Labor Supply Responses to Deaths of Family Members in the Presence of Survivors Pensions

Javier Feinmann Roberto Hsu Rocha *

April 19, 2025

Abstract

We study the labor supply effects of survivor pensions using administrative data from Brazil, one of the most generous systems in the world. Leveraging both an event-study around household deaths and a policy reform that reduced pension duration for younger spouses, we find that survivor benefits significantly reduce labor supply, especially on the extensive margin. The 2015 reform, which introduced age-based limits to benefit duration, led to smaller labor supply reductions among those affected. Our findings imply a labor supply elasticity of -0.2 with respect to benefit duration and highlight the importance of considering both benefit size and horizon in social insurance design.

*This paper could not have been written withouth the stellar work of the non profit agency *Fiquem Sabendo* in the fight for transparency in Government actions and open access to data. We would like to thank David Card, Emmanuel Saez, Damián Vergara, and Chris Walters for their comments. University of California at Berkeley, e-mail: robertohsurocha@berkeley.edu.

1 Introduction

The death of a primary income earner can be one of the most severe shocks a household can experience, posing significant economic risk for families by abruptly removing a core source of income and financial stability(Fadlon and Nielsen, 2021). In response, governments around the world have integrated survivor benefits into their broader social security systems as a key form of insurance against this risk. These programs are designed to replace lost earnings, prevent poverty among widows and dependents, and smooth consumption in the aftermath of bereavement (Coyne et al., 2024; Giupponi, 2019). Survivor pensions have thus become a central, if often underexamined, component of modern welfare states.

In this paper, we study how individuals' labor supply responds to death of relatives in the presence of survivors' pensions, and how the duration of such benefits drives these responses. We explore the Brazilian pension system for dependents of deceased public sector and military workers, which provides a great empirical context to answer these questions. Brazil has one of the most generous – and fiscally burdensome – survivor pension systems in the world. Brazil's government spending on survivor benefits is about 3% of GDP, the highest share among a large set of countries (roughly triple the OECD country average). This system can be traced back to 1890, as the first social security policy in the history of the Brazilian Republic. Historically, surviving dependents have been entitled to receive up to 100% of the deceased worker's pension or salary as a benefit, often without any conditions on the survivor's age, income, or remarriage status. In the public-sector and military pension regimes, rules have been especially lenient – relatives could receive lifetime benefits based on a deceased public employee's pension.

We combine administrative data on the universe of pension recipients with the universe of the formal labor market, and use two complementary empirical strategies in our analysis. First, we implement an event-study design around the death of a household member in which we compare the labor outcomes of individuals before and after a relative's death. Second, we exploit a policy reform implemented in 2016 that reduced the duration of survivor benefits for certain groups. This reform introduced sharp age-based cutoffs in pension entitlements: surviving spouses below a certain age would henceforth receive a temporary pension (for a fixed number of years), whereas older survivors continued to receive lifetime benefits. We leverage this natural experiment in a difference-in-differences design, comparing labor supply responses between younger and older widowed spouses, who experienced the death of their relatives before versus after 2016.

We begin by describing how labor supply changes with the death of a family member in the presence of survivors' pensions. First, we find that the event leads to a large reduction

in labor supply by surviving family members. On average, we estimate that four years after the death of a household member, survivors who are entitled to a pension have reduced the weekly hours worked by about 22% and their labor earnings by about 16%. These are sizable behavioral responses, indicating that many survivors scale back or exit employment once the pension income begins. Notably, the effect is concentrated on the extensive margin of labor supply: we find a 16 p.p. reduction in the probability of employment 4 years after the event. We also find small intensive margin effects. Conditional on being employed, we find a 2% reduction in the number of weekly hours worked.

We subject the event-study findings to a variety of robustness and validation checks. Reassuringly, we find no evidence of differential pre-trends in labor supply prior to the death event. The reduction in employment emerges precisely in the period when survivor pensions commence, suggesting that it is the income from the pension, rather than the bereavement alone, driving the effect. We also show that the reduction in formal employment is not offset by transitions into other occupations. Using near-universe data on firm ownership, we find no increase in formal business activity and a decline in low-scale self-employment.

Exploring heterogeneity, we find that the labor supply response to survivor pensions is present across different types of beneficiaries and is especially pronounced for more vulnerable groups. Both surviving spouses and daughters exhibit sizable drops in employment following a family death. We find larger reductions in labor supply among less educated and nonwhite survivors. For these groups, the survivor pension often represents a relatively high replacement rate of lost income, which may make continued employment less financially necessary. In contrast, higher-income survivors show more modest declines in work, though the direction remains the same. We also find a negative relationship between the amount received and changes in employment probability, i.e., those receiving larger pension benefits experience more pronounced declines in their likelihood of being employed.

We next turn to understanding how the design of these benefits affects individuals' responses. We explore a reform in pension schemes that was approved in June 2015 and implemented in January 2016. Prior to the reform, all surviving spouses of Public Sector employees were entitled to lifetime pensions. The reform introduced an age-based sliding scale: only spouses aged 44 or older retained lifetime benefits, while younger survivors received pensions for fixed durations ranging from 3 to 20 years. Thus, the reform differentially affected groups, generating variation that we exploit in our second research design.

We implement a difference-in-differences strategy comparing the labor supply of younger

and older surviving spouses whose partners died before and after the reform. We show that before the reform, both groups exhibited similar drops in labor supply following a spouse's death. After the reform, only the older group continued to reduce employment, while the younger group, now facing shorter benefit durations, moderated their labor supply responses. This supports the view that the generosity of the pension, particularly its expected duration, affects labor market behavior.

We quantify the responsiveness of labor supply to benefit duration. We estimate an elasticity of approximately -0.18 with respect to expected duration. That is, a 10% increase in pension duration reduces labor supply by about 1.8%. This complements findings from other contexts that emphasize benefit levels, highlighting that benefit *horizons* also shape work incentives.

Related Literature: This paper contributes to two often interconnected strands of literature. First, we contribute to the literature that studies labor supply responses to fatal shocks of family members. With a similar event-study design, Fadlon and Nielsen (2021) find that in Denmark, in the absence of more robust social insurance for disabilities and deaths, surviving household members increase their labor supply to compensate for negative shocks. Coyne et al. (2024) show that in the U.S., widows between 50-70 have very small, but positive labor supply responses after the spouse's death.

Our findings contribute to this literature in different ways. First, we show that in the presence of generous survivors' pensions, widows substantially reduce their labor supply in response to the death of their spouses. This is the opposite of what has been documented in Denmark and the U.S.. We also show that this response is the same if it is a Daughter receiving the benefit, which, to our knowledge, had not been documented in the literature before. We interpret these differences as evidence of the effects of survivors' pensions in determining labor supply responses to the death of family members.

Second, we contribute to the literature on the design of such benefits. Giupponi (2019) studies a change in the amount received by the surviving household member in Italy and shows that widows almost fully offset the pension cut by increasing their labor earnings one-for-one, implying a nearly full income effect. Meanwhile, Coyne et al. (2024) focus on the eligibility threshold of 60 years old to receive benefits in the United States. They find that eligibility for survivors' pensions causes a 3 p.p. reduction in labor force participation for widows at the age of 60. Similar effects are found in the Netherlands by Rabaté and Tréguier (2024) who explore a reform in eligibility to benefits.

Different from these papers, we provide evidence on how the duration of benefits affects labor supply responses. Our estimates provide a different parameter, that contributes to a better understanding and design of such policies.

2 Institutional Background and Data

Brazil is the largest country in Latin America and the seventh most populous in the world, with over 203 million inhabitants. As of 2022, approximately 11.5% of the employed population worked in the public sector, including civil servants at the federal, state, and municipal levels.[1] This share is above the Latin American average and comparable to that of high-income countries.

Spending on social security constitutes a major share of Brazil's public expenditures. In 2023, total pension spending (across RGPS, RPPS, and military systems) reached over 13% of GDP, with the General Regime (RGPS) alone posting a deficit of R$ 304.6 billion (2.5% of GDP).[2] The public sector pension system (RPPS), despite covering less than 10% of all beneficiaries, accounts for a disproportionately large share of total pension outlays. The military pension system is even more fiscally unbalanced: in 2023, its deficit reached R$ 49.7 billion, driven in part by more generous eligibility rules and benefit formulas. Within this broader structure, survivor pensions represent a significant and politically sensitive component, especially in the RPPS and military regimes, where legacy entitlements and institutional protections have made reforms more challenging.

The relevance of survivors' pensions in Brazil can be illustrated in a comparison with other countries. In Figure 1, we show expenditures in survivors' benefits as a share of GDP. We observe that Brazil has the highest share when compared to a set of OECD countries, rivaled only by Italy and Spain, despite having a much smaller GDP per capita.

2.1 Survivor Pensions

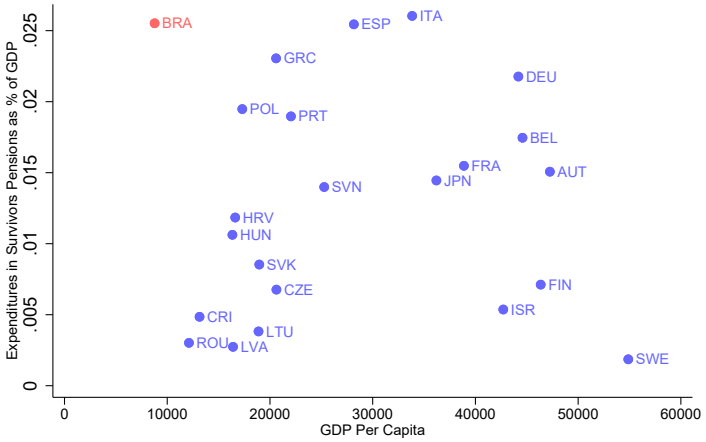
Survivors' pensions have been a longstanding feature of Brazil's social protection system, especially for public sector and military workers. They are virtually the first social security policy of the Brazilian state. In one of the first sets of policies after the Proclamation of the Republic in 1989, the state created in 1890 the *Montepio Geral dos Servidores do Estado*, which functioned as a pension fund that provided support to widows and orphans of public employees. These benefits were designed to ensure that the death of a worker would not result in the immediate loss of household income, in a time when single-income families were the most common household structure.

Over time, these systems were formalized and absorbed into the state's social security apparatus. Today, the rules governing survivors' pensions vary significantly depending on the occupational regime of the deceased worker—whether they were covered by the

[1] From the Brazilian household survey PNAD continua.

[2] Ministério da Previdência Social (2024).

Figure 1: Expenditures in Survivors Benefits as a % of GDP



This Figure plots the share of government expenditures in survivors' benefits as a % of GDP on the y-axis and GDP per Capita in the x-axis. Data is collected from OECD, CEPAL, and World Bank country-level datasets. The sample comprises countries with available information, with expenditures bigger than 0.001%, and GDP per capita smaller than 60 thousand dollars (2015 US$ measures)

General Regime (Regime Geral de Previdência Social, RGPS), the Public-Sector Regime (Regime Próprio de Previdência Social, RPPS), or the Military Social Security System. Each regime has distinct eligibility criteria, benefit formulas, financing rules, and indexation mechanisms. The RGPS, managed by the National Social Security Institute (INSS), covers private-sector workers and is subject to strict ceilings and means-tested access in some cases. The RPPS and the military system, by contrast, are structured to serve public servants and members of the Armed Forces, respectively, and often offer more generous benefit rules, particularly for dependents. In this paper we focus on the RPPS and military pensions because of data availability. Next, we outline the key institutional features that shape how survivors' pensions are granted and distributed to dependents of deceased public servants.

2.1.A Executivo Federal Pensions (RPPS)

Under the Regime Próprio de Previdência Social (RPPS), the survivor's pension is a contributory benefit paid to the legal dependents of a deceased public servant or retiree. The benefit aims to replace, partially or fully, the income previously received by the deceased, ensuring financial continuity for eligible survivors.

The value of the pension is calculated based on the retirement benefit (provento) the deceased was receiving, or would have received if retired on the date of death. For active public servants, this corresponds to the integral or proportional value of the retirement

benefit to which they would have been entitled, based on years of contribution and salary history. For retired civil servants, the pension is typically based on the gross value of the retirement benefit. The standard rule stipulates that 100% of the benefit is paid up to the RGPS ceiling (teto do INSS), and 70% of the amount exceeding the ceiling is also included in the pension. [3] The pension is nominally indexed, but indexation rules can vary and are subject to changes in legislation or subnational fiscal capacity.

When multiple dependents are eligible simultaneously (e.g., a surviving spouse and minor children), the pension is equally divided among all beneficiaries in the same priority group. Brazil's dependency hierarchy follows a predefined order: (1) spouse/partner and children; (2) parents; (3) siblings. Only one group can receive the benefit at a time. For example, if a spouse and two minor children are eligible, each will receive one-third of the total pension. As dependents lose eligibility (e.g., children reaching 21, or remarriage depending on local rules), their shares are redistributed among the remaining eligible dependents within the group. If no eligible members remain in the first group, the benefit may pass to the next group in the hierarchy, provided economic dependence is proven.

2.1.B Military Pensions

Military pensions in Brazil follow a distinct set of rules established under the military social security system, which applies to members of the Armed Forces and operates separately from both the RGPS and RPPS. While also aimed at providing financial support to survivors of deceased personnel, military pensions have traditionally been more generous and less restrictive in eligibility.

In contrast to RPPS rules, military pensions are not subject to contribution-based ceilings, and the full value of the salary or retirement benefit is typically passed on to dependents. The pension is nominally indexed and preserved in real terms, though indexation mechanisms are defined by specific statutes applicable to military personnel.

One of the most distinctive and controversial aspects of the military pension system is the lifelong benefit for unmarried daughters (filhas solteiras). Under Law 3.765/1960, daughters of military personnel were granted the right to receive the full pension after the death of the service member, provided they remained unmarried. This entitlement was not contingent on age or disability and could be claimed even by adult daughters with no demonstrated economic dependence. Although reforms in 2000 (via MP 2.215-10/2001) formally closed this provision to new military entrants, the rule was preserved

[3] While RPPS and RGPS are different pension systems, they use the same ceiling for the survivors' pensions calculation. In 2024, for example, the RGPS ceiling was R$ 7786.02, which would be on the top of the income distribution.

for previously eligible dependents, creating a large stock of legacy beneficiaries. As of now, adult women continue to receive pensions under this rule regardless of income or professional status.

2.2 Data

In this section, we describe the three main data sets used in our empirical analysis. The first set of data comprises the universe of survivors' pensions conceded to relatives of public sector and military workers. We then describe our labor market data that encompasses the universe of formally employed individuals in Brazil.

Pensionistas do Executivo Federal: This is a publicly available dataset that includes all recipients of survivors benefits originating from former Federal public sector workers between 1994 and 2025. On the recipient side, the data contains their full name, six digits of CPF (the Brazilian equivalent of social security number), date of birth, and how they relate to the deceased public servant. It also contains the dates of start and end of the pension (in case it is temporary), and the total gross and net payments that the individual received each month. Furthermore, it informs the full name, date of birth, date of death, and six digits of the CPF from the public sector worker who originated the pension.

Pensionistas Militares: This is also a publicly available dataset, which includes all recipients of survivors benefits but originating from former military workers. It contains similar information to the one described above, with the exception of the date of death of the former military employee and the date of birth of the recipient. It also contains the full name and six digits of CPF, which allows us to identify recipients in the labor market data.

Relação Anual de Informações Sociais (henceforth RAIS). This is the matched employer-employee data set that covers the universe of formal sector employees in Brazil. This data is organized by the Brazilian Ministry of Labor from information that firms submit annually. Firms have to inform all employees on their payroll for the respective year and provide information on their wages, hiring and separation dates, and other observable characteristics such as gender, age, and race.[4] Importantly, since 2003, RAIS has provided information on names and the full CPF number of all workers, which is key to matching pension recipients to RAIS, in the procedure we detail below.

[4]The Ministry of Labor later uses this information to hand out benefits and tax exemptions for workers; thus, filling in RAIS is a high-stakes task for firms. Firms that do not submit the information to the Ministry of Labor are also subject to large penalties, and for all accounts, compliance is high.

3 Labor Supply Responses to Deaths of Relatives

In this section, we present our main estimates of the effects of the death of a family member on the labor supply of individuals in the presence of survivors' pensions. We begin by describing our empirical strategy, and then we present our estimates. We finish this section with robustness exercises.

3.1 Empirical Strategy

Our empirical strategy consists of an event study model using our quarterly panel of eventually treated individuals described above. The equation we estimate can be written as:

$$Y_{it} = \alpha_i + \gamma_t + \sum_{k=-16, k\neq -1}^{16} \beta_k \cdot D_{it}^k + u_{it} \tag{1}$$

where α_i is a person fixed effects and γ_t a period fixed effect. The parameter of interest are the coefficients β_k for $k \in \{-16, -15, ..., -2, 0, 1...., 16\}$. The coefficient for the period right before the shock happened is normalized to zero (i.e. $\beta_{-1} = 0$). D_{it}^k is a dummy variable that indicates if the individual i in period t is k quarters away (or from) their relative's death. Therefore, we interpret β_k as the difference in average labor supply in period k and the average labor supply in the period right before the death of the relative. We restrict the sample to observations in the window of $[-16, 16]$ quarters relative to the event. In all our event-studies estimates, standard errors are clustered at the individual level. We follow this standard practice as individual-specific errors are likely to be positively serially correlated.

The identifying assumption of our model is that, conditional on time and unit fixed effects, the timing of treatment is as good as random. Specifically, units that are treated later serve as valid counterfactuals for those treated earlier in the pre-treatment periods. This implies that, absent treatment, the outcome trajectories of units treated at different times would have evolved similarly. In the last part of this section, we present different robustness checks to validate our identifying assumption.

3.2 Building our Analysis Sample

We use both *Executivo Federal* and *Military* pensions to construct a sample for our empirical analysis. The first step of our data construction is to match the pension data sets to RAIS. To do so, we use a two-step procedure. First, we find all pension recipients who have an exact match on the 6-digits of CPF and date of birth with a worker in RAIS

between 2003 and 2020.[5] We then use an algorithm of text analysis to match those with the same name.[6]

With the sample of individuals we find in RAIS, we construct a quarterly panel of individual labor supply. We use information on admission and dismissal dates to determine whether a given job contract was active in each month. We then aggregate the contract-level data to the individual level, creating a quarterly panel. An individual is considered employed in a given quarter if they held at least one active contract during any month of that quarter. In such cases, we assign to the individual-quarter observation the average wages and hours from the active contract. If the individual held multiple contracts within the same quarter, we retain the contract with the highest wage.[7]

In most of our empirical analysis, we impose three additional sample restrictions. First, we restrict the sample to individuals who began receiving survivor pensions between the second quarter of 2003 and the end of 2019. This ensures that all individuals included in the event study have at least one pre-treatment observation. Moreover, since name and CPF identifiers are only available in the RAIS data starting in 2003, we exclude events that occurred prior to that year. Second, to focus on individuals of working age, we limit the sample to those aged between 25 and 55 at the time of the event.[8] Lastly, we restrict the sample to individuals with at least one formal job contract within the four years preceding the death of their relative. We show in robustness checks that relaxing this restriction does not materially affect our main results.

The final analysis sample includes 33,668 individuals, of which approximately 65% are military beneficiaries and 35% are from the Executivo Federal. Table 1 presents descriptive statistics for the main analysis sample, disaggregated by regime. A key difference across regimes is the composition of dependents: while 63% of Executivo Federal beneficiaries are wives, 85% of military beneficiaries are daughters. On average, gross monthly pension benefits exceed pre-event labor earnings in both groups. Figure A1 shows the distribution of event dates over time. The events are reasonably well-dispersed, without strong concentration in any particular period. This smooth timing is important for identification in our event study design, as it ensures that units at different event times can be compared to not-yet-treated units within the same calendar periods, reducing reliance

[5] In the case of military pensions, we only use the 6-digit CPF as we do not observe the recipients' date of birth.

[6] More specifically, we use the *matchit* Stata command with the *token* method and restrict those with a score above 0.7. In the case of military recipients, since we do not have their date of birth, we increase our tolerance score to 0.9.

[7] This procedure is standard when transforming contract-level RAIS data to the individual level; see, for example, Gerard et al. (2021).

[8] We use RAIS date of birth information for this restriction. Thus we can impose the same restriction for military pension recipients.

on extrapolation and improving the credibility of dynamic effect estimates.

Table 1: Summary Statistics of Main Analysis Sample

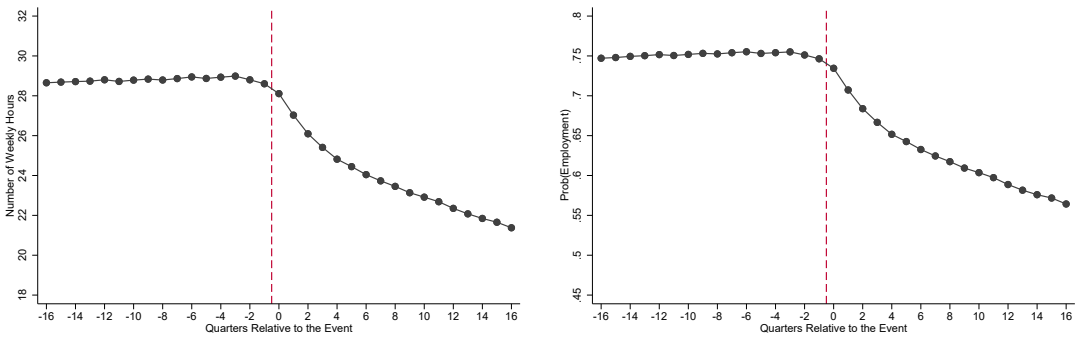
	(1) Executivo Federal	(2) Militares	(3) All
Gross Monthly Benefit	7536.48	5590.60	6271.56
Wives	0.63	0.12	0.29
Husband	0.13	0.01	0.05
Daughters	0.18	0.85	0.61
Sons	0.03	0.00	0.01
Others	0.03	0.02	0.03
Lifetime Pension	0.79		
Avg. Age at Start	46.11	44.39	44.99
Sh. Female	0.81	0.98	0.92
Sh. Nonwhite	0.20	0.20	0.20
Sh. with High School	0.39	0.38	0.39
Sh. with College	0.37	0.51	0.46
Employed in RAIS at t-1	0.74	0.75	0.75
Weekly hours worked	28.86	28.42	28.57
Avg. Labor Earnings	4583.62	5162.80	4960.26
Observations	11774	21894	33668

This table presents summary statistics of our main analysis sample. Labor market information corresponds to the quarter before the event. Benefits and earnings values are adjusted to Dec. 2023 Brazilian Reais.

3.3 Results

We find substantial reductions in individuals' labor supply in response to their relative's death in the presence of survivors' pensions. We begin by showing simple statistics without estimating the event-study model. In Figure 2, we plot the average hours worked and probability of employment relative to the event without relying on fixed effects. We observe that prior to the event, there is no visible pattern of changes in labor supply. Immediately after the death of the relative, we see a sharp decrease in both measures. Average hours worked decrease from around 28 to 22 four years after the event, and the probability of being employed decreases from 0.75 to 0.59.

Figure 2: Average Labor Supply Relative to Event



(a) Hours Worked **(b)** Prob. of Employment

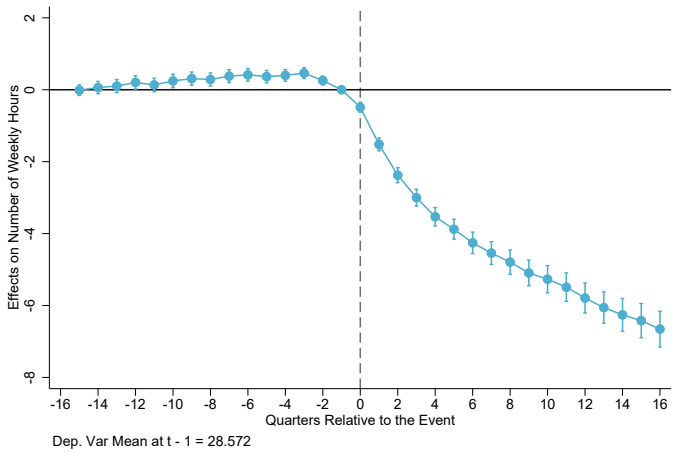
This Figure plots the average hours worked and probability of being employed relative to the event. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event.

Next, in Figure 3 we present our event-study estimates on the number of hours worked, and both intensive and extensive margin responses. We observe that they replicate the patterns in Figure 2, now properly estimated with calendar time and individual fixed effects. In Panel (a), we show that 4 years after the event, individuals work on average 6.25 hours less per week. This represents a 22% reduction in their labor supply relative to what they worked right before the death of their relative.

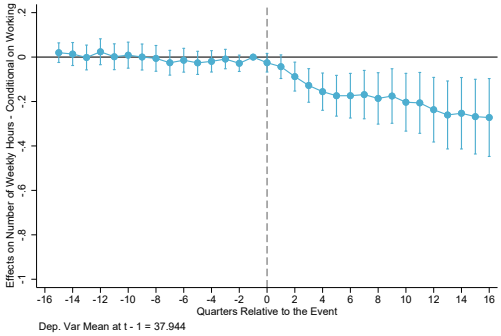
The labor supply reduction is mostly, but not exclusively, driven by extensive margin responses. In Panel (b), we plot the estimated effects on the number of hours worked, conditional on being employed, which we refer to as intensive margin responses. We observe a small decrease of 0.2 hours per week four years after the event—a 0.5% reduction relative to the baseline level prior to the event. In Panel (c), we plot the estimated effects on the probability of being employed (Extensive margin). We find a 16 percentage point decrease in employment probability, equivalent to a 22% reduction relative to the baseline probability.[9]

[9]The small of intensive margin responses in hours is consistent with the rigidity of the Brazilian labor market, where over 90% of job contracts specify either 40 or 44 weekly hours.

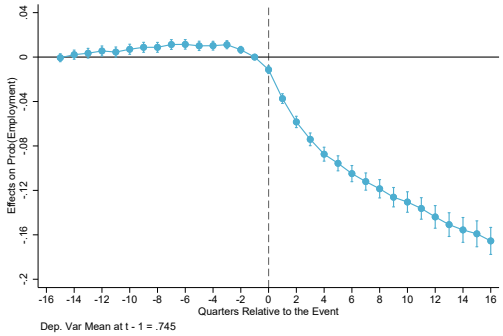
Figure 3: Effects on Labor Supply



(a) Number of Hours



(b) Intensive Margin

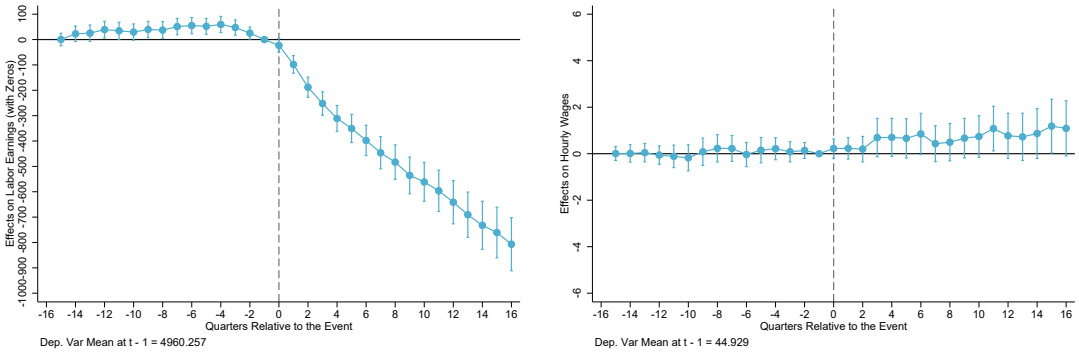


(c) Extensive Margin

This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. Panel (b) sample is restricted to those employed in the given quarter. Standard errors are clustered at the individual level.

In Figure 4, we present our estimates of the effects on wages and labor earnings. In Panel (a), we show that individuals on average earn 800 BRL less 4 years after the death of their relative. This represents a 16% decrease in their labor earnings. In contrast, in Panel (b) we show a small increase in hourly wages conditional on working. Two years after the event, the average hourly wage is 1 BRL higher, a 2.2% increase relative to their baseline.

Figure 4: Effects on Labor Earnings



(a) Labor Earnings **(b)** Hourly Wage

This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. In Panel (a), we input 0s when the individual is not working. In Panel (b), the sample is restricted to those employed in the given quarter. Hourly wage is calculated by dividing the monthly wage by weekly hours multiplied by 4.2. Standard errors are clustered at the individual level.

3.4 Robustness and Additional Results

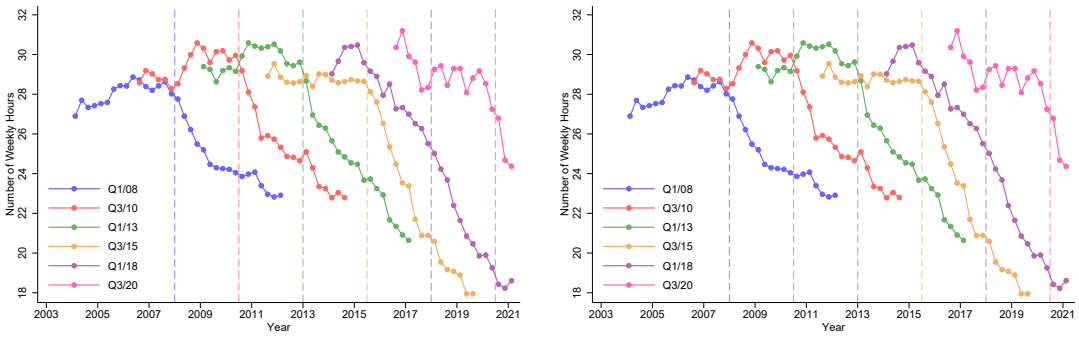
Our identifying assumption relies on using individuals who have not yet been exposed to the event to construct counterfactual outcomes for those who have. A growing literature has highlighted several limitations of such models in settings with staggered treatment timing and heterogeneous treatment effects (De Chaisemartin and d'Haultfoeuille, 2020; Goodman-Bacon, 2021; Callaway and Sant'Anna, 2021; Sun and Abraham, 2021). In particular, standard TWFE estimators can produce biased estimates due to contamination from already-treated units and inappropriate weighting across groups. To address these concerns, in what follows, we provide additional evidence on the validity of our design.

We estimate treatment effects using the improved doubly robust difference-in-differences estimator proposed in Sant'Anna and Zhao (2020), implemented via inverse probability tilting and weighted least squares. Figures show the treatment effects on the number of hours worked and the probability of employment using a 10% random sample of individuals. We observe that the estimates are extremely similar to those in our main results, indicating that issues pointed out in the recent TWFE literature are not driving our findings.

In addition, in Figure 5 we plot our labor supply measures across calendar time by event cohort. Each of the connected series in the Figure shows the average labor supply

of individuals who had events in different periods. For visualization purposes, we restrict to six different event cohorts with a 10-quarter distance between them. We observe that the labor supply of individuals is remarkably similar prior to the event for the different cohorts, and follows the reduction pattern after the event happens. We take this as reassuring evidence of our event-study model.

Figure 5: Robustness - Raw Data by Event Cohort



(a) Hours Worked **(b)** Prob. of Employment

This Figure plots the average hours worked and probability of being employed by event cohort. Each vertical line corresponds to the event time for the respective event-cohort. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event.

We also replicate our main estimates dividing the analysis by pensions originating from *Executivo Federal* and *Militares* workers. We show these results in Figure A2. We observe no significant difference between our estimates, reinforcing our choice of pooling both pension schemes in our main analysis. In our main estimates, we restrict our sample to those who had worked at least one period in the 4 years before the event. We do so to better target individuals who are in the labor force. In Figure A3 we show estimates without this restriction. In this sample, the magnitude of our findings is slightly smaller, but they also have a substantially smaller baseline. Our estimates suggest a 16% decrease in labor supply when not restricting the sample to the pool of individuals that are likely to be in the labor force.

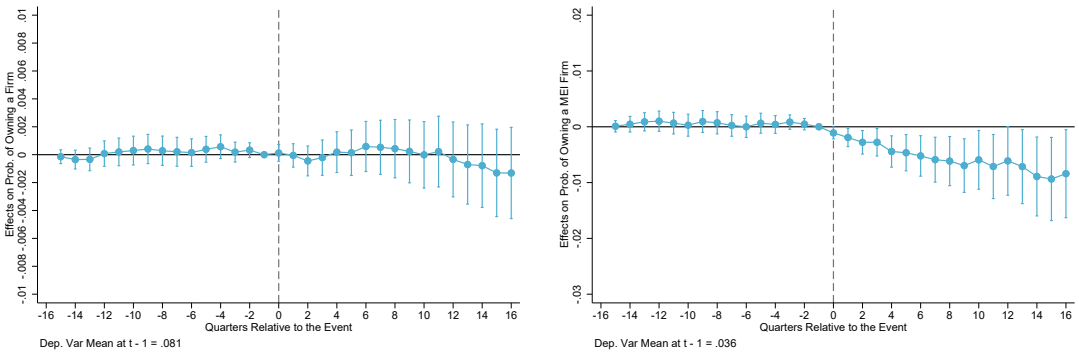
Labor Supply or Occupational Change? The focus on the formal labor market is a potential limitation of our analysis. In RAIS data, we cannot account for other potential sources of income. We address this by using data that covers the near-universe of firm ownership in Brazil. We replicate our event-study design using two different entrepreneurial outcomes in Figure 6. In Panel (a), we show the effects of being an owner

of a regular firm in period t. Regular firms are defined as all non-MEI firms. In Panel (b), we show the effects on being a registered microentrepreneur through the MEI program.[10]

We find that individuals are not transitioning from formal labor employment to entrepreneurship. We observe no changes when looking at the probability of owning a formal firm in Panel (a). At the same time, we find that pension recipients decrease the chances of engaging in low-value entrepreneurship, as we observe a decrease in the probability of being a MEI firm owner in Panel (b).

In particular, 97% of MEI firms have no employee (Hsu Rocha and de Farias, 2021), and are thus truly one-person firms, which demand labor supply from the entrepreneurs. Thus, the decrease in the probability of owning an active MEI firm results is consistent with the labor supply responses presented before. Individuals who receive the pensions are less likely to engage in labor activity, as their household earnings are more than compensated by the survivors' pensions they receive.

Figure 6: Effects on Entrepreneurial Activity



(a) Regular Firm **(b)** MEI

This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises pension recipients between 25 and 55 years old at the time of the event. Active ownership in a given quarter t is defined by creating or joining the firm in or before period t, and the firm still being active in period t. In Panel (b), we restrict the sample to recipients who had events after 2014, as the MEI program started in July 2009.

We also investigate the effects of the relative's death on the probability that the pension recipient appears in the Cadastro Único registry. Cadastro Único is a federal database

[10]MEI (or *Microempreendedor Individual*) is a specific tax system created in 2009 eligible to small microentrepreneurs with up to one worker. Hsu Rocha and de Farias (2021) studies the program and shows that such firms are substantially smaller and negatively selected relative to other formal firms in Brazil. Since the program was created in July of 2009 and was in full effect only in the middle of 2010, in Panel (b), we restrict our sample to individuals who had an event occurring after 2014, so that we have sufficient pre-event periods in our sample.

that includes individuals who receive government transfers, such as the well-known conditional cash transfer program Bolsa Família. The registry covers approximately 40% of the Brazilian population, and individuals included in Cadastro Único are typically among the lower end of the income distribution or in Informal Jobs. In Figure A4, we show that following the event, pension recipients become about 20% less likely to appear in Cadastro Único, suggesting that they are less likely to be receiving other government transfers targeted to poorer households.

4 Heterogeneity

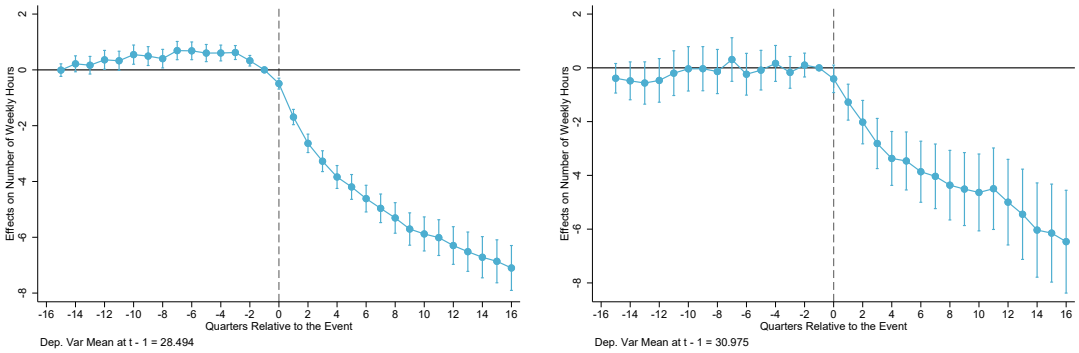
In this section, we explore details of both RAIS and pensions data to show heterogeneity patterns in the labor supply responses of individuals to the death of relatives in the presence of Survivors' Pensions.

Relation of the recipient with Former Servant: We begin by analyzing if labor supply responses are different according to the relation of the recipient with the former public sector or military worker.

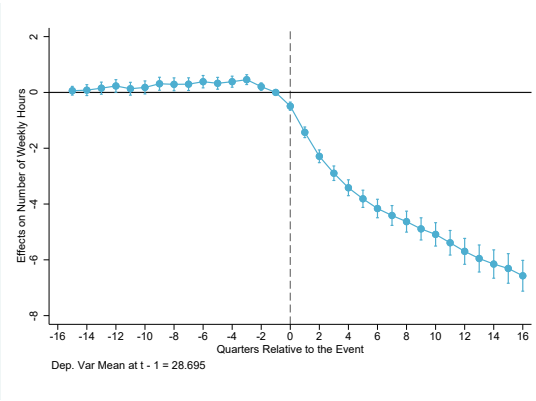
Figure 7 presents event-study estimates of the effects of a relative's death on weekly hours worked, separately for wives, husbands, and daughters of deceased public servants. The patterns are strikingly similar across groups, especially between wives and daughters, both of whom exhibit large and sustained declines in labor supply following the event. In both cases, the reduction in weekly hours begins immediately after the death and continues to deepen over time, reaching approximately 8 hours per week within two years. Husbands also display a decline in hours worked, though the estimates are noisier due to a smaller sample size. They, on average, also have a slightly higher baseline number of hours, thus suggesting a smaller percentage change.

The similarity in labor supply responses across dependent types—particularly between wives and daughters—suggests that the observed effects are unlikely to be driven primarily by changes in household structure or caregiving responsibilities following the death. Instead, the consistency in magnitude and timing points to the survivor pension itself as the main driver of the adjustment. While one might expect differences in labor supply trajectories if household roles were shifting substantially (e.g., spouses assuming new responsibilities or daughters altering behavior based on cohabitation), the parallel declines across distinct demographic groups reinforce the interpretation of a direct income effect induced by the pension benefit. This strengthens the case for viewing survivor pensions as a key determinant of post-event labor market behavior.

Figure 7: Effects on Weekly Hours Worked - Relation with the Former Servant



(a) Wives **(b)** Husbands

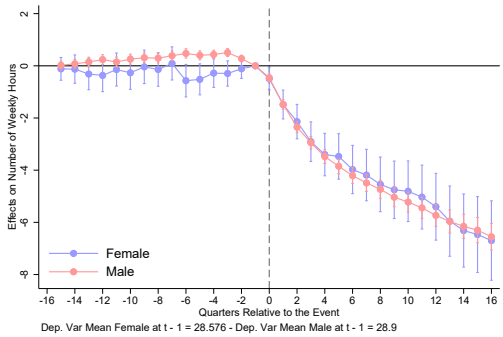


(c) Daughters

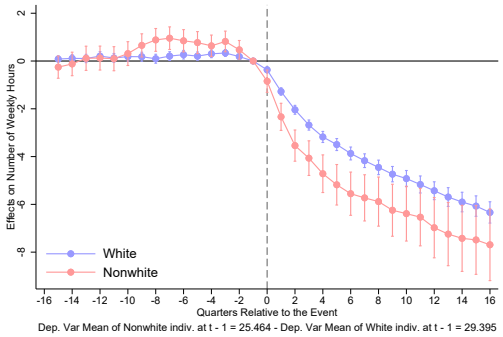
This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. Panel (b) sample is restricted to those employed in the given quarter. Standard errors are clustered at the individual level.

Recipient Characteristics: Figure 8 explores heterogeneity in the labor supply response across recipient characteristics. Panel (a) shows that the reduction in weekly hours is remarkably similar for men and women, suggesting that gender does not play a major role in shaping the response to the survivor pension. In contrast, other dimensions reveal meaningful differences. The decline in hours is larger for nonwhite individuals (Panel b), those with lower levels of education (Panel c), and recipients aged 45 or older (Panel d). Finally, Panel (e) shows that private sector workers reduce their hours more than public sector workers, suggesting greater flexibility—or greater labor supply elasticity—in the private sector. Taken together, these patterns indicate that while gender responses are uniform, individuals with weaker labor market attachment or lower pre-event earnings tend to respond more strongly to the income shock provided by the pension.

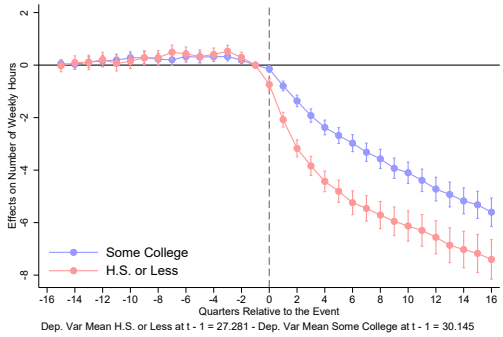
Figure 8: Effects on Hours - Heterogeneity Recipient Characteristics



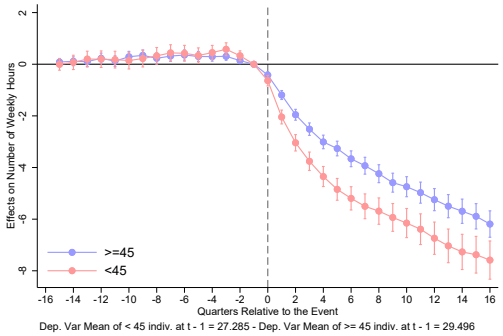
(a) Gender



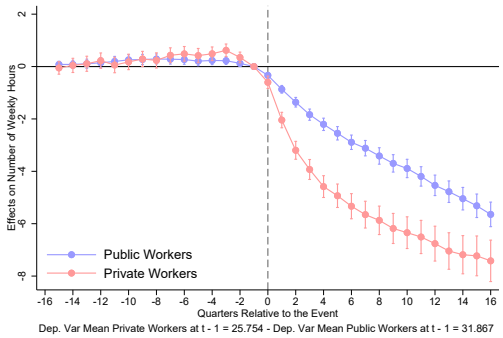
(b) Race



(c) Education



(d) Age



(e) Public vs Private Sector Employment

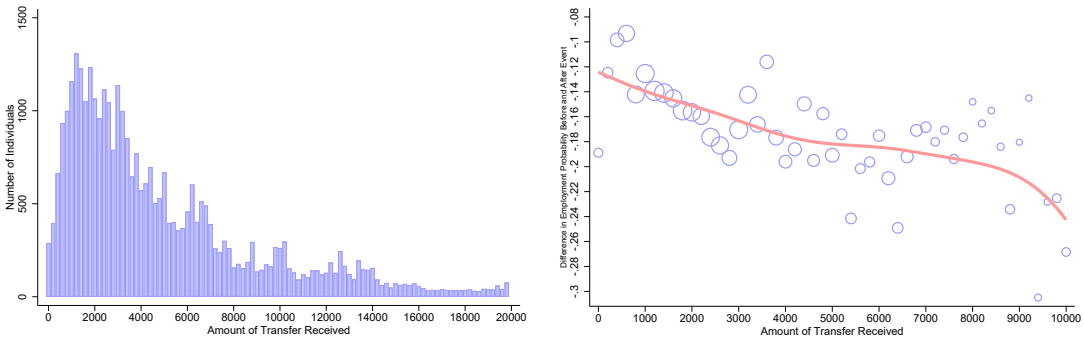
This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. Each connected series restricts the sample of the event-study to the respective group described in the label.

Amount Received: Next, we show descriptive evidence on how the labor supply of individuals change differently according to the amount of benefits they receive.

Figure 9 investigates how the size of the pension benefit affects subsequent labor market responses. Panel (a) presents the distribution of monthly pension benefit amounts at the initial period, recipients appear in the data, illustrating significant heterogeneity, with benefits ranging predominantly between 2,000 and 8,000 Brazilian reais. Panel (b) plots the relationship between benefit amount and the average change in the probability of employment, measured as the difference between the average employment probability four quarters before the event and 12–16 quarters after the event.

The Figure shows a negative relationship between the amount received and changes in employment probability, indicating that individuals receiving larger pension benefits experience more pronounced declines in their likelihood of being employed. This negative gradient suggests a strong income effect, reinforcing the conclusion that the generosity of survivor pensions directly influences recipients' labor supply decisions.

Figure 9: Amount Received



(a) Histogram of Benefits Amount **(b)** Difference in Prob.(Employed)

This Figure shows how the size of the pension benefit affects subsequent labor market responses. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. Panel (a) shows a histogram of the amount of benefits received. Panel (b) shows the difference between the average employment probability four quarters before the event and 12–16 quarters after the event. The size of the markers are representative of the number of people in the given amount of benefits received.

5 Effects of Duration of Benefits on Labor Supply Responses

In this section, we investigate how the duration of benefits affects the labor supply responses of pension recipients. We explore a reform that took place in June 2015 and was

implemented in January 2016 that changed the duration of Pensions for wives of former federal public servants. In what follows, we describe the reform, our empirical strategy, and then our findings.

5.1 2015 Reform in Duration of Benefits

In June 2015, the Brazilian government enacted Law 13.135/2015, introducing significant changes to the rules governing survivor pensions (pensões por morte) in the Regime Próprio de Previdência Social (RPPS), which covers civil servants. Prior to the reform, spouses of deceased public servants were typically entitled to lifetime pensions, regardless of their age or the duration of the marriage. The reform established new eligibility conditions and restricted the duration of benefits for younger spouses.

In particular, only spouses aged 44 or older at the time of the servant's death retained the right to a lifetime pension. For younger spouses, the benefit duration became progressively shorter depending on age, ranging from 3 to 20 years. Table 2 summarizes the differential exposure to the reform. [11]

Table 2: Changes in Duration of Pensions

	(1) Before Reform	(2) After Reform
Age at Death		
< 21	Lifetime	3 years
21-26	Lifetime	6 years
27 - 29	Lifetime	10 years
30 - 40	Lifetime	15 years
41-43	Lifetime	20 years
≥ 44	Lifetime	Lifetime

This table summarizes the changes in the duration of survivors' pensions to spouses of public servants generated by the 2015 law changes.

The reform came into effect in January 2016, applying immediately to all new survivor pensions granted thereafter, independent of any characteristics of the deceased servant.

[11] In addition to changes in duration, the reform introduced a minimum requirement of 18 months of contributions and at least two years of marriage or stable union, unless the death resulted from an accident. These changes aimed to reduce long-term pension liabilities and align public sector rules more closely with those in the general social security regime (RGPS).

5.2 Empirical Strategy

We estimate the effects of the 2015 survivor pension reform using a difference-in-differences strategy that exploits variation across age groups and over time. The first source of variation comes from the spouse's age at the time of the public servant's death. Specifically, we classify spouses younger than 44 as treated, since the reform introduced duration limits for this group, while those aged 44 and older retained eligibility for lifetime pensions. The second dimension exploits whether the death occurred before or after the reform took effect in January 2016.

Formally, we estimate the following regression at the spouse level using a *wide* panel structure:

$$Y_i^k = \psi \cdot Y_i^{-1} + \alpha_{a(i)} + \delta_{t(i)} + \beta \cdot (\text{Treat}_i \times \text{Post}_{t(i)}) + \Gamma X_i + \varepsilon_i \tag{2}$$

where Y_i^k denotes the labor supply outcome for individual i, measured k quarters relative to the event (servant's death), and Y_i^{-1} denotes the pre-event outcome. The term $\alpha_{a(i)}$ captures fixed effects for the spouse's age at the time of death, while $\delta_{t(i)}$ denotes calendar-time fixed effects based on the date of death. The interaction term $\text{Treat}_i \times \text{Post}_{t(i)}$ captures the differential impact of the reform on the treated group. Finally, the vector X_i includes individual-level controls.

The identifying assumption of our model is that, in the absence of the 2015 pension reform, labor supply outcomes of younger spouses (under 44) and older spouses (44 and above) would have evolved similarly over time. This *parallel trends* assumption implies that any differences observed after the reform's enactment are attributable exclusively to the changes introduced by the reform, rather than other contemporaneous factors affecting these groups differently.

5.3 Building Analysis Sample

To build our analysis sample, we restrict the sample from our previous exercises to spouses of former federal public sector workers. We also exclude recipients in 2019, as we do not observe sufficient years of outcomes after their event. Table 3 shows summary statistics of our sample divided by the four main groups of the difference in differences. There are small differences within both treated and control groups across the samples who had events before and after 2016. To account for these differences, we control for gender, education and race in our estimations, in addition to the fixed effects by age at pension start and quarter of pension start.

Table 3: Summary Statistics of Analysis Sample

	(1)	(2)	(3)	(4)	
	44 or Older		Younger than 44		All
	Before 2016	2016 or After	Before 2016	2016 or After	
Lifetime Pension	0.99	0.92	0.95	0.13	0.94
Avg. Age at Start	49.27	49.69	37.22	37.06	46.30
Sh. Female	0.81	0.83	0.83	0.80	0.82
Sh. Nonwhite	0.15	0.20	0.22	0.27	0.18
Sh. with High School	0.36	0.39	0.42	0.41	0.38
Sh. with College	0.39	0.41	0.39	0.48	0.40
Observations	5381	1091	1791	374	8637

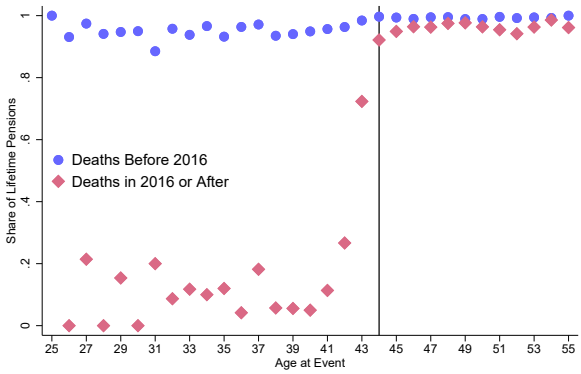
This Table presents summary statistics of our sample to analyze the effects of the reform. 44 or older and younger than 44 refer to the age at the start of the pension

5.4 Results

We begin by showing descriptive statistics on the *first stage* of the reform, specifically how the share of lifetime pensions changed according to the age of the surviving spouses in our data. Figure 10 presents the share of lifetime pensions by spouse's age at the time of the public servant's death, distinguishing between pensions initiated before and after the reform's implementation in 2016. Despite compliance not being perfect, we observe a sharp reduction in the share of lifetime pensions precisely at the reform cutoff age of 44. Specifically, spouses younger than 44 who started receiving pensions after the reform experienced a marked drop from nearly universal lifetime coverage to close to zero, aligning closely with the policy's intended impact.

We find that a smaller duration of lifetime pensions reduces the labor supply responses on pension recipients. Table 4 presents the estimated effects of the pension duration reform on spouses' labor supply two years after the event. Columns (1) and (2) report results for weekly hours worked, while columns (3) and (4) focus on the probability of employment. We find positive and statistically significant coefficients on the treated-by-post-reform interaction term, indicating that reducing pension durations leads to increased labor supply. Specifically, treated spouses increase their weekly hours by approximately two hours and show a 4.5 percentage point higher likelihood of employment relative to the control group. Additionally, the table reveals heterogeneity by age groups (Groups 1–3), with larger and statistically significant responses among spouses in Groups 2 and 3, who experienced more substantial cuts in benefit durations due to their younger age at

Figure 10: Share of Lifetime Pensions by Spouse's Age at Deth



This Figure plots the share of Lifetime Pensions recipients in our data by age of recipient at the pension start date. Blue circles show pensions started before 2016, and Red diamonds show pensions started in 2016 or after. The sample comprises all spouses from former Executivo Federal workers between 18 and 60 years old.

the time of death.

Table 4: Effects of Pensions' Duration on Labor Supply Two Years After Event

	(1) Lifetime Pension	(2) Weekly Hours	(3) Prob. (Employed)	(4) Labor Earnings
Treated x Post Reform	-0.7453***	3.1631***	0.0754***	1345.0120***
	(0.01050)	(1.06122)	(0.02643)	(429.89797)
Mean of Dep. Var. For Treated Pre Reform	.95	22.18	.57	3798.68
Observations	8687	8687	8687	8687

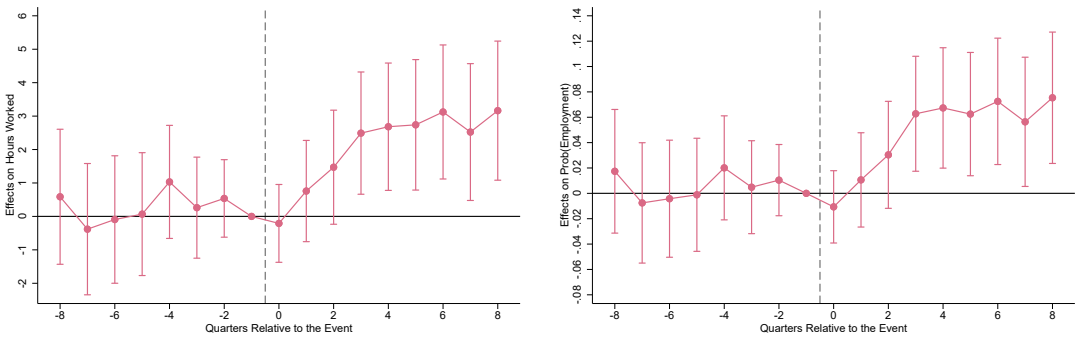
This Table shows the estimates of β of equation 2 using labor supply 2 years after the reform as the outcome. We include education, gender, and race dummies as controls, in addition to Fixed Effects of quarter of benefit start, and Age at Start. The sample comprises all spouses from former Executivo Federal workers who started receiving benefits between 2003 and 2018. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

We also expand our analysis for other periods relative to the death of the public servant. In Figure 11, we plot the coefficients of 16 separate regressions, in which we use as outcome different periods relative to the event. In Panel (a), we show results using the number of weekly hours worked in the given quarter as the outcome, and in Panel (b), we show the probability of being employed in a given quarter as the outcome.

We observe that having a smaller duration of pensions only affects the labor supply of individuals after they receive the benefits, but we find no significant effects before the

death of their relative.

Figure 11: Effects of the 2015 Reform by Period Relative to Event



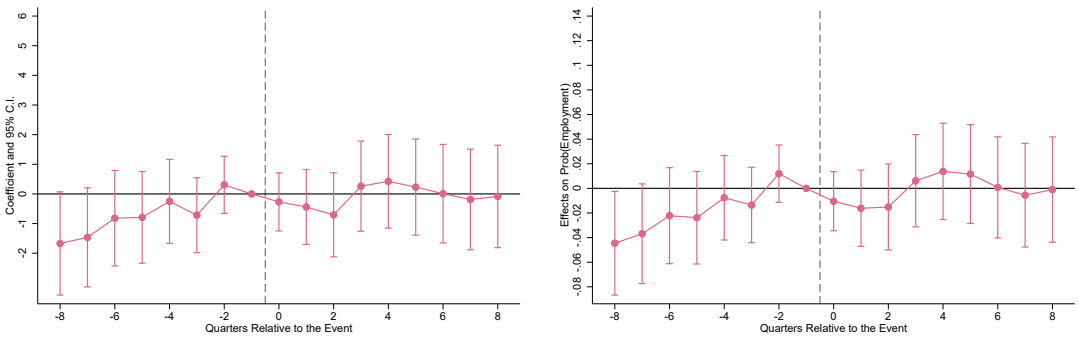
(a) Weekly Hours Worked **(b)** Prob. (Employed)

This Figure plots the estimates of β from sixteen different estimations of equation 2. Each regression uses a different period k as the outcome Y_i^k in which k represents the distance from the death of the public servant. The sample comprises all spouses from former Executivo Federal workers who started receiving benefits between 2003 and 2018. We include education, gender, and race dummies as controls, in addition to Fixed Effects of quarter of benefit start, and Age at Start.

As a robustness check, we perform a placebo exercise to assess the validity of our empirical strategy. Specifically, we artificially impose the pension reform in 2010—several years before the actual policy was enacted—and re-estimate our difference-in-differences model using only observations prior to the real reform in January 2016. We maintain the same treated and control groups, classifying spouses younger than 44 as "treated" and those aged 44 or older as "control," and use 2010 as the placebo reform date. Under our identifying assumption, we should find no significant differential effects around this placebo reform date if the parallel trends assumption holds.

Figure 12 shows the results of our placebo exercise. We observe negligible effects, reinforcing the credibility of our empirical strategy by indicating that differential trends did not exist prior to the actual reform.

Figure 12: Placebo Exercise



(a) Weekly Hours Worked **(b)** Prob. (Employed)

This Figure plots the estimates of β from sixteen different estimations of equation 2, but imposing 2010 as the year the reform was implemented. Each regression uses a different period k as the outcome Y_i^k in which k represents the distance from the death of the public servant. The sample comprises all spouses from former Executivo Federal workers who started receiving benefits between 2003 and 2015. We include education, gender, and race dummies as controls, in addition to Fixed Effects of quarter of benefit start, and Age at Start.

5.5 Quantifying the Effect: Labor Supply Elasticities

Next, we quantify the impact of the reform. We are interested in calculating the elasticity of labor supply to changes in duration. We approximate the elasticity using our estimates of the changes in labor supply given the change in duration caused by the reform. We can write the elasticity we recover ε as:

$$\varepsilon = \frac{\partial y}{y} \cdot \frac{\text{Duration}}{\partial \text{Duration}} = \frac{\Delta y}{\bar{y}} \cdot \frac{\bar{\text{Duration}}}{\Delta \text{Duration}} \tag{3}$$

we use our estimates of coefficient β from equation 2 to approximate Δy, and the average labor supply for younger spouses prior to the reform as $\bar{y}$. However, it is not straightforward how to calculate the changes in duration caused by the reform, as prior to it, they did not have a specific time horizon.

To translate this policy shift into a measure of magnitude, we use official life expectancy data from the Brazilian Institute of Geography and Statistics (IBGE). The average individual in our sample of treated individuals has a life expectancy of 45.2 additional years after the death of their spouse.[12] Thus, the average change is from 45.2 to 15 years of receiving benefits, around 67% reduction in the duration of benefits.

[12]We present in Table A1 the values in 2015, for the age groups of interest around the reform. We combine the share of our sample by gender and the average age to calculate the average life expectancy in our sample of treated individuals.

Using our estimates from Table 4, we find that this reduction in benefit duration led to an average increase of 3.16 weekly hours worked, a 7.5 percentage point rise in the probability of employment, and a R$1,345 increase in monthly labor earnings two years after the event. These represent increases of approximately 14.2%, 13.2%, and 35.4% relative to the respective pre-reform means.

These effects imply elasticities with respect to expected benefit duration of approximately -0.21 for hours worked, -0.20 for employment probability, and -0.53 for labor earnings. That is, a 10% reduction in expected duration leads to a 2.1% increase in hours worked, a 2.0% increase in the probability of employment, and a 5.3% increase in labor earnings. These elasticities provide a compact summary of the behavioral response to the reform and may inform cost-benefit analyses or the design of survivor benefit programs.

Our elasticity estimates are broadly consistent with recent work documenting sizable income effects from survivor pensions, though our setting and margin of variation differ in important ways. Giupponi (2019) studies a reform in Italy that reduced the amount of survivor pensions and finds that widows offset the cuts almost one-for-one through increased earnings, implying a near-unitary income effect. Coyne et al. (2024) simulate labor supply responses to the loss of U.S. Social Security survivors benefits and estimate that households substantially value and adjust behavior around these benefits, especially among lower earners. Our results complement these findings by showing that benefit duration—not just level or eligibility—also plays a key role in shaping labor supply. The elasticity of -0.354 for labor earnings suggests that expectations of long-term benefit streams can meaningfully suppress work incentives, particularly in middle-income contexts where replacement rates are high and job opportunities may be limited. Our study thus adds a new dimension to the literature by quantifying how the time horizon of social insurance affects labor supply decisions.

6 Conclusion

This paper studies the labor supply responses of individuals to the death of family members in the context of generous survivor pension schemes in Brazil. Using administrative data from survivor pension recipients and matched employer-employee records, we document substantial reductions in labor supply and earnings following the relative's death.

Specifically, four years after the event, survivors reduce their weekly hours by approximately 22% and experience a 16% decline in labor earnings. These responses are primarily driven by decreases in employment (extensive margin), with negligible effects on hours conditional on employment, reflecting labor market rigidities in Brazil.

Our analysis further investigates the role of benefit generosity and duration. Exploiting a 2015 reform that introduced age-dependent limits on pension duration for younger spouses of deceased public servants, we find clear evidence that reducing the duration of benefits significantly mitigates labor supply reductions. Beneficiaries subject to shorter benefit durations show increased labor supply compared to those who maintained lifetime pensions, highlighting an elasticity of labor supply with respect to pension duration.

The robustness of our results is supported by a series of checks addressing common concerns raised in recent literature on event-study designs with staggered treatment timing. Additionally, heterogeneity analyses indicate consistent labor supply responses across genders but reveal stronger reactions among individuals with weaker labor market attachment, lower educational attainment, and those in the private sector.

Overall, our findings underscore the significant impact of survivor pensions on labor supply decisions and suggest potential fiscal and efficiency gains from carefully designed reforms to pension generosity and duration. These insights are crucial for policymakers aiming to balance social insurance objectives with labor market incentives.

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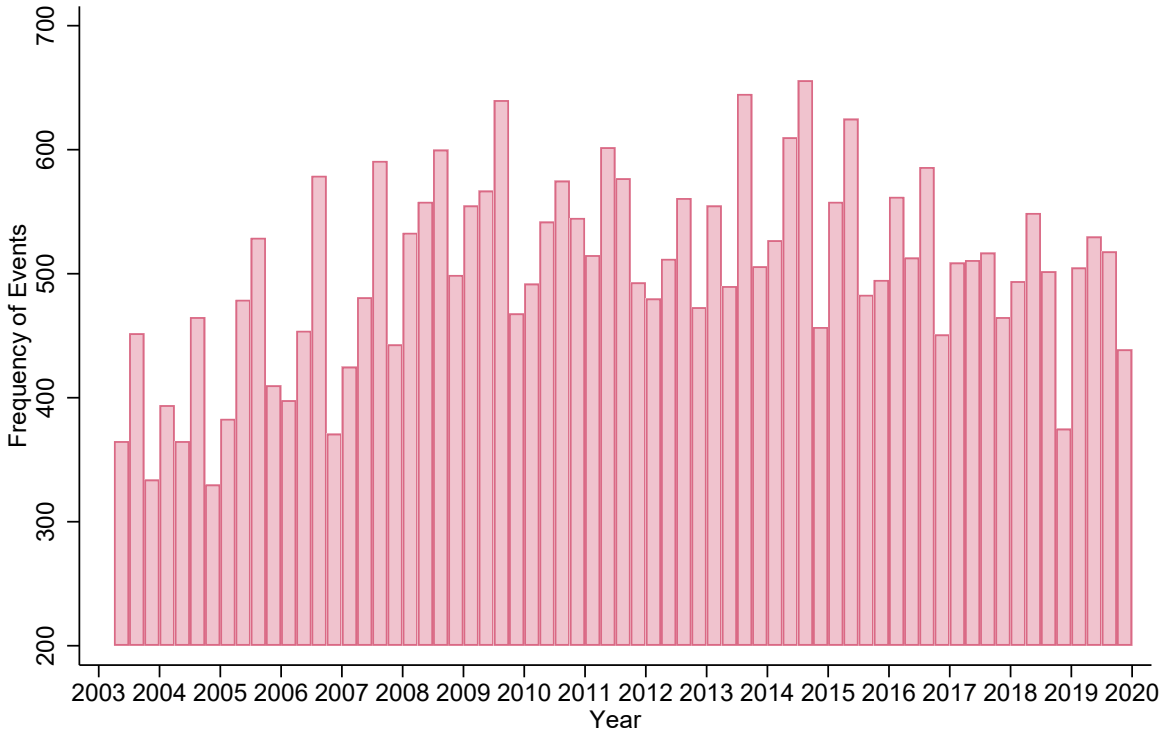
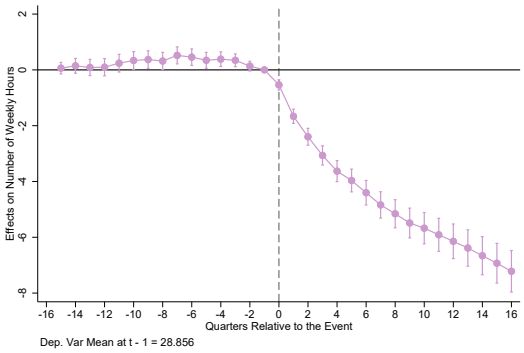
7 Additional Results

Figure A1: Histogram of Events in the Analysis Sample

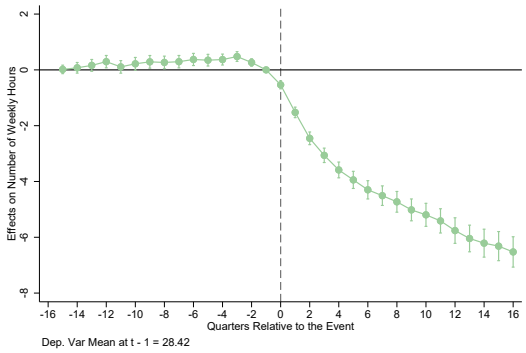


This Figure shows a histogram of Event Frequency by Quarter. The sample comprises all pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event.

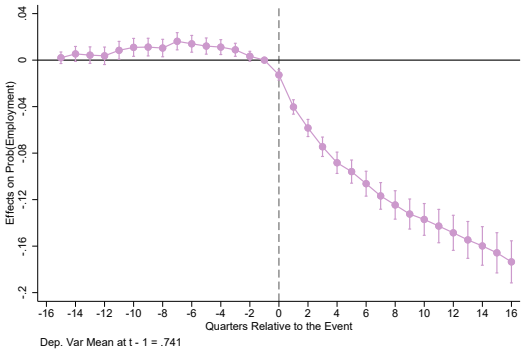
Figure A2: Effects by type of Pension - Executivo Federal vs Militares



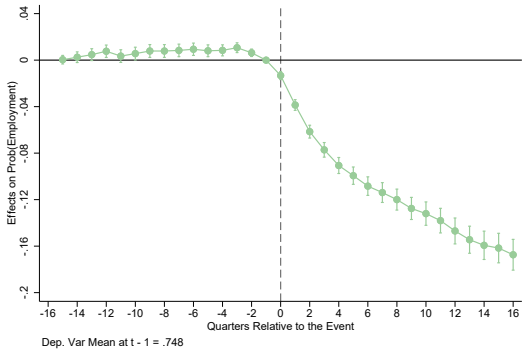
(a) Hours Worked - Executivo Federal



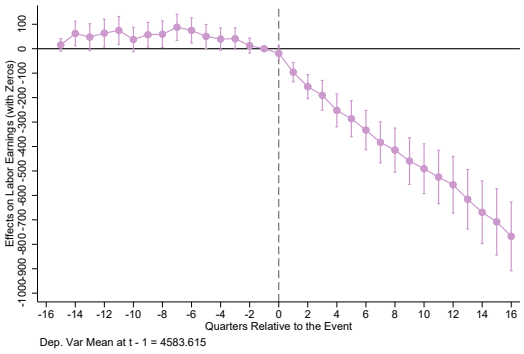
(b) Hours Worked - Militares



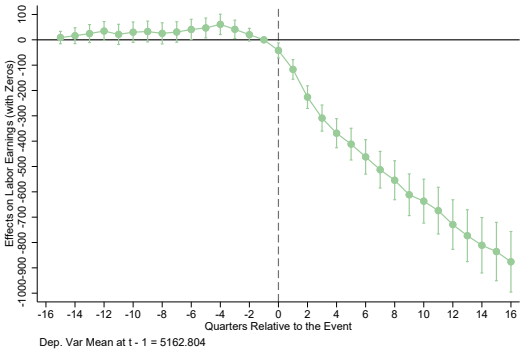
(c) Prob. (Employed) - Executivo Federal



(d) Prob. (Employed) - Militares



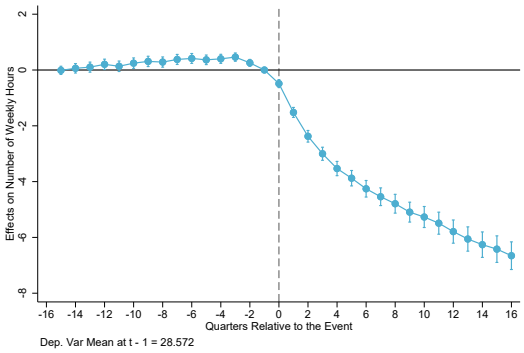
(e) Labor Earnings - Executivo Federal



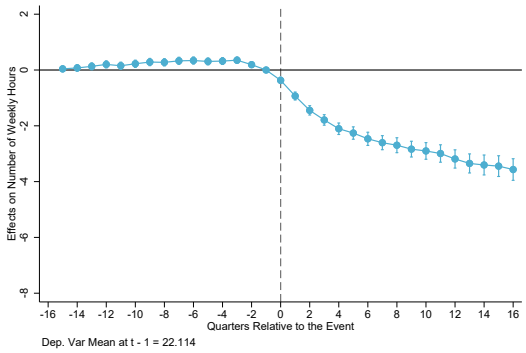
(f) Labor Earnings - Militares

This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises pension recipients between 25 and 55 years old at the time of the event who had at least one formal job contract in the 4 years before the event. Panels (a), (c), and (e) show estimates using a sample of recipients whose pensions originated from a former Federal Public Sector employee. Panels (b), (d), and (f) show estimates using a sample of recipients whose pensions originated from a former Military worker.

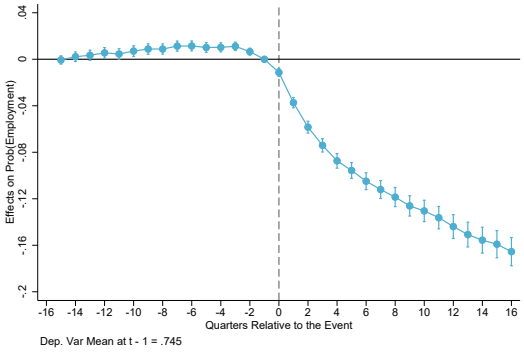
Figure A3: Effects on the Number of Hours Worked Without Previous Employment Restriction



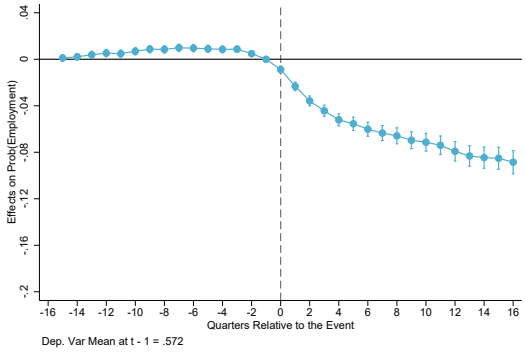
(a) Weekly Hours - With Restriction



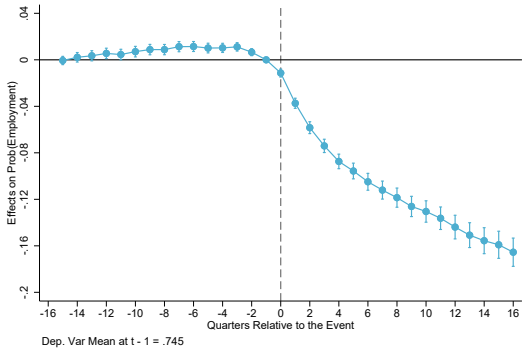
(b) Weekly Hours - No Restriction



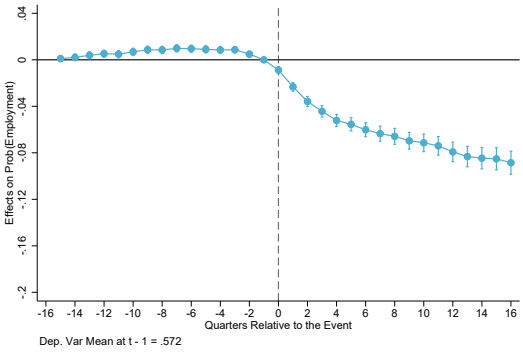
(c) Prob. (Employed) - With Restriction



(d) Prob. (Employed) - No Restriction



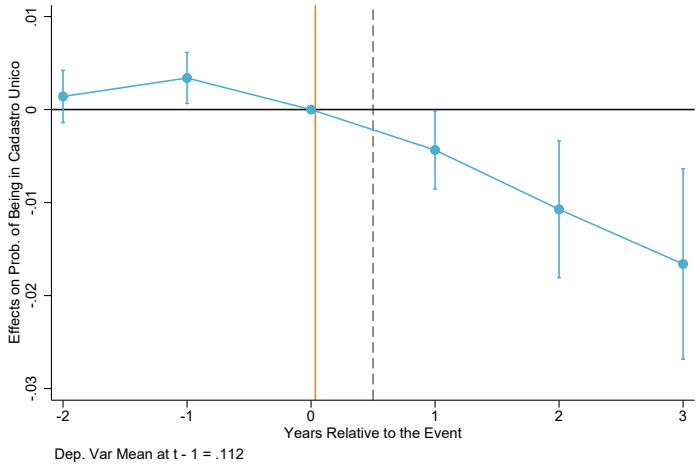
(e) Labor Earnings - With Restriction



(f) Labor Earnings - No Restriction

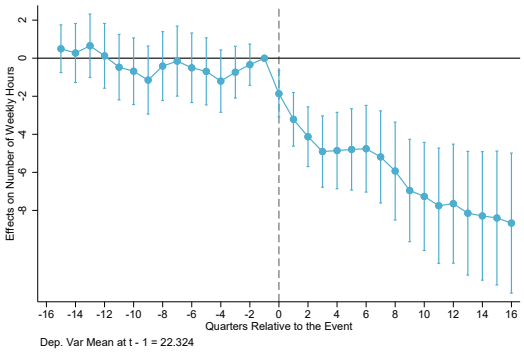
This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises pension recipients between 25 and 55 years old at the time of the event. Panels (a) restrict the sample to recipients who had at least one formal job contract in the 4 years before the event. Panel (b) does not impose this restriction.

Figure A4: Effects on Being Enrolled in Cadastro Único

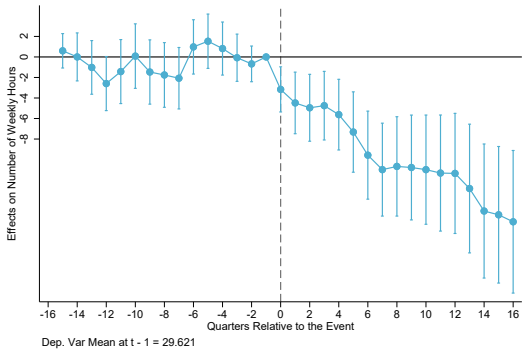


This Figure plots the estimates of coefficients β_k from a simplified version of equation 1 and their respective 95% confidence intervals. The sample comprises pension recipients between 25 and 55 years old at the time of the event. We restrict recipients to those who had events after 2014, as our Cadastro Único data is available only between 2012 and 2019. Due to the Structure of the outcome data, we use a Yearly Panel instead of a quarterly panel.

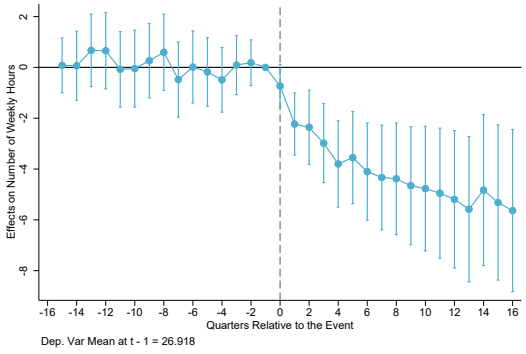
Figure A5: Effects on Hours - Heterogeneity



(a) Sons



(b) Others - Men



(c) Others - Women

This Figure plots the estimates of coefficients β_k from equation 1 and their respective 95% confidence intervals. The sample comprises pension recipients between 25 and 55 years old at the time of the event. Each Panel restricts the sample to the corresponding type of relation with the public servant.

Table A1: Life Expectancy by Age in 2015

Age	All	Men	Women
30	48.1	45.1	50.9
35	43.5	40.7	46.2
40	38.9	36.3	41.4
45	34.5	32.0	36.8
50	30.2	27.9	32.3
55	26.0	23.9	28.0

This Table shows the life expectancy by age and gender calculated by the Brazilian Institute of Geography and Statistics (IBGE)