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# Domestic violence: the potential role of job loss and unemployment benefits

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## Key findings

One in three women worldwide report having experienced domestic violence at some stage in their lives, and yet we do not have a clear understanding of the underlying causal mechanisms. Understanding causes is key to devising effective policy interventions. Using administrative data from Brazil, we investigate the role of unemployment, an economic shock, and whether unemployment benefits mitigate any impacts of job loss on domestic violence.

We find that:

1. Job loss among men increases the chances that they perpetrate violence against women.
2. Job loss among women increases the chances that they are victims of domestic violence.
3. Job loss generates a loss of income with attendant stress, and an increase in the time the couple spends together (exposure). We find evidence consistent with these being the mechanisms that lead to increased domestic violence.
4. Unemployment benefits compensate income losses but tend to increase exposure so their effectiveness in curbing domestic violence depends critically on getting men back into work.

Our analysis period is 2009–2018, pre-pandemic. These results contribute to understanding the surge in domestic violence during the Covid-19 pandemic insofar as the pandemic led to job loss. While income effects of job loss were capped by furlough schemes in many countries, lockdown had direct impacts on exposure. Research using data from Chile that include the pandemic period demonstrate that lockdown mandates led to increases in domestic violence over and above the underlying impacts of Covid-19 (Bhalotra, et al. 2021b).

Lockdown has now been eased in many countries including the UK, which reduces exposure. However, unemployment is forecast to increase as job support schemes come to an end. Our results suggest the potential for unemployment benefits to address domestic violence as long as they are accompanied by job placement or skills training schemes that get people back into work.

## Introduction

Most research on domestic violence emphasises the harm it causes, and most policy discussion is centred on protecting victims. It is important, though, to consider how to prevent domestic violence, for which an understanding of its causes is necessary. Research by economists on causes has been framed around the power imbalance within couples, with several studies investigating whether domestic violence can be reduced by empowering women i.e., providing women with cash transfers, skills training or jobs. These studies produce mixed results. In some settings, increasing the economic independence of women works. In other settings, where social stigma and other factors make it hard to leave marriages,

providing women with economic opportunities has been shown to result in increased domestic violence, as men seek to protect their breadwinner status and extend their control over women.

In our study, we redirect the focus towards understanding the causes of perpetration *alongside* the causes of victimisation, focusing on job loss suffered by men (perpetrators) and women (victims).<sup>1</sup> We also provide the first analysis of whether unemployment benefit or severance pay schemes serve to protect women from domestic violence.

Research on domestic violence faces challenges in finding suitable data, in finding a strategy that permits identification of causal effects, and in finding a strategy that allows the researcher to separate causal effects on incidence from causal effects on reporting domestic violence. We explain how we addressed these challenges below.

## Data for Brazil

Systematic causal research on domestic violence has been limited by the fact that most countries do not routinely gather data on it. This makes it difficult to monitor and address. Most well-identified studies in the literature are based on randomised control trials that rely on small samples – the external validity of which is unknown. We use administrative data from Brazil that cover the entire population.

We gained access to court registers for Brazil that contain every domestic violence case during 2009–2018. In this period there are 2.4 million cases, representing 11% of all criminal justice cases. We linked the plaintiff and defendant in these cases to administrative data containing longitudinal employment records. The data contain about 100 million workers, 60 million employment spells and 10 million layoffs per year. We complemented this analysis with two additional measures of domestic violence – the use of domestic violence public shelters, and notifications of domestic violence submitted to the state by health providers.

## Methodology: Identification of causal relationships

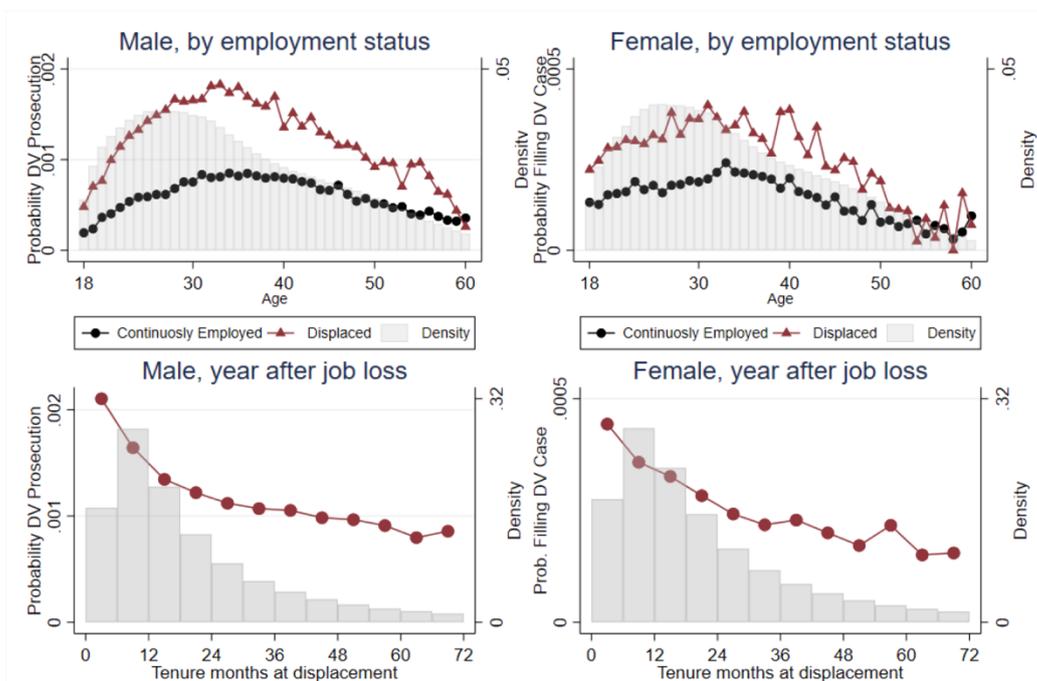
To identify causal impacts of unwarranted individual job loss, we track individuals who lose their jobs in mass layoffs (defined as cases where the firm fires at least a third of its work force). Mass layoff is typically driven by shocks to the firm, limiting the chances that the worker faces layoff on account of their behaviour or characteristics. We show that the results are robust to a number of sensitivity checks including studying job loss arising from plant closures when all workers are laid off and worker-level selection is thus no longer an issue.

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<sup>1</sup> In Brazil, where our study is set, the available data suggest very few cases of domestic violence committed by women against men. In this study we only analyse cases in which men commit violence against women. We note though that, in the UK and the US, it is estimated that as many as a quarter of all survivors of domestic violence are men (Mankind Initiative UK, National Crime Victimization Study USA).

For each individual suffering job loss (we refer to such workers as ‘treated’), we generate matched controls defined as individuals of the same birth cohort, earnings category, tenure, industrial sector and state, who do not lose their jobs in the same year. The analysis effectively compares treated with control workers over time. This facilitates identification of dynamic heterogeneous treatment effects (De Chaisemartin and D’Haultfoeuille, 2019). It also purges region-industry level shocks, which we test by additionally controlling for municipality-industry-year fixed effects. We conduct a number of robustness checks on selection, anticipation, judicial lags, missing data and, importantly, the concern that job loss changes reporting behaviour. Our analysis of unemployment insurance exploits a discontinuity in eligibility criteria to achieve identification – we discuss this below.

**Figure 1: Domestic violence by employment status, age and tenure**



*Notes* The top graphs compare the yearly probability of DV perpetration in DV suits for men and DV victimization in protective measures for women, comparing workers that are continuously employed to workers losing their job in each year by age. The bottom graphs present the same measures for job losers one year after layoff. The distribution of age and tenure are displayed in gray, right-axes.

## Findings

Figure 1 shows a positive descriptive association between job loss and domestic violence in Brazil for both perpetration by men and victimisation of women. Our analysis shows that, after we use the outlined procedures to isolate the causal effect from these correlations, this broad pattern persists. We now discuss these findings.

### 1. Job loss of men *and* women leads to higher domestic violence

Male job loss results in a roughly 30% increase in the chances that a man perpetrates violence. Female job loss delivers a larger percentage increase in the chances that a woman is victimised but, once the samples are matched, they are very similar. The same pattern of results emerges when we use data identifying couples.

Job loss is a pervasive phenomenon worldwide. It characterises recessions and has characterised the pandemic. In Brazil, the labour market constantly has high rates of turnover. We find that when workers lose their jobs, their earnings show only partial recovery over time, remaining lower through the four years for which we track them.

We find that:

- Job loss among men raises the chances that they perpetrate domestic violence, and job loss among women raises the chances that they become victims of domestic violence.
- These results hold for three measures of domestic violence: domestic violence prosecutions and preventive orders in court data, the use of public shelters for women, and notifications of domestic violence emerging from health providers, including cases which do not rely on the victim reporting abuse.
- The effect sizes are large. For instance, using judicial data on prosecutions and preventive orders, we estimate that the increase in domestic violence following job loss is about 30% of the baseline mean. This increase persists throughout the four years after job loss and is driven partly by first-time and partly by repeat offenders.
- The effects are pervasive along the distribution of perpetrator age, education and baseline income, and across area-level characteristics including baseline domestic violence rates, the gender pay gap, population size, GDP per capita, and the share of workers in the informal sector.
- The relevant mechanisms appear to be the income shock of job loss (which also causes stress), and exposure associated with the time shock of job loss.
- Eligibility for unemployment benefits among men does not mitigate the impacts of job loss on perpetration and the reason appears to be that

eligible men have longer unemployment durations. In fact, eligible men are more likely to commit domestic violence once the flow of benefits ceases, as then exposure effects dominate income effects. Unemployment benefits have the potential to mitigate the risk of domestic violence if supplemented by policies designed to encourage a return to work.

## **2. The results are unlikely to be driven by reporting bias**

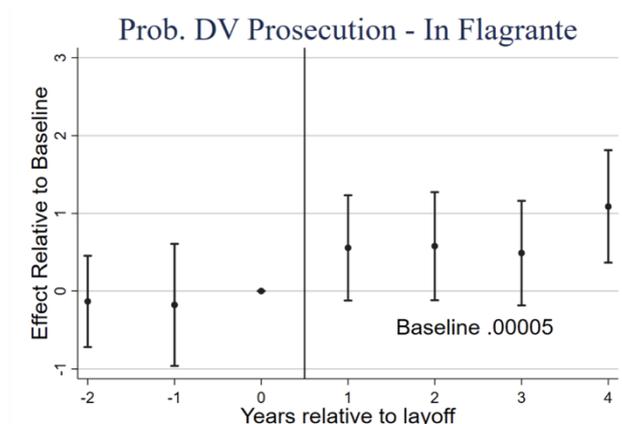
Research on the causes of domestic violence is hampered by the fact that factors that trigger changes in domestic violence often also trigger changes in the probability that women report domestic violence. Thus, women may be more likely to report violence when the man loses his job because he is less good a prospect or because he is less likely to commit violence when his economic position is weakened. Conversely, women may be less likely to report domestic violence when they lose their jobs because they are financially reliant on their partners. Since we find an increase in reported violence following female job loss, it seems unlikely that these results are driven by reporting. But it remains possible that the results for male job loss are.

To investigate if reporting drives the results for male job loss, we conduct the following checks. First, we restrict the sample to *in flagrante* cases in which the perpetrator is caught in action, minimising the degree to which the female victim chooses to report the case (Figure 2). Second, we measure domestic violence as use of women's public shelters, which involves selection but likely of a different nature (Table 1). Third, we measure domestic violence as mandatory health-provider notifications to the state, which is a clear case of third-party reporting and, as it does not involve the police or courts, is unlikely to result in men reacting adversely to the notification.

Male job loss is followed by increased domestic violence in all these checks. Figure 2 shows an increase in *in flagrante* domestic violence cases after job loss. Table 1 shows that male and female job loss increase the use of domestic violence shelters by the female partner by 24% and 46% respectively. (The results for the domestic violence cases reported by health providers are in our working paper).

We also argue that if the most severe cases are more likely to be reported (for example, femicide is always reported), we would expect reporting bias to be most visible for less severe cases. Using two measures of severity drawn from the criminal register data we find that job loss leads to domestic violence for both more and less severe cases.

**Figure 2: The effect of job loss on domestic violence – in flagrante arrests**



*Notes.* This figure shows the effect of male job loss on probability of being prosecuted for DV following from an in flagrante arrest, as estimated from the difference-in-differences equation (1) – along with 95% confidence intervals. The treatment group comprises workers displaced in mass layoffs, while the control group is defined via matching among workers in non-mass layoff firms who are not displaced in the same calendar year. All coefficients are rescaled by the average value of the outcome in the treated group at  $t = 0$ , which is also reported. Years relative to layoff are defined relative to the exact date of layoff, i.e.,  $t = 1$  for the first 12 months after layoff,  $t = 2$  for the following 12 months, and so on.

**Table 1: Effect of male and female job loss on domestic violence, use of domestic violence shelters**

	(1)	(2)
Job Loser	Male	Female
Dep. var.:	DV Shelter Use By Female Partner	DV Shelter Use
Effect of Job Loss	0.00064** (0.0003)	0.00020*** (0.00006)
Mean outcome, treated at $t=0$	0.0027	0.0004
Relative variation	24%	46%
Observations	460,152	1,476,852

*Notes:* This table shows the effect of job loss on the probability that women access DV public shelters, as estimated from the difference-in-differences equation (2). In column 1, the sample is restricted to displaced workers present in the social registry, for whom it is possible to identify the female partner. No such restriction is necessary in column 2 as shelter use is reported by women. The dependent variable is measured at the end of each calendar year and the sample is restricted to 2011-13, the period for which the outcome is available. The explanatory variable of interest is a dummy  $Treat_i$  that is equal to 1 for displaced workers, interacted with a dummy  $Post_t$  equal to 1 for the period after displacement. The sample includes workers displaced in mass layoffs who are matched to control workers employed in non-mass layoff firms, who are not displaced in the same calendar year. All regressions include on the right-hand side  $Treat_i$  and a full set of year fixed effects. Standard errors clustered at the firm level are displayed in parentheses (\*\* $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ ).

### 3. The shock of income loss and exposure seem to be relevant mechanisms for domestic violence

We propose the following explanation. Job loss of either partner constitutes a major shock to household income. This disturbs the equilibrium, leading the couple to renegotiate allocation of a tighter household budget, creating grounds for conflict. Additional stresses deriving from income uncertainty and a sense of unworthiness potentially aggravate this. At the same time, the couple tends to spend more time together if either is unemployed, and this increases exposure (for the woman) or opportunities for violence (for the man).

Previous work has demonstrated an association of job loss with psychological stress and substance abuse (Black et al., 2015; Schaller and Stevens, 2015) consistent with job loss tightening liquidity constraints, generating uncertainty about future income and/or creating a sense of failure. Stress can, in turn, lead to domestic violence. Card and Dahl (2011) highlight the relevance of emotional cues for violence, and several studies show that substance abuse is a proximate determinant (Lee Luca et al., 2019).

#### Mechanisms that potentially link job loss to domestic violence

Existing theoretical constructs in the literature cannot explain our findings. We first briefly review existing models of behaviour and then explain why.

- **The household bargaining model:** This emerged in economics. Its central idea is that job loss alters the balance of bargaining power within the couple by modifying their outside options (Anderberg et al., 2016; Aizer, 2010). In this model, women's job loss, by reducing their bargaining power, increases the likelihood of domestic violence, while male job loss decreases it.
- **The male backlash model:** This emerged in sociology. Job loss can challenge gender stereotypes by lowering the relative earnings of the man, and domestic violence can emerge as a manifestation of 'male backlash' (Macmillan and Gartner, 1999). This model *reverses* the predictions of the bargaining model. Male job loss challenges the traditional identity of the male as a 'breadwinner', causing an increase in the likelihood of violence, while female job loss, by raising the male's relative earnings, can reduce it.

While these models generate contrasting predictions for the impacts of male vs female job loss, both are premised on domestic violence being the result of a power imbalance. By construction, they both predict that male and female job loss have opposite effects on domestic violence.

We find that male and female job loss move domestic violence in the same direction. This is because (a) job loss has a first order impact on domestic violence arising from the loss of household income, with changes in relative income playing a second order role and, second, (b) we recognize that job loss increases exposure, an insight first offered in the criminology literature (Dugan et al., 2003).

Existing evidence in favour of the bargaining and backlash models uses variation in area-level unemployment rates. The key to understanding the different results is to note that impacts of increases in the area-level unemployment rate capture a weighted average of impacts on the small fraction of people who *actually* lose their jobs and the larger fraction who do not.

Our research analyses impacts of actual job loss at the individual level. The results of Anderberg et al., 2016 and Aizer, 2010 show that the prospect of a drop in *potential* earnings discourages men from committing domestic violence (consistent with the bargaining model), while our results show that *actual* job loss encourages men to commit domestic violence. Indeed, it is only when individuals actually lose their jobs that they experience a loss of earnings and an increase in disposable time – the key mechanisms that explain our findings.

#### **4. Unemployment benefits compensate income losses but can increase exposure**

We found that unemployment leads to domestic violence and we now investigate whether unemployment benefits can address this problem. We exploit experimental variation in access to cash benefits generated by unemployment insurance (UI) eligibility rules in Brazil. Workers who have previously received benefits in Brazil need to have at least a 16-month gap before they can claim benefits again (Gerard et al., 2019). We compare the risk of domestic violence among unemployed men who are just eligible versus those who are just ineligible for UI using a regression discontinuity design. Unemployment benefits in Brazil cover, on average, about 80% of former earnings and last three to five months. During the study period, unemployment benefits were unconditional. We define semesters as six-month intervals, so benefits flow in the first semester but have ceased by the start of the second.

We find that, while benefits are being paid (first semester), men eligible and ineligible for UI are equally likely to commit domestic violence. Once benefits expire, eligible men are more likely to commit violence (Table 2). The reason is that eligibility lengthens unemployment durations – a tendency that has been noted in other countries too (Katz and Meyer, 1990; Lalive, 2008). The longer spells of unemployment increase exposure to domestic violence. While benefits are being received, exposure effects are offset by an income effect but once benefits cease, the exposure effect dominates.

Thus, while our evidence suggests that compensating unemployed men for income loss reduces domestic violence perpetration, the fact that unemployment benefits lead to longer durations of unemployment frustrates their potential. This can be remedied by making them conditional on job training or job search and supplementing them with placement support programmes. Experiments conducted in Kenya (Haushofer et al., 2019) and Mali (Heath et al., 2020) show that cash transfers to men reduce violence against female partners, highlighting the potential for welfare payments to be effective if incentive effects can be avoided by design.

**Table 2: Effect of UI eligibility, male workers**

	(1)	(2)	(3)	(4)
<b>PANEL A: UI PAYMENTS</b>				
	Semester 1	Semester 2	Payments	Take up
Eligibility for UI benefits	1950.5*** (18)	121.0*** (4)	2.55*** (0.02)	0.57*** (0.005)
Mean outcome at the cutoff	83.7	3.8	0.1	0.0
Effect relative to the mean	-	-	-	-
Observations	98,167	98,167	98,167	98,167
<b>PANEL B: DV - AFTER LAYOFF</b>				
	Semester 1	Semester 2	Semester 3	Up to Year 3
Eligibility for UI benefits	0.0002 (0.0004)	0.0008** (0.0003)	0.0002 (0.0004)	0.0015* (0.0009)
Mean outcome at the cutoff	0.0008	0.0006	0.0009	0.0047
Effect relative to the mean	23.7%	124.4%	21.5%	31.6%
Observations	98,167	98,167	98,167	98,167
<b>PANEL C: DV - BEFORE LAYOFF - PLACEBO</b>				
	Semester 1	Semester 2	Semester 3	Up to Year 3
Eligibility for UI benefits	0.0001 (0.0003)	0.000 (0.0003)	-0.0002 (0.0003)	-0.0006 (0.0006)
Mean outcome at the cutoff	0.0	0.0	0.0	0.0
Effect relative to the mean	16.1%	0.0%	-39.2%	-23.3%
Observations	98,167	98,167	98,167	98,167
<b>PANEL D: EMPLOYMENT</b>				
	Weeks worked			
	Semester 1	Semester 2	Semester 3	Up to Year 3
Eligibility for UI benefits	-2.97*** (0.1)	-2.16*** (0.1)	-1.03*** (0.2)	-8.63*** (0.7)
Mean outcome at the cutoff	8.3	13.4	13.5	75.2
Effect relative to the mean	-35.8%	-16.1%	-7.6%	-11.5%
Observations	98,167	98,167	98,167	98,167

*Notes:* This table shows the effect of unemployment insurance (UI) eligibility on UI outcomes (Panel A), the probability of DV perpetration after and before layoff (Panel B and C) and employment outcomes (Panel D), as estimated from equation (3) using a Regression Discontinuity Design. Semesters are set relative to the layoff date. The sample includes displaced workers with at least 6 months of continuous employment prior to layoff who are displaced within a symmetric bandwidth of 45 days around the cutoff required for eligibility for unemployment benefits – namely, 16 months since the previous layoff resulting in UI claims. The local linear regression includes a dummy for eligibility for UI benefits (i.e., the variable of main interest), time since the cutoff date for eligibility, and the interaction between the two. The table also reports the baseline mean outcome at the cutoff and the percentage effect relative to the baseline mean. Standard errors are clustered at the individual level and displayed in parentheses (\*\*\*)  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ).

## Conclusion

### The upshot for policy

Our main findings are that job loss influences domestic violence first by generating an income shortfall, and second by increasing exposure to violence. So, the ideal policy intervention would compensate the income shortfall and get people out of the home and back to work. Unemployment benefits can help but need to be combined with active policies aimed at getting the unemployed back to work (training, support with job search).

The policy infrastructure has been primarily concerned with providing support to victims in the shape of shelters, counselling and protection orders. Interventions designed to *prevent* domestic violence have focused on the economic empowerment of women, though they sometimes misfire (Angelucci, 2008; Heath, 2014; Bhalotra et al., 2019; Tur-Prats, 2019; Estefan, 2019; Kotsadam and Villanger, 2020). Our research suggests the relevance of compensating men *and* women for income losses.

### Domestic violence during the coronavirus pandemic

Our analysis uses pre-pandemic data. However, our findings are topical as the pandemic has led to widespread job and earnings losses and to families being forced to spend more time together. As these are the mechanisms identified in our research, it potentially illuminates the recent surge in domestic violence which the United Nations has described as a shadow pandemic (UN Women, 2020).

Media coverage of the COVID-19 surge has highlighted the role of exposure. Brazilian official Luciana Azambuja recently wrote in the popular press: 'Social isolation will make families spend more time together. This can generate more conflicts...' In addition to forcing couples together for longer, lockdown has limited contact with social networks and this may have contributed to domestic violence (Gelles, 1983, 1993; Usher et al., 2020). Recent research set in Chile shows that lockdown has exacerbated impacts of Covid-19 on domestic violence, both because lockdown exacerbates job loss and because it increases exposure. Etheridge and Spantig (2020) find a deterioration in mental health in the UK during the pandemic that is larger among women, and the decline in social interactions appears to be an important factor.

The media has emphasised social distancing as a cause of domestic violence, but much less has been said about job loss or earnings loss as a potential cause. Lockdown mandates have been lifted in many countries. But unemployment rates look set to rise, potentially increasing exposure even in the absence of mobility restrictions. Unemployment also tightens income constraints. Our research therefore suggests that domestic violence may persist beyond lockdown.

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