reveals a distinct temporal pattern. Figure 2b illustrates that the entire effect of acquisition on separation is concentrated in the short run, particularly in $t = 0$. As presented in column (4) of Table 2, the coefficient associated with the interaction term *Post Short Run* $\times$ *Acq.* is 0.038^{***} (SE$=$ 0.009), indicating a statistically significant increase in the likelihood of separation in the immediate 0 to 1 years following acquisition events. In contrast, the long-run effect (*Post Long Run* $\times$ *Acq.*) on separation, as shown in the same column, is not statistically significant, with a coefficient of 0.008 (SE$=$ 0.008). This suggests that the heightened effect observed in separation is transitory, primarily occurring in the short run (as this is not inarithms like wages). The average effect over the 4 years after the event is 0.020^{***} (SE$=$ 0.007), representing a statistically significant increase in separation but, notably, is entirely driven by the short-run dynamics, particularly in $t = 0$.

These findings highlight that the average impact of acquisition on acquired worker outcomes is concentrated in the short run, with a significant positive effect on wages and an increased likelihood of separation. The long-run effects appear to be negligible, but, as later described in section 4.2, this is driven by heterogeneous effects in the long run.

Figure 2: Broad effects of being acquired using whole matched sample.

(a) Effect on wages. (b) Effect on separation.

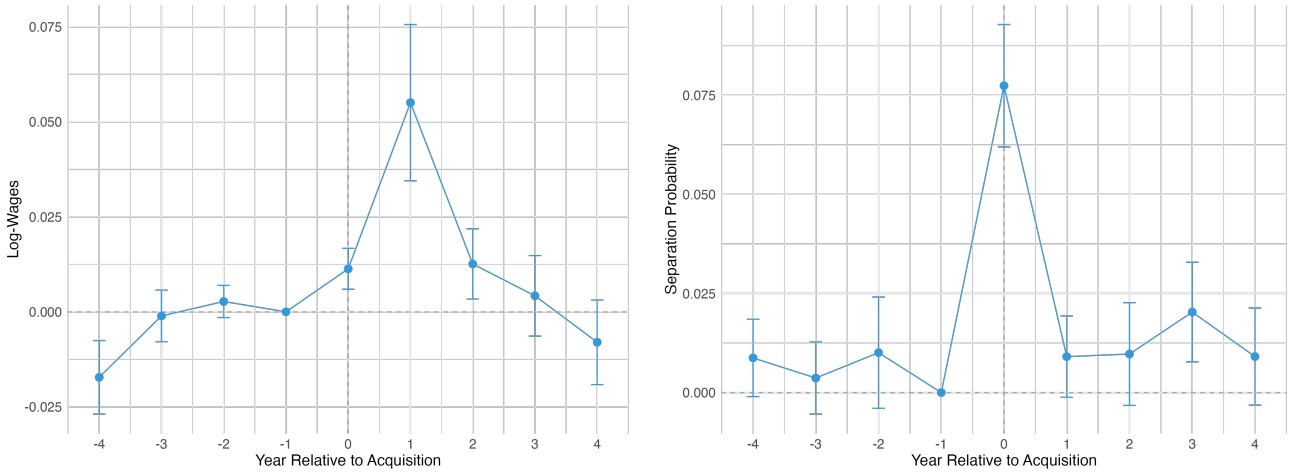


Table 2: Impact of Acquisition on Acquired Worker Outcomes

	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Post × Acq.	0.020**		0.020***	
	(0.008)		(0.007)	
Post Short Run × Acq.		0.037***		0.038***
		(0.012)		(0.009)
Post Long Run × Acq.		0.008		0.008
		(0.009)		(0.008)
Observations	574,000	574,000	584,248	584,248

Note: This table presents the matched difference-in-difference effect estimates for the whole sample. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

4.2 Effects on Incumbents and Leavers (Volunaty Resignated and Involuntary Terminated)

The differential wage effects are mainly explained by job changes. For this analysis, workers are categorized into three distinct groups: (i) Involuntary Terminated, representing individuals terminated from the acquired firm during periods 0 to 1; (ii) Voluntary Resignated, encompassing those who voluntarily left the firm during the same period; and (iii) Incumbents, comprising individuals who stayed with the acquired firm for at least periods 0 to 1; and their respective controls. Figure 3 provides a visual representation of the wage outcomes for these groups.

Table 3 dissects the impact of acquisition on acquired worker outcomes based on these separation types. In Panel A, which focuses on Involuntary Terminated workers, the coefficient for *Post* × *Acq.* in column (1) for Wages is -0.043^{***} (SE= 0.011), indicating a statistically significant negative effect on wages for this group. The short-run effect (*Post Short Run* × *Acq.*) is -0.011 (SE= 0.013), suggesting a decline in wages in the immediate 0 to 1 years following acquisition events not distinguishable from 0, which as seen in Figure 3 is driven by a fall in $t = 1$.

In Panel B, focusing on Incumbents workers, the *Post* × *Acq.* coefficient in column (1) is 0.093^{***} (SE= 0.016), indicating a significant positive effect on wages. The short-run effect is 0.098^{***} (SE= 0.018) -even higher than the other types- while the long-run effects are 0.85^{***}, suggesting a reversal of the positive impact on wages in

the immediate 0 to 1 years following acquisition eventsending in a similar difference to the individuals who stay on the firm (Voluntary Terminated).

Panel C focuses on Voluntary Resignated, where the *Post* × *Acq.* coefficient in column (1) is 0.024* (SE= 0.015), indicating a positive, effect on wages. The immediate impact in the short run, denoted as *Post Short Run* × *Acq.*, is estimated to be 0.009 with a standard error (SE) of 0.017. This implies a small positive influence on wages in the immediate 0 to 1 years following acquisition events, though the result is statistically insignificant. In the long run, the effects are estimated to be 0.052**, indicating similarities with the Incumbents.

Figure 3: Effects on wages of being acquired stratifying on incumbents and separated.

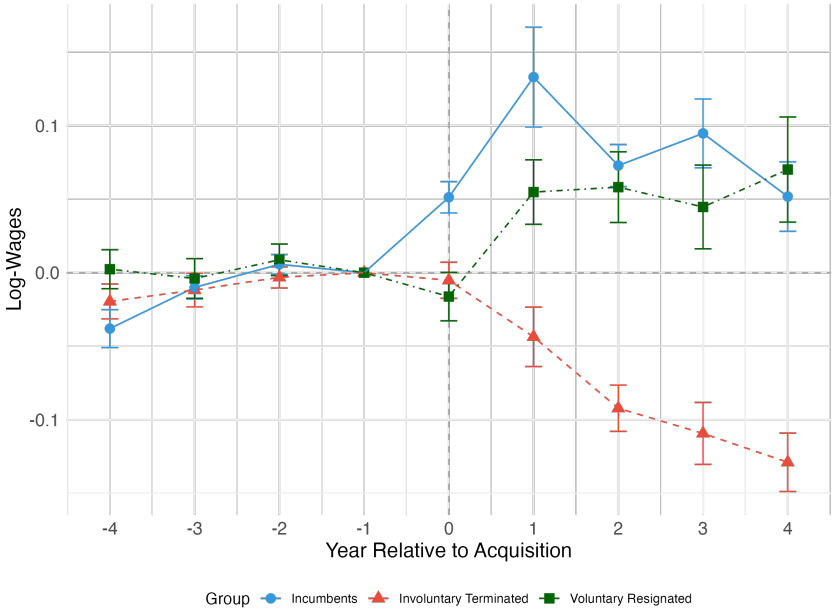


Table 3: Impact of Acquisition on Acquired Worker Outcomes by desligation type

	Log-Wages	
	(1)	(2)
Panel A: Involuntary Terminated		
Post × Acq.	-0.043^{***}	
	(0.011)	
Post Short Run × Acq.		-0.011
		(0.013)
Post Long Run × Acq.		-0.096^{***}
		(0.014)
Observations	114,111	114,111
Panel B: Incumbents		
Post × Acq.	0.093^{***}	
	(0.016)	
Post Short Run × Acq.		0.098^{***}
		(0.018)
Post Long Run × Acq.		0.085^{***}
		(0.019)
Observations	223,018	223,018
Panel C: Voluntary Resignated		
Post × Acq.	0.024^{*}	
	(0.015)	
Post Short Run × Acq.		0.009
		(0.017)
Post Long Run × Acq.		0.052^{**}
		(0.022)
Observations	47,993	47,993

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 3 panels: (i) Involuntary Terminated, (ii) Voluntary Resignated and (iii) Incumbents; based on selecting stratas if the treated observations stays on the firm or not from period 0 through 2 following the event. Columns (1) presents estimates for equation 2, and column (2) presents estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 2 through 4 following the event, while the short-run effect is equal to the effect of being acquired in years 0 through 1 following the event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

4.3 Industry and Sector Switch

This analysis extends beyond wage and separation outcomes to explore the impact of acquisition on workers' occupational and industrial mobility, specifically considering two-digit CNAE (Classification Nacional de Atividades Econômicas) or CBO (Classification Brasileira de Ocupações) codes. Figure 4 visually depicts the significant impact of acquisition on the probability of switching both occupation and industry within these specified categories. Table 4 quantifies these effects, divided by the short and long run.

In the short run, acquisition events exhibit a notable influence on workers' occupational and industrial switching within the specified two-digit categories. Specifically, the coefficient for *Post Short Run* × *Acq.* in column (2) reveals a statistically significant increase in the probability of industry switching by 0.057*** (SE= 0.016), and in column (4), a similar impact is observed for occupation switching with a coefficient of 0.041*** (SE= 0.014). The joint effect, as indicated by the coefficient for *Both Switch* in column (6), is also statistically significant, showcasing a probability increase of 0.045*** (SE= 0.010).

These findings underscore the transformative effect of acquisition events in prompting workers to make significant occupational and industrial shifts within the specified two-digit categories in the short run, in the first two periods after the acquisition event, as specified by Figure 4.

While the behavior across industry, occupation, and both switches exhibits striking similarities in response to acquisition events, a subtle distinction emerges. In the short run, all three types of switches—industry, occupation, and both—demonstrate a significant and positive impact, with coefficients of 0.057*** (SE= 0.016), 0.041*** (SE= 0.014), and 0.045*** (SE= 0.010), respectively. Notably, industry switching appears slightly more common, with a prevalence approximately 1%-2% higher than occupation switching and both switches.

Figure 4: Effects on occupation (CBO) and industry (CNAE) switching.

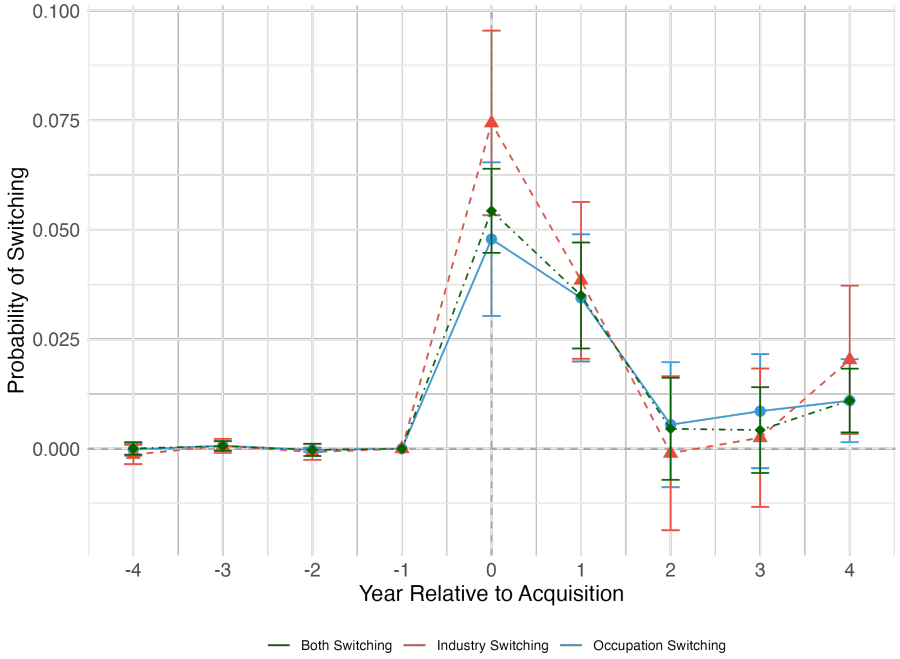


Table 4: Impact of Acquisition on Probability of Switching

	Industry Switch		Occupation Switch		Both Switch	
	(1)	(2)	(3)	(4)	(5)	(6)
Post × Acq.	0.028**		0.022**		0.022***	
	(0.013)		(0.010)		(0.009)	
Post Short Run × Acq.		0.057***		0.041***		0.045***
		(0.016)		(0.014)		(0.010)
Post Long Run × Acq.		0.007		0.008		0.006
		(0.014)		(0.010)		(0.009)
Observations	550,609	550,609	550,609	550,609	550,609	550,609

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 3 types of switch: (i) Both, (ii) Occupation Switching and (iii) Industry Switching; based on selecting stratas if the treated observations stays on the firm or not from period 0 through 2 following the event. Columns (1) and (3) and (5) present estimates for equation 2 and panels (2) and (4) and (6) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

4.4 Effects of Withdrawn Acquisitions

This section explores the effects of announcement of later withdrawn acquisitions on separation and wages, considering that the mergers dataset from Thomson Reuters SDC Platinum has information on non-consummated mergers.

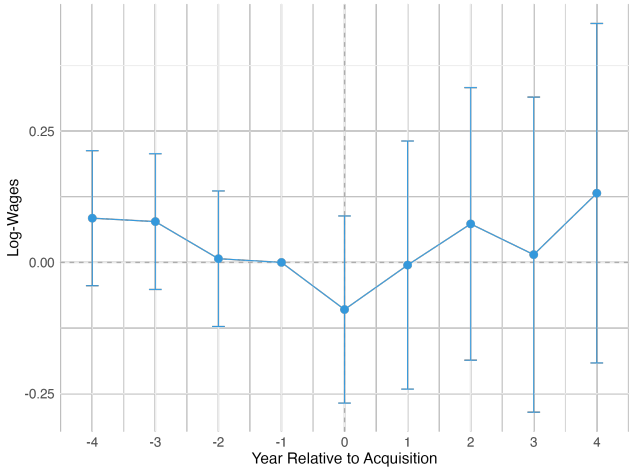
Figure 5 visually illustrates the broad effects of withdrawn acquisitions, showcasing that while wages from incumbents (Figure 5a) remain largely unaffected, there is a distinctive spike in separation rates (Figure 5b) in the short run.

The corresponding estimates in Table 5 further elucidate these dynamics. Notably, the coefficient for *Post* × *Acq.* in column (2) indicates a non-significant effect on wages −0.099 (SE= 0.063), aligning with the graphical representation. In contrast, the short-run effect (*Post Short Run* × *Acq.*) in the same column reveals a significant increase in separation rates of −0.110*** (SE= 0.058), suggesting that the announcement of withdrawn acquisitions might act as an informative signal to employees, influencing decisions such as a departure in the short run.

Given the preliminary nature of these findings and the relatively small dataset, further research is warranted to thoroughly investigate the intricate responses of employees to withdrawn acquisitions.

Figure 5: Broad effects of witdhrawn acquisition events.

(a) Effect on wages of incumbent employees.



(b) Effect on separation.

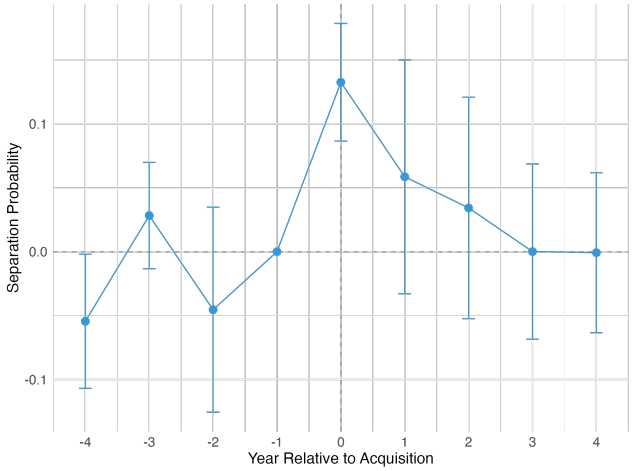


Table 5: Impact of Withdrawn Acquisition on (Not) Acquired Worker Outcomes

	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Post × Acq.	−0.099		0.063	
	(0.063)		(0.046)	
Post Short Run × Acq.		−0.110		0.113***
		(0.058)		(0.040)
Post Long Run × Acq.		−0.092		0.029
		(0.071)		(0.044)
Observations	4,720	4,720	4,758	4,758

Note: This table presents the matched difference-in-difference effect estimates for the whole sample. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

5 Mechanisms

I begin by introducing a simplified or "toy" static Cournot competition model within labor markets, a standard approach in oligopsony literature (Robinson, 1933; Ashenfelter et al., 2010; Manning, 2003), to explain changes

in wages. In this model, each firm j encounters a well-defined inverse labor supply curve $w_m(L_m)$ (upward-sloping), where w_m represents the wage in market m, and $L_m = \sum_{\forall j} \ell_j$ denotes aggregate labor supply. The firm's optimization problem is given by

$$\max_{\ell_i} \pi_i(\ell_i) = \theta_i f(\ell_i) - w_m(L_m)\ell_i$$

where θ_i denotes firm-specific productivity. For simplicity, we assume a linear production function, $f(\ell_i) = \ell_i$. This assumption yields the market-level wage

$$w_m = \underbrace{\left(\frac{\eta_m}{HHI + \eta_m}\right)}_{\substack{\text{Markdown} \\ \text{(Market Power)}}} \underbrace{\bar{\theta}_m}_{\substack{\text{Average} \\ \text{Market Productivity}}}$$

Here, η represents elasticity, HHI is the Herfindahl-Hirschman index, and $\bar{\theta}$ is the average market productivity or the value of the marginal product in the market, weighted by market share.

In this theoretical framework, mergers may impact both η (through monopsonistic effects) and θ (via productivity or product market changes), and obviously affecting HHI. Increases in productivity due to M&A would elevate wages for workers through an increase in θ_j. Conversely, increases in product market power would diminish the value of the marginal product of labor, resulting in a decline in wages. In this model, wages are a monotonic function of employment (given that $w_j(l_j)$ is upward-sloping). Thus, increased product market power leading to lower output would cause wages to fall due to declining employment.

Utilizing this model allows me to explore the mechanisms that underlie the impact on employees' wages. It is important to highlight that an increase in average productivity tends to result in higher wages, whereas greater concentration tends to lead to a decline.

While the analysis does not explicitly delve into the mechanisms driving separation, existing literature converges on attributing these effects to factors such as market power (a theme consistent with the subsequent regression analyses) and role duplication, rendering certain positions redundant and elevating fixed costs.

Models based on wage bargaining predicts that increased product market power, resulting in higher profits and lower employment, would lead to increased wages through rent-sharing. Additionally, mergers are often justified by the expectation of reduced fixed costs, which could be realized by eliminating redundant jobs across employers. For instance, following a merger or acquisition, a firm may decide to lay off redundant workers, explaining part of the observed separation. It is important to note that this toy model does not consider substitutability across industries within a region or repeated interactions.

5.1 Firm Wage Premia as a Proxy of Productivity

The intricate dynamics of the effects on log wages following acquisitions prompt an exploration into potential mechanisms driving these changes. Our analysis indicates that a significant portion of the observed effect on log wages can be attributed to the firm-specific wage component similar behavior. The plots in Figure 6 visually

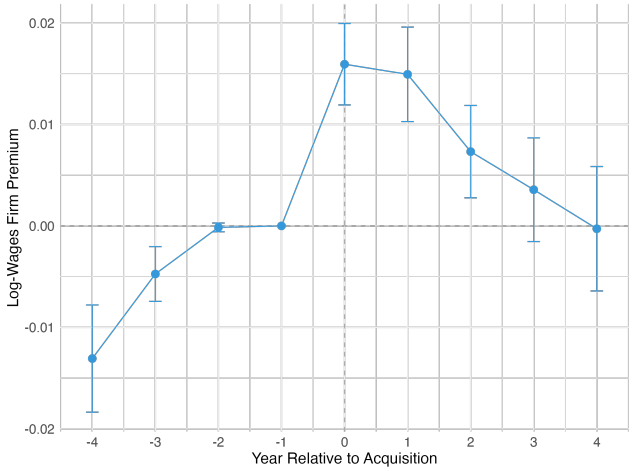
depict the broad effects of being acquired on firm wage premiums for individuals. Figure 6a illustrates the overall impact, while Figure 6b explores the effects on firm premiums based on separation type. Complementing these visualizations, Table 6 quantifies the effects, presenting the matched difference-in-difference effect estimates for log wages firm premiums.

When regressing against the firm-specific wage component ($\psi_{F(i,t)}$) from Equation 4, our results unveil that almost the entirety of the effect on log wages can be elucidated by the firm-specific wage component. The coefficient for *Post* × *Acq.* in column (1) of Table 6 is 0.013^{***} (SE= 0.004), highlighting a statistically significant increase in log wages associated with acquisitions. However, when examining the short-run effect (*Post Short Run* × *Acq.*) in the same column, the coefficient elevates to 0.020^{***} (SE= 0.004), indicating a more substantial impact in the immediate years following the acquisition. Meanwhile, the long-run effect (*Post Long Run* × *Acq.*) remains positive but diminishes to 0.009^{**} (SE= 0.004), suggesting a persistence of the effect but at a reduced magnitude.

The firm-specific wage premium captured by the AKM model serves as a valuable proxy for firm-specific productivity since, since as showed by Card et al. (2018), more productive firms pay higher average wage premiums, shedding light on an underlying mechanism in the observed changes in log wages following acquisitions: the main driver here is productivity as developed in the toy model. The AKM model posits that the firm-specific wage component (ψ_i) encapsulates unobservable factors related to the marginal productivity of labor within a particular firm. As such, changes in this firm premium can be construed as indicative of alterations in the firm's overall productivity. Therefore, the significant impact on log wages associated with acquisitions, particularly the short-run surge depicted in Figure 6a, can be interpreted through the lens of changes in the marginal productivity of labor within the acquiring firm. The quantitative results in Table 11 further underscore this connection, emphasizing the role of firm-specific productivity as a key determinant in elucidating the observed shifts in log wages. This interpretation aligns with our toy model, and literature wherein acquisitions can influence firm productivity through various channels, ultimately manifesting in changes to the remuneration of labor.

Figure 6: Effects of being acquired on firm premium.

(a) Broad effects on firm premium.



(b) Effects on firm premium by separation type.

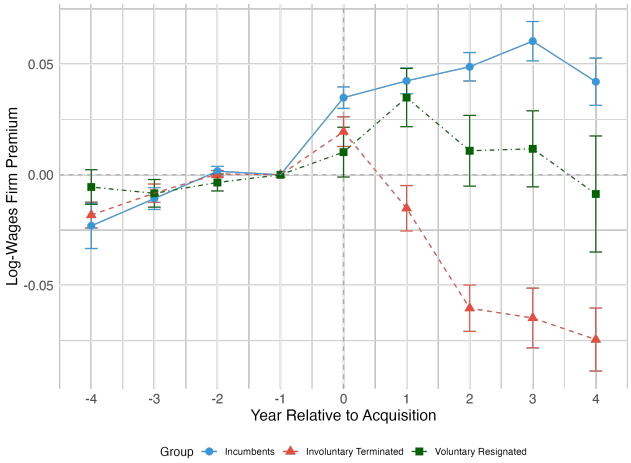


Table 6: Impact of Acquisition on Acquired Worker Outcomes

	Log-Wages Firm Premium	
	(1)	(2)
Post × Acq.	0.013***	
	(0.004)	
Post Short Run × Acq.		0.020***
		(0.004)
Post Long Run × Acq.		0.009**
		(0.004)
Observations	584,030	584,030

Note: This table presents the matched difference-in-difference effect estimates for the whole sample. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

5.2 Market Power Mechanisms

Thomson Reuters SDC Platinum enables the identification of acquisitions within the same industry and different industries (conglomerate) based on a broad industry categorization. This distinction allows for the examination

of potential differences in the effects of these mergers on labor market outcomes. Figure 7 displays the impact of acquisitions categorized as vertical or in different industries (Panel A) and the impact of vertical acquisitions within the same industry (Panel B) on log-wages of incumbents and separation rates.

It is essential to note that the examination of the impact of same industry and conglomerate mergers on labor market outcomes, specifically in terms of log-wages of incumbents, is particularly insightful. The rationale behind this is an increase in HHI means a rise in market concentration, potentially influencing wage dynamics. The expectation is that same industry mergers, where firms operate in the same industry, may lead to a more substantial increase in HHI compared to conglomerate mergers, where firms operate in different industries. Therefore, the observed effects on log-wages of incumbents are interpreted in the context of changes in market concentration induced by these different types of mergers.

Table 11 provides the event studies specificiation of the results.

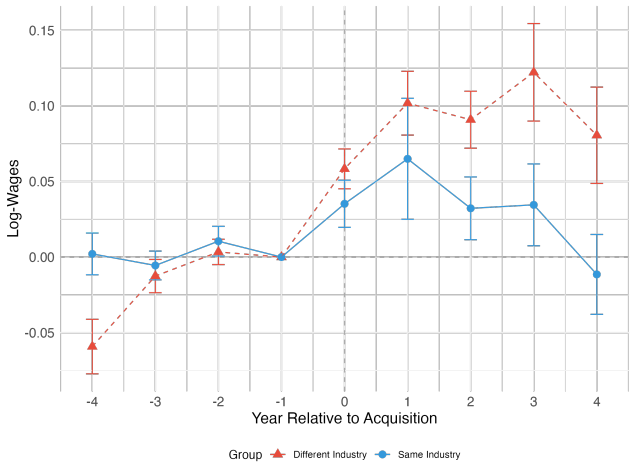
In Panel A, acquisitions categorized as different industries show a significant positive effect on log-wages in the short run (Figure 7a). However, the long-run effect on log-wages is relatively small and statistically insignificant.

Alternatively, acquisitions within the same industry, presented in Panel B, exhibit a stronger positive impact on log-wages (Figure 7a). Similarly, the short-run effect on separation rates is more pronounced and remains statistically significant (Figure 7b). In the long run, the effect on log-wages for same-industry acquisitions is smaller but remains statistically significant.

These results suggest that same industry acquisitions within the same industry have a smaller impact on log-wages supporting the expectation that same industry mergers may lead to a more significant increase in market concentration (HHI) compared to vertical mergers, thereby influencing labor market outcomes differently.

Figure 7: Effects by Conglomerate or Same Industry Acquisitions.

(a) Effect on wages of incumbents.



(b) Effect on separation.

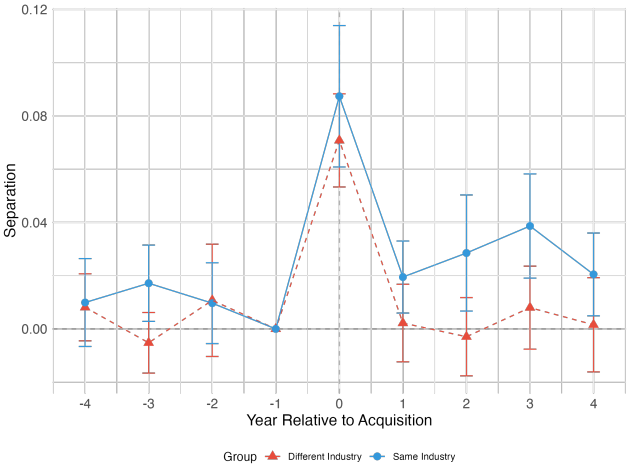


Table 7: Impact of Acquisition on Acquired Worker Outcomes

	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Panel A: Different Industry				
Post × Acq.	0.023**		0.013	
	(0.011)		(0.010)	
Post Short Run × Acq.		0.033**		0.033***
		(0.013)		(0.012)
Post Long Run × Acq.		0.015		−0.001
		(0.011)		(0.011)
Observations	322,545	322,545	328,318	328,318
Panel B: Same Industry				
Post × Acq.	0.016*		0.030***	
	(0.013)		(0.010)	
Post Short Run × Acq.		0.023***		0.044***
		(0.022)		(0.014)
Post Long Run × Acq.		−0.004		0.020*
		(0.013)		(0.011)
Observations	251,455	251,455	255,930	255,930

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 2 panels: (i) same industry acquisitions, and (ii) different industry acquisitions, based on the industry categorization of target and acquiror firms on SCD Platinum M&A data. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

6 Heterogeneities

In this section, I explore the heterogeneous impacts of acquisitions on worker outcomes, aiming to uncover patterns that differentiate various subgroups. The analysis explores distinct dimensions, shedding light on how

the effects vary across different worker or firsm characteristics. The following paragraphs provide insights into key findings.

First, I turn my attention to the influence of age on separation and wages. Figure 9c indicates that older individuals exhibit less separation in the short run following acquisitions, meaning a relatively smaller increase in separation rates. Concurrently, the wage effects differ across age groups. Younger individuals experience a higher positive effect on wages (Figure 9a), a trend further emphasized among stayers (Figure 9b). These results are systematically summarized in Table 9, offering a comprehensive view of age-related heterogeneities in the impact of acquisitions.

Exploring the role of educational attainment, the analysis indicates that, in general, those with a higher level of education fare better after acquisitions compared to their less educated counterparts (Figure 10a). However, among incumbents, a contrasting pattern emerges. Non-graduates among incumbents exhibit a more favorable change in wages relative to their control group counterparts, as depicted in Figure 10b. This highlights the complexity of the educational dimension, with different effects for incumbents compared to the overall workforce.

Turning our attention to skill levels, I classify individuals based on whether their individual wage premium from the AKM model estimated using equation 4 falls above or below the median threshold of α_i. The analysis reveals that, in general, high-skilled workers experience more favorable wage effects than their low-skilled counterparts (Figure 11a).

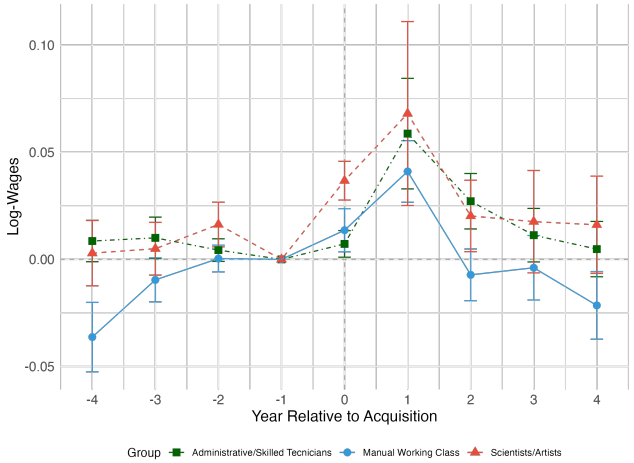
There are differences in the effect of acquisitions on wages among incumbent workers, particularly in comparison to workers categorized as Scientists/Artists. As illustrated in Figure 8c, the wage effect for Scientists/Artists is notably lower than that observed for other worker types. This suggests that the impact of acquisitions on wages differs significantly based on the nature of the occupation, with Scientists/Artists experiencing a distinct and less pronounced effect compared to their counterparts.

Lastly, we explore the influence of firm size on worker outcomes. The findings suggest that, on average, workers in larger firms experience a decline in wages following acquisitions, while workers in smaller firms observe positive changes (Figure 12a), which is also compatible with the presence of monopsony power. Among stayers, workers in smaller firms experiencing a significant improvement in wages while workers from large firms face almost no effect (Figure 12b). Additionally, workers in larger firms face a higher probability of being laid off, whereas those in smaller firms exhibit a lower probability of separation (Figure 12c) in the short and long run. These intricate dynamics are systematically presented in Table 12, providing a summaryof the heterogeneous impacts of acquisitions across different firm sizes.

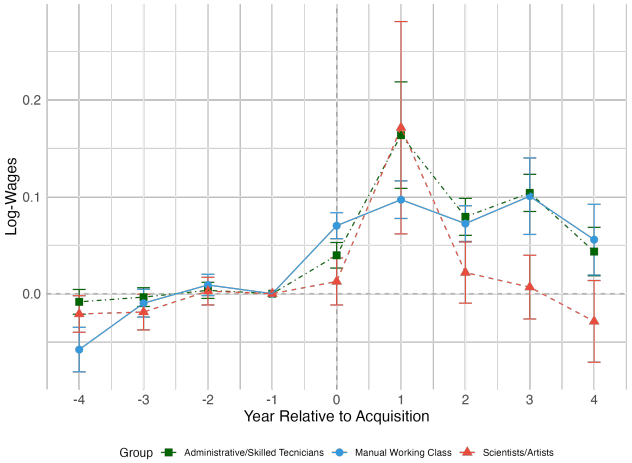
6.1 Occupation (CBO) Type

Figure 8: Broad effects of being acquired stratifying acording to occupation type (CBO).

(a) Effect on wages.



(b) Effect on wages of incumbents.



(c) Effect on separation.

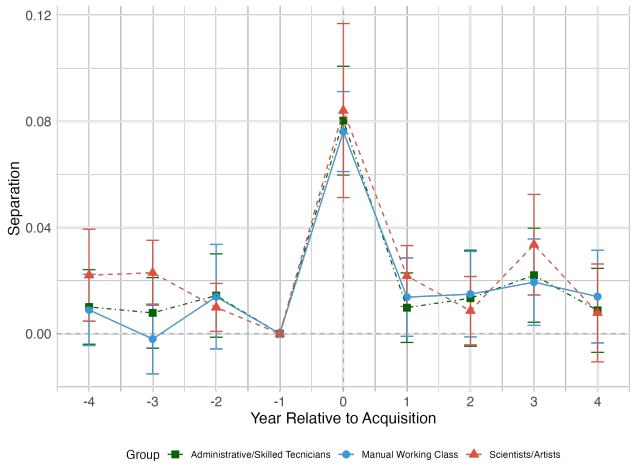


Table 8: Impact of Acquisition on Acquired Worker Outcomes

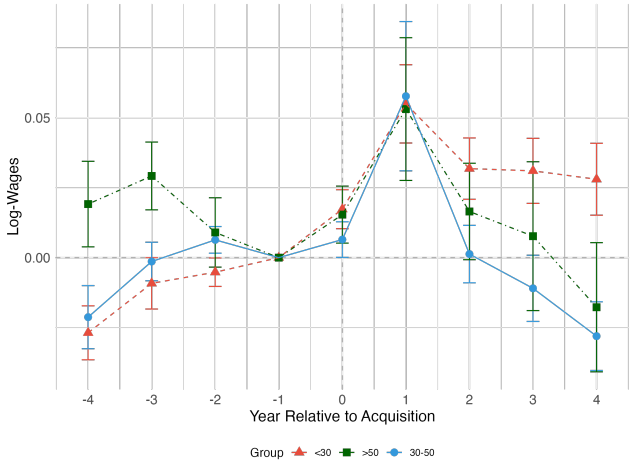
	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Panel A: Manual Working Class				
Post × Acq.	0.017*		0.020*	
	(0.010)		(0.010)	
Post Short Run × Acq.		0.027*		0.037***
		(0.014)		(0.012)
Post Long Run × Acq.		0.009		0.007
		(0.010)		(0.011)
Observations	249,254	249,254	252,525	252,525
Panel B: Administrative/Skilled Tecnicians				
Post × Acq.	0.018**		0.023***	
	(0.009)		(0.009)	
Post Short Run × Acq.		0.040***		0.040***
		(0.011)		(0.010)
Post Long Run × Acq.		0.002		0.011
		(0.012)		(0.010)
Observations	235,483	235,483	241,287	241,287
Panel C: Scientists/Artists				
Post × Acq.	0.027		0.018	
	(0.019)		(0.016)	
Post Short Run × Acq.		0.046*		0.039*
		(0.027)		(0.022)
Post Long Run × Acq.		0.012		0.003
		(0.019)		(0.015)
Observations	64,512	64,512	65,393	65,393

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 3 panels: (i) Manual Working Class (one digit CBO from 5 to 6), (ii)Administrative/Skilled Tecnicians (one digit CBO 3 or 4) and (iii) Scientist/Artist (one digit CBO is 2); based on selecting stratas if the treated observations stays on the firm or not from period 0 through 2 following the event. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

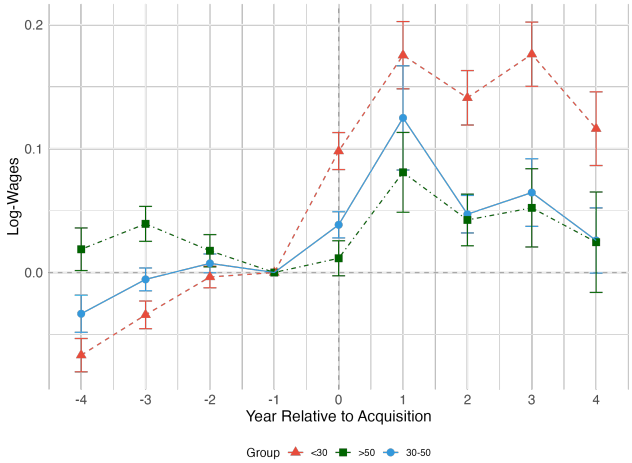
6.2 Age

Figure 9: Broad effects of being acquired stratifying acording to age (at $t = -1$).

(a) Effect on wages.



(b) Effect on log-wages of incumbents.



(c) Effect on separation.

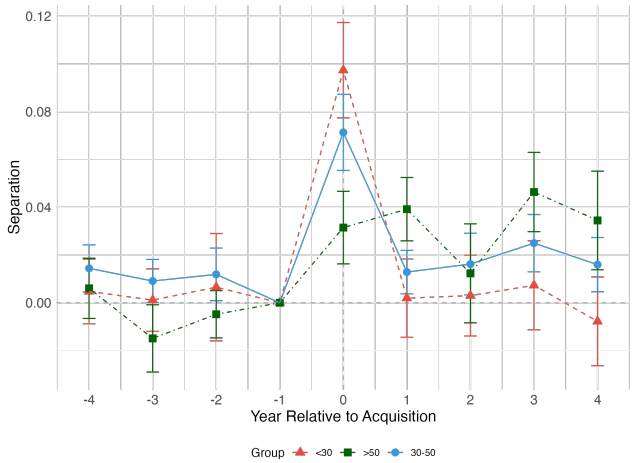


Table 9: Impact of Acquisition on Acquired Worker Outcomes

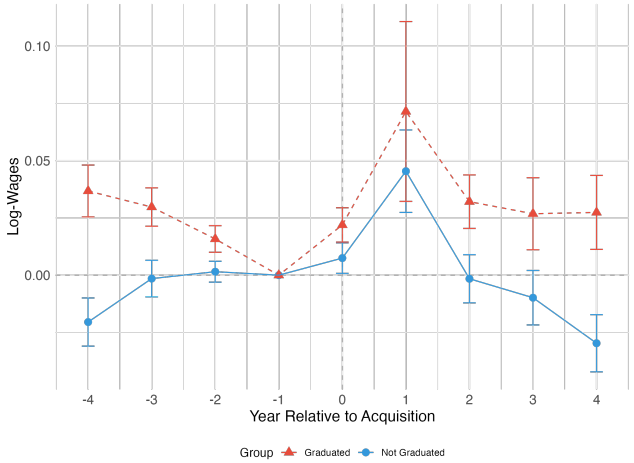
Panel A: <30				
Post × Acq.	0.044***		0.019*	
	(0.007)		(0.010)	
Post Short Run × Acq.		0.047***		0.047***
		(0.008)		(0.011)
Post Long Run × Acq.		0.041***		−0.002
		(0.009)		(0.011)
Observations	210,320	210,320	212,404	212,404
Panel B: 30-50				
Post × Acq.	0.011		0.020***	
	(0.011)		(0.007)	
Post Short Run × Acq.		0.037**		0.033***
		(0.016)		(0.010)
Post Long Run × Acq.		−0.007		0.010
		(0.010)		(0.008)
Observations	320,340	320,340	326,545	326,545
Panel C: >50				
Post × Acq.	0.002		0.036***	
	(0.015)		(0.010)	
Post Short Run × Acq.		0.020		0.039***
		(0.016)		(0.011)
Post Long Run × Acq.		−0.011		0.034***
		(0.021)		(0.013)
Observations	43,340	43,340	45,299	45,299

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 3 panels: (i) age < 30, (ii) age between $30 - 50$ and (iii) age > 50; based on selecting stratas if the treated observations stays on the firm or not from period 0 through 2 following the event. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

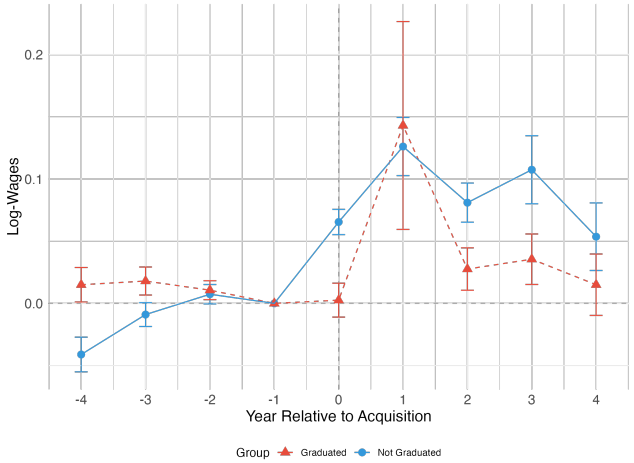
6.3 Education

Figure 10: Broad effects of being acquired stratifying acording to education (at $t = -1$).

(a) Effect on wages.



(b) Effect on wages of incumbents.



(c) Effect on separation.

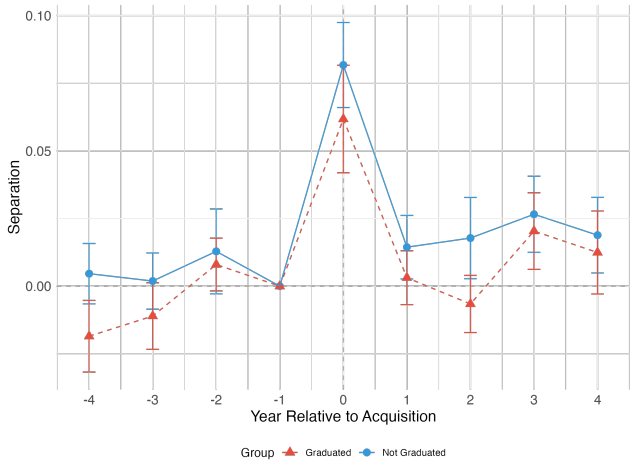


Table 10: Impact of Acquisition on Acquired Worker Outcomes

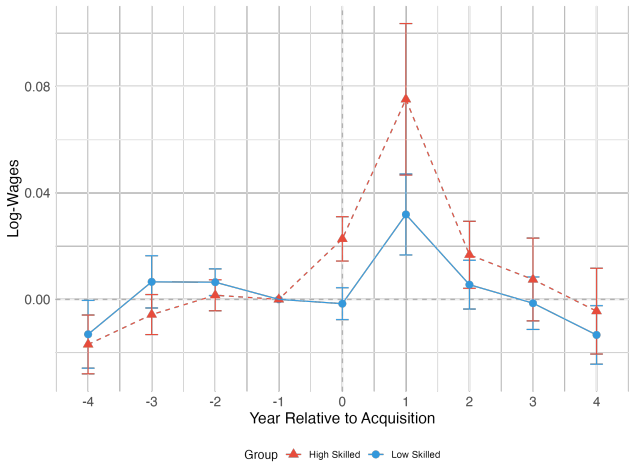
	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Panel A: Not Graduated				
Post × Acq.	0.010		0.028***	
	(0.009)		(0.008)	
Post Short Run × Acq.		0.032***		0.044***
		(0.011)		(0.010)
Post Long Run × Acq.		−0.007		0.017*
		(0.010)		(0.009)
Observations	454,233	454,233	463,037	463,037
Panel B: Graduated				
Post × Acq.	0.016		0.024**	
	(0.016)		(0.010)	
Post Short Run × Acq.		0.026		0.038***
		(0.024)		(0.014)
Post Long Run × Acq.		0.008		0.014
		(0.015)		(0.011)
Observations	119,767	119,767	121,211	121,211

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 2 panels: (i) graduated, and (ii) not graduated; at $t = -1$. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

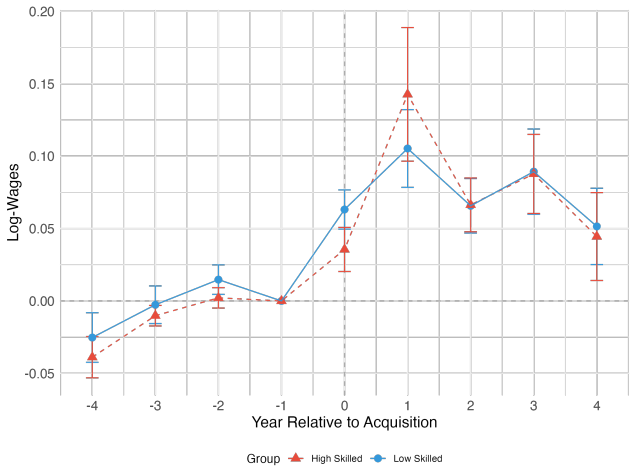
6.4 Skills

Figure 11: Broad effects of being acquired stratifying acording to skills (at $t = -1$).

(a) Effect on wages.



(b) Effect on wages of incumbents.



(c) Effect on separation.

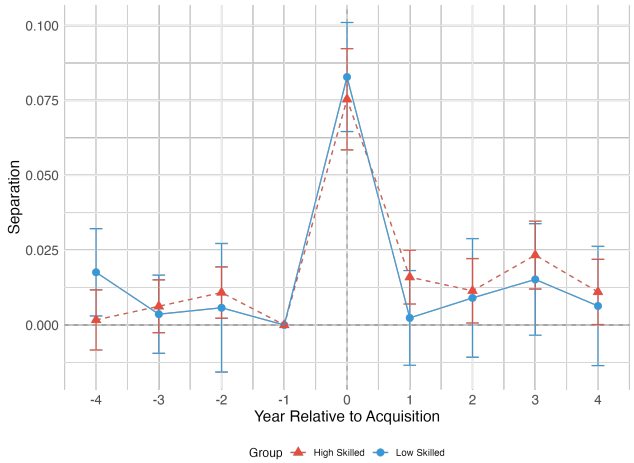


Table 11: Impact of Acquisition on Acquired Worker Outcomes

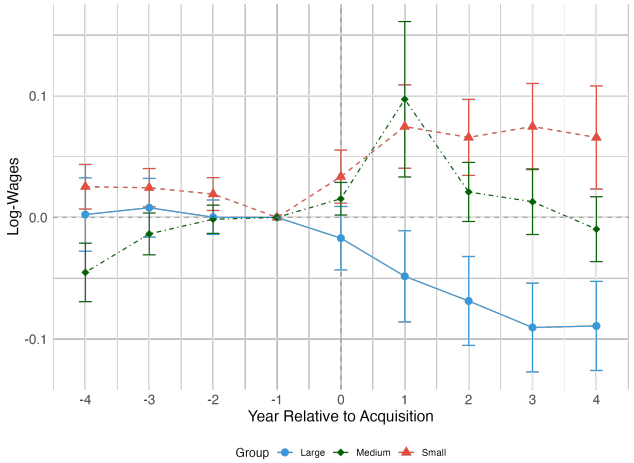
	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Post × Acq.	0.005		0.017*	
	(0.007)		(0.010)	
Post Short Run × Acq.		0.015		0.036***
		(0.010)		(0.011)
Post Long Run × Acq.		−0.002		0.003
		(0.008)		(0.011)
Observations	286,861	286,861	292,357	292,357
Panel B: High Skilled				
Post × Acq.	0.030**		0.024***	
	(0.013)		(0.009)	
Post Short Run × Acq.		0.054***		0.041***
		(0.017)		(0.011)
Post Long Run × Acq.		0.013		0.011
		(0.013)		(0.009)
Observations	287,139	287,139	290,094	290,094

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 2 panels: (i) low-skilled, and (ii) high-skilled; based on whether the individual fixed effct from the AKM model (estimated using equation 4) for the treated is below or above the median value. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

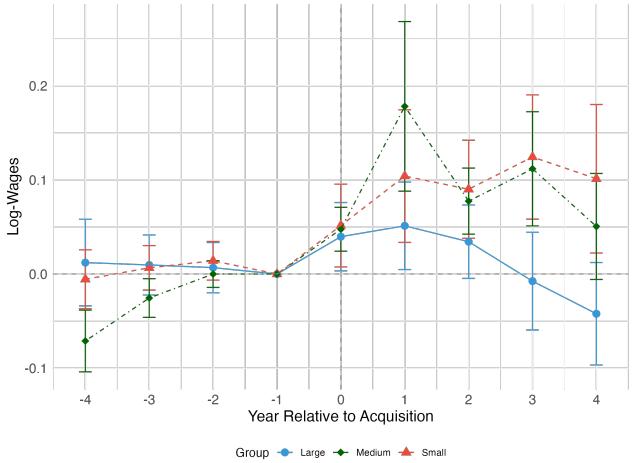
6.5 Firm Size

Figure 12: Broad effects of being acquired stratifying acording to firm size (at $t = -1$).

(a) Effect on wages.



(b) Effect on wages of incumbents.



(c) Effect on separation.

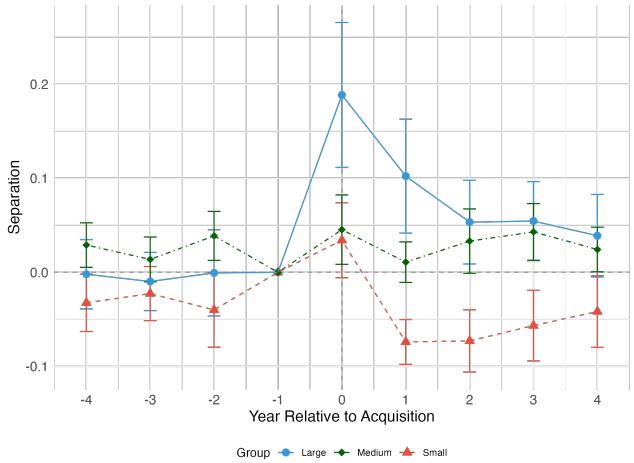


Table 12: Impact of Acquisition on Acquired Worker Outcomes

	Log-Wages		Separation	
	(1)	(2)	(3)	(4)
Panel A: Large				
Post × Acq.	−0.064***		0.094***	
	(0.010)		(0.019)	
Post Short Run × Acq.		−0.035***		0.149***
		(0.011)		(0.028)
Post Long Run × Acq.		−0.085***		0.053***
		(0.013)		(0.013)
Observations	140,353	140,353	143,034	143,034
Panel B: Medium				
Post × Acq.	0.045***		−0.018*	
	(0.015)		(0.010)	
Post Short Run × Acq.		0.037***		0.004
		(0.013)		(0.016)
Post Long Run × Acq.		0.052***		−0.034***
		(0.018)		(0.011)
Observations	132,625	132,625	134,592	134,592
Panel C: Small				
Post × Acq.	0.044***		0.011	
	(0.011)		(0.010)	
Post Short Run × Acq.		0.072***		0.008
		(0.018)		(0.012)
Post Long Run × Acq.		0.024**		0.014
		(0.012)		(0.011)
Observations	267,274	267,274	272,338	272,338

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in 3 panels: (i) Large, (ii) Medium and (iii) Small; at $t = -1$. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

6.6 Industry (CNAE)

Table 13: Impact of Acquisition on Acquired Worker Outcomes

	Panel A		Panel B		Panel C		Panel D	
	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation
Post × Acq.	0.047**	0.002	−0.010	0.048**	0.034**	−0.001	−0.027	0.062
	(0.020)	(0.029)	(0.011)	(0.023)	(0.016)	(0.017)	(0.020)	(0.041)
Observations	65,298	66,288	61,960	62,900	139,697	141,971	17,513	17,875
	Panel E		Panel F		Panel G		Panel H	
	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation
Post × Acq.	0.011	0.036***	0.125***	0.024	0.064***	0.013	0.087**	0.029
	(0.014)	(0.008)	(0.025)	(0.022)	(0.020)	(0.019)	(0.043)	(0.018)
Observations	137,094	140,432	17,222	17,803	12,879	12,969	20,727	21,069
	Panel I		Panel J		Panel K		Panel L	
	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation
Post × Acq.	−0.127***	0.036	0.014	0.012	0.079**	0.011	−0.012	0.024
	(0.039)	(0.025)	(0.054)	(0.014)	(0.040)	(0.030)	(0.023)	(0.018)
Observations	4,132	4,165	51,155	51,726	3,571	3,677	10,213	10,293
	Panel M		Panel N		Panel O		Panel P	
	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation	Log-Wages	Separation
Post × Acq.	−0.029	−0.023	0.038	−0.065	0.053***	−0.048	0.365	0.017
	(0.058)	(0.040)	(0.074)	(0.086)	(0.017)	(0.036)	(0.396)	(0.185)
Observations	1,978	2,002	692	700	4,269	4,290	46	47

Note: This table presents the matched difference-in-difference effect estimates for the sample stratified in panels based on two digits CNAE classification: (A) administrative and support services (B) human health and social services, (C) trade, (D) construction, (E) manufacturing industrie, (F) education, (G) information and communication, (H) transportation and storage, (I) financial and insurance services, (J) electricity and gas, (K) other service activities, (L) professional, scientific and technical activities, (M) accomodation and foot servicies, (N) arts, culture, sports and recreation, (O) real estate and (P) international organizations. Columns (1) and (3) present estimates for equation 2 and panels (2) and (4) present estimates for equation 3. Standard errors clustered at the firm level and microregion by two digits industry indicator (CNAE) level. The long-run effect is equal to the effect of being acquired in years 3 through 4 following event, while short-run effect is equal to the effect of being acquired in years 0 through 1 following event. All regressions incorporate fixed effects for individuals and the interaction of year and acquisition.

7 Conclusions

This study draws on data from Brazil's formal employment sector, utilizing the Relação Anual de Informações Sociais (RAIS) survey spanning the years 2007 to 2015 and mergers between 2011 and 2012. The detailed employer-employee data, combined with information on mergers from the Thomson Reuters SDC Platinum Database, forms a comprehensive dataset for an exploration of the effects of mergers and acquisitions (M&A) on workers.

The findings provide crucial insights into the impacts of M&A events on the workforce. Examining wages, the study reveals that individuals working at later-acquired firms experience a significant increase in wages in the years following mergers, amounting to approximately 2% over the entire post-acquisition period. Notably, this effect is concentrated in the short run, particularly in the immediate 0 to 1 years following the events. In parallel, the analysis of separation outcomes unveils a distinct temporal pattern, with a statistically significant increase in the likelihood of separation concentrated in the short run, specifically in the same year following the events.

Furthermore, I dissect the wage effects by exploring job changes and categorizing workers into three groups: Involuntary Terminated, Voluntary Resignated, and Incumbents. This detailed analysis illustrates that incumbents and voluntary leavers end up with better wages, while those with involuntary desligation experience a decline. Such insights into the differential impact of acquisitions on wages based on job changes contribute significantly to our understanding of the varied effects on different segments of the workforce.

Policy implications of these findings are significant. The study highlights the distributional effects of mergers, which can inform antitrust policies and the merger review processes conducted by regulatory authorities. Recognizing the specific employee groups most affected by mergers, such as older individuals or those in larger firms, can guide policies aimed at effectively reintegrating these workers into the labor force.

Finally, the findings contribute to the ongoing policy debate regarding anti-takeover laws. The observed disparities in the effects of M&A events on workers shed light on potential motivations behind the emergence of such laws. This understanding is crucial for policymakers seeking to address the broader socio-economic implications of corporate acquisitions and make informed decisions that balance market efficiency with the well-being of the workforce.

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