TI 2023-072/V
Tinbergen Institute Discussion Paper

Job Security and Liquid Wealth

Ana Figueiredo[1]
Olivier Marie[2]
Agnieszka Markiewicz[3]

1 Vrije Universiteit Amsterdam and Tinbergen Institute

2 Erasmus University Rotterdam, Tinbergen Institute, Maastricht University, CEPR and IZA

3 Erasmus University Rotterdam and Tinbergen Institute

Job Security and Liquid Wealth

Ana Figueiredo* Olivier Marie† Agnieszka Markiewicz‡

October 31, 2023

Abstract

We study changes in job security after displacement and exploit eligibility rules for lump-sum payments in the Netherlands to investigate the role of liquid wealth. Within five years of job loss, the likelihood of being a permanent worker remains 12% lower for displaced workers. Those eligible to a lump-sum transfer experience a significantly smaller negative shock to job security. This effect is driven by workers with low liquid wealth, pointing to liquidity constraints as an important mechanism linking unemployment and job security. Finally, we estimate that losses in job security can explain 21% of the wage cost associated with job displacement.

*VU Amsterdam and Tinbergen Institute (TI), a.i.gomesfigueiredo@vu.nl

†Erasmus University Rotterdam, Maastricht University, TI, CEPR, and IZA, marie@ese.eur.nl

‡Erasmus University Rotterdam and TI, markiewicz@ese.eur.nl

1 Introduction

Job loss comes with a large drop in income. Although unemployment insurance schemes offer partial compensation, liquid savings constitute a primary source of alternative income (Andersen et al., 2023). Such self-insurance mechanism has been shown to allow unemployed workers to prolong job search (Chetty, 2008). An important question is to what extent it leads to a better job. Existing literature finds small effects of liquid wealth on wages and tenure in the new job (Card et al., 2007; Basten et al., 2014; Fontaine et al., 2023). Effects on job security—the extent to which workers have a stable job (henceforth, permanent employment) or a short-term work arrangement—have been so far overlooked.[1] This paper fills this gap in the literature.

Our contribution is twofold. First, we show that liquid wealth plays an important role in protecting unemployed workers from losing job security after displacement. Second, we show that losing job security plays an important role in the wage cost of displacement, particularly for liquidity constrained individuals.

To study the causal link between liquid wealth and job security after displacement, we exploit administrative data covering the universe of workers in the Netherlands, with detailed information on household wealth, together with quasi-experimental variation in liquid wealth upon job loss. Specifically, until 2015, workers who lost their job due to firm bankruptcy were eligible for a lump-sum transfer, while those laid-off due to economic reasons (i.e. downsizing) were not. The transfer amounted to about 1 month of salary, on average, allowing individuals to top up the unemployment insurance to 100% of their prior wage for about 3.5 months.

Using an event-study design, we first document that, on average, displacement decreases the probability to find stable employment within a year by 19%. After five years, permanent employment still remains 12% lower for displaced relative to the non-displaced workers. We then show that eligibility to a lump-sum transfer can partially offset the loss in job security, reducing the decline in permanent employment by 9 percentage points. Non-eligible

[1]The coexistence of stable jobs (open-ended contracts with high firing cost or low turnover jobs) with unstable ones (short-term work arrangements) has given rise to a two-tier labor market in most advanced economies. In Europe, dualism is mostly driven by labor market institutions, where rigid employment protection legislation for permanent jobs coexists with lenient regulations for temporary contracts (Bentolila et al., 2019). Dualism can also emerge in the absence of such institutional structures, as shown by (Ahn et al., 2023) in the US.

workers suffer a decrease in permanent employment of 25% one year after displacement, which compares to a 16% decrease for those receiving the lump-sum transfer.

We provide evidence suggesting that binding liquidity constraints play an important role in driving losses in job security. We start by showing that the sensitivity of permanent employment to cash-on-hand is twice as large for those likely to be liquidity-constrained (bottom 20% of the liquid wealth distribution) relative to those who are not (top 20% of the liquid wealth distribution). We find no heterogeneity when we split the sample by age, pre-displacement firm tenure, or worker type, ruling out alternative explanations. Importantly, the eligibility effect among displaced workers with low liquid wealth is similar regardless of illiquid holdings, such as home equity. This highlights the key role of liquid wealth in shaping outcomes after job loss. To shed further light on this mechanism, we show that eligibility for a lump-sum transfer increases non-employment duration, particularly for low-wealth workers, consistent with Chetty (2008) and Basten et al. (2014). Taken together, these findings point towards liquidity constraints as an important mechanism linking job loss and the ability to return to secure employment: receiving a lump-sum transfer alleviates liquidity constraints allowing workers to prolong job search, which results in more stable jobs.

In a final step, we investigate the importance of the loss in stable employment in explaining the cost of job displacement. Building upon Schmieder et al. (2023), we obtain individual-level estimates of the wage loss 5 years after displacement and estimate the extent to which they are shaped by job insecurity, while controlling for other potential explanatory factors. Guided by the literature, we account for losses in employer-specific wage premium (Schmieder et al., 2023; Bertheau et al., 2023; Moore and Scott-Clayton, 2019; Helm et al., 2022) and losses in sector and firm-specific skills (Jacobson et al., 1993; Neal, 1995; Huckfeldt, 2022). We find a substantial role for job security, with displaced workers in temporary work five years after displacement experiencing wage losses 21% higher than those with permanent jobs. We show that eligible workers, who are entitled to a lump-sum payment upon displacement, experience wage losses 5 percentage points lower than non-eligible workers. We investigate to what extent this wage loss reduction can be attributed to the increase in permanent employment resulting from eligibility. An Oaxaca-Blinded decomposition reveals that, on average, differences in job security losses can explain 21% of the wage loss gap

between those who receive the lump-sum and those who do not. Overall, our findings show that a relatively small lump-sum transfer to workers that involuntarily lose their jobs can lower the cost of job loss by reducing the impact this has on job security, especially for those that are liquidity constrained.

Contribution This paper contributes to our understanding of how wealth affects future labor market outcomes of unemployed workers. Prior work has established that liquidity-constraints shorten unemployment duration, without significant effects on outcomes such as wages and duration in the new job (Chetty, 2008; Basten et al., 2014; Card et al., 2007; Fontaine et al., 2023). We complement this knowledge. In particular, we provide novel evidence showing that liquid wealth protects workers from experiencing more pronounced losses in job security after displacement. In doing so, our findings suggest that dual labor markets, where permanent and temporary jobs coexist, may contribute to persistent inequality as job loss leads to persistent losses in employment stability, primarily for low-wealth individuals.

We also add to the job loss literature. Since Jacobson et al. (1993), many papers have documented long-term losses in wages and employment after displacement (e.g. Couch and Placzek, 2010; Davis and Von Wachter, 2011). First, we uncover a new significant contributor to the cost of job loss—losses in job security—that goes beyond other factors that have been emphasized by the literature, such as losses in the employer-specific wage premium or losses in sector and firm-specific skills (Helm et al., 2022; Bertheau et al., 2023; Schmieder et al., 2023; Fackler et al., 2021; Moore and Scott-Clayton, 2019; Neal, 1995; Huckfeldt, 2022, e.g.). Second, our findings suggest that recently documented differences in the cost of job loss between high and low-wealth displaced workers (Kaila et al., 2021; Griffy, 2021) can be explained—or at least partially—by differences in the loss of job security after displacement.

Roadmap The rest of the paper proceeds as follows. The next section presents the data. Section 3 provides institutional context and introduces our identification strategy. Section 4 presents the main results. Section 5 shows that job security contributes to the cost of job loss. Section 6 concludes.

2 Data

2.1 Sources and Main Variables

Sources We rely on several administrative data sources provided by Statistics Netherlands (CBS), covering the universe of residents of the Netherlands between 2004 to 2015. We begin with the linked employer-employee dataset that reports information on the start and end date of all jobs, annual earnings and days worked in a year, firm sector and size, contract type (temporary or permanent), and hours relative to full-time equivalent. Using unique identifiers, we add information on the reasons behind job terminations, worker demographic characteristics —age, gender, and migration background (i.e. whether at least one parent is foreign-born)—and detailed information on household wealth. On the assets side, we observe savings accounts, stock and bond holdings, as well as owned property value. Regarding liabilities, the data reports separately the mortgage value for primary residences, student loans, and a category labeled "others", including credit card debts and second-home mortgages. This information is collected by tax authorities, and is thus highly reliable.

Sample We focus on full-time male workers earning more than €1000 per month.[2] Given their higher labor market attachment, focusing on men minimizes selection issues driven by transitions in and out of the labor force.[3]

Job Security Our main outcome is a binary variable that equals 1 for permanent workers and 0 for temporary workers. The key distinction between both is the degree of job protection. Permanent workers are employed under a contract with no termination date and firms need to pay high firing costs if they wish to separate from such workers. These include not only lump-sum compensations to the employee, but also the implicit costs of lengthy layoff procedures. For instance, in the Netherlands, firms need to ask for dismissal permission, which is only granted on valid grounds such as economic reasons (e.g. firm downsizing or relocation), worker's performance, prolonged illness, disturbed employment

[2]This is around 70% of the Dutch minimum wage in the analysis period.

[3]This restriction follows largely the existing literature on job loss that almost exclusively studies the labor market outcomes of men, easing comparability.

relationship or dysfunctional behavior. By contrast, when a temporary contract reaches its termination date, the employer can dismiss the worker without incurring any costs. Their incidence is significantly higher for youth, low-educated, and low-skilled workers (OECD, 2014)[4]. Similarly, temporary workers in our sample are, on average, younger, more likely to have a migrant background, and have lower annual earnings when compared to permanent workers (Online Appendix Table A.1).

Wealth To distinguish between low and high-wealth workers, we use household's liquid wealth, defined as the total value of financial asset holdings (saving accounts, stocks, and bonds). Workers in the bottom 20% of the liquid wealth distribution before displacement are categorized as low-wealth, while those in the top 20% are high-wealth. We do not consider liquid debt due to data limitations in distinguishing between liquid and non-liquid liabilities. We show, nonetheless, that our results remain similar when using a proxy for net liquid wealth, measured as financial asset holdings minus the total value of debt on credit card and mortgages for second homes or other real estate.

2.2 Definition of Treated and Control Workers

Treated workers Following existing literature on job loss, we use a sample of workers who involuntarily separate from their jobs due to exogenous shocks, such as firm closure or downsizing. To differentiate between involuntary separations from those that are voluntary (quits) or due to poor performance, previous studies typically focus on job losers from firms experiencing a significant reduction of workforce. Instead, we use information about the reasons behind job separations, allowing us to precisely identify workers not at fault for their job loss. Specifically, we focus on workers who lost their job due to firm closure following bankruptcy and workers who were laid-off due to other economic reasons. This ensures there is minimal relationship between the worker's characteristics and the event of job loss and thus low risk of studying individuals with voluntary separations and endogenous employment trajectories. Important for the exogeneity assumption, firms in the Netherlands must follow

[4]The case of the Netherlands is particularly interesting because it has the largest incidence of short-term employment in Europe (27.7% in 2022 according to OECD data, compared to 11.3% on average across all OECD countries).

the "last-in-first-out" rule within job type and 10-year age brackets in cases of economic lay-off (van den Berge, 2016). Furthermore, these are likely unexpected, as firms can only inform workers once the dismissal request is approved and are only required to provide a one-month notice period before termination.

We consider workers as "displaced" if in year t they lost their job following a bankruptcy or an economic layoff, are aged between 25 and 50, and have more than three years of employer tenure. Prior work also restricts firm size to between 10 and 500 workers in order to ensure that the firm's labor force reduction—one of the criteria to identify displaced workers—does not reflect small-number variability. Although we overcome this using information about the reasons for job separations, we also impose this restriction and relax it in a robustness check. Additionally, we focus on workers displaced once between 2007 and 2014. For each displacement year d, we construct a sample including observations for the pre- and post-displacement years for two groups, a treatment group that experienced displacement in year d, and a control group which did not.

Control workers Our sample of potential control workers consists of non-displaced workers in a given year that meet the same age, tenure and firm size restrictions as displaced workers. Importantly, we do not restrict workers in the control group to stay at the same firm between t and $t+1$, i.e. we allow them to separate for reasons other than displacement such as voluntary job changes. To obtain a control sample comparable to displaced workers, we match each displaced worker to a control with similar observable characteristics prior to displacement. Specifically, we match on age, job tenure, sector (15 sectors), firm size quintile, annual earnings decile and liquid wealth quintile. When displaced workers match with multiple non-displaced workers, we randomly select one as a control.

2.3 Descriptive Statistics

Table 1 describes the matched sample. Using the matching procedure previously described, we successfully match 78% of displaced workers.[5] This leaves us with 38,925 displacements,

[5]The proportion of workers matched is similar to Britto et al. (2022), who use an equivalent matching procedure. The matched and full sample are very similar (Online Appendix Table A.2).

out of which 57% are workers that lost their job following a bankruptcy.[6] As expected, matched displaced workers are very similar to their control counterparts (Columns 1 and 2). Prior to displacement, they are, on average, 38 years old and have worked at the same firm for 9 years. Almost all work under a permanent contract (99%). However, one year after displacement, treated workers are, on average, 19% less likely to be permanent workers. This decline is more pronounced for low-wealth workers than high-wealth ones, a gap that persists after 5 years (Online Appendix Figure A.2). However, wealth is not randomly assigned, therefore we cannot interpret this heterogeneity as causal. In the next section, we describe our strategy to isolate the causal link between liquid wealth and job security after displacement.

3 Identification Strategy

Identifying the causal effect of liquid wealth on permanent employment after job loss is challenging. Losing a job and liquid wealth holdings upon displacement likely depend on other factors, such as age or labor market experience, that correlate with job security through other channels. To address this, we exploit eligibility rules to lump-sum transfers in the Netherlands, which create exogenous variation in liquid wealth among displaced workers.[7]

Institutional Setting The Dutch unemployment insurance scheme covers all workers who lose their job due to exogenous shocks, such as firm closure or downsizing. In the analysis period, the prevailing rules stipulated that displaced workers received 75% of the previous wage in the first two months and 70% thereafter, for a maximum of 38 months. On top of this, some displaced workers were entitled to a lump-sum transfer.

Eligibility for such compensation hinged on whether job loss resulted from a layoff due to economic reasons or firm closure following bankruptcy. To lay-off workers, firms had to ask permission to the Public Employment Office (UWV) or the civil court and provide valid reasons for the dismissal, such as economic reasons (e.g. restructuring or company

[6] Online Appendix Figure A.1 plots the yearly distribution.
[7] Card et al. (2007) and Basten et al. (2014) use similar identification strategy.

relocation), long-term sickness or poor performance of the worker.[8] Once approved, workers could not appeal the decision. Before 2015, firms granted permission by UWV to dismiss workers were not required to pay them any lump-sum compensation. In contrast, workers who lost their jobs due to bankruptcy were entitled to a lump-sum transfer from the UWV, covering any unpaid salary, overtime hours and holiday allowances. This institutional setting creates quasi-experimental variation in liquid wealth for workers facing a similar unexpected shock to employment, allowing us to identify the causal relationship between liquid wealth and permanent employment after job loss. Importantly, Table 1, columns 3 and 4, show that prior to displacement both eligible (to transfer) and non-eligible workers are similar in demographic and job characteristics. For instance, they have similar average tenure, annual earnings, liquid wealth, and work contract.

We do not observe directly the lump-sum transfer amount received by workers. However, we can infer it using data from the UWV, which provides information on the average monthly transfer workers receive throughout the year, along with the duration of such payments. These amounts include payments relative to unemployment insurance and any lump-sum transfer due to involuntary job loss. Figure 1 plots the estimated gap in the transfer amount between eligible and non-eligible workers before and after displacement, while controlling for the wage prior to displacement, ensuring we compare workers with similar unemployment insurance. Eligible workers receive around €2.600 more than non-eligible workers in the displacement year only. This is equivalent to one month's salary, allowing the average worker to supplement unemployment insurance to 100% of their previous wage for about 3.5 months. We exploit this one-time liquidity shock as exogenous variation in liquid wealth upon job loss.

Empirical Framework Our identification strategy relies on the fact that workers who involuntarily lost their job due to a bankruptcy were eligible to receive a lump-sum compensation upon entering unemployment, while those laid-off due to other economic reasons were not. We thus study how the impact of job loss on permanent employment depends on the level of liquid wealth upon displacement by estimating the following event-study model,

[8] UWV mainly deals with economic lay-offs, while the civil court manages mostly termination requests due to a disturbed employment relationship (Frenk, 2013).

separately for eligible and non-eligible workers:

$$y_{idt} = \alpha_i + \gamma_t + \gamma_d + \sum_{j=-3}^{5} \delta_j D_{t=d+j} + \beta X_{idt} + \epsilon_{idt} \quad (1)$$

where y_{idt} equals one if worker i displaced in year d is a permanent worker at time t or 0 if they are a temporary worker. $D_{t=d+j}$ are dummy variables indicating whether an individual was displaced in year d=t-j, t being the observation year. X_{idt} is a control vector including age and its square. Equation 1 also includes displacement-year (γ_d), calendar-year dummies (γ_t) and worker fixed effects (α_i) to control for time-invariant worker characteristics. Standard errors are clustered at the individual level.

Assuming that permanent employment would have followed a similar path for both displaced and non-displaced workers in the absence of displacement, the coefficients $\{\delta_{-3}, ..., \delta_5\}$ identify the impact of displacement on permanent employment in pre- and post-displacement years $j \in [3, ..., 5]$, $t-1$ being the baseline omitted period. Differences in the estimated parameters between eligible and non-eligible displaced workers capture the effect of being eligible to the lump-sum transfer, or equivalently the intention-to-treat effect of the lump-sum compensation on permanent employment after displacement.[9]

4 Results

Figure 2 plots the impact of job loss on permanent employment. Online Appendix Table A.3 reports corresponding point estimates and standard errors. In all panels, we observe no difference in permanent employment between displaced and non-displaced workers before displacement, supporting the parallel trends assumption.

Panel (a) shows that the average displaced worker suffers a substantial decrease in permanent employment relative to non-displaced workers. One year after displacement, permanent employment is 19% lower. This effect is persistent: after 5 years, treated workers still experience a 12% drop in permanent employment probability. When we split the sample between workers eligible to receive a lump-sum transfer and those non-eligible, we uncover significant

[9]Comparisons always occur between treated and never-treated individuals, ensuring that our estimates are not biased due to staggered treatment and heterogeneous treatment effects (Sun and Abraham, 2021; Goodman-Bacon, 2021; Callaway and Sant'Anna, 2021).

differences in job security losses. Permanent employment decreases by 25% one year after displacement for workers non-eligible to the lump-sum, which compares to a 16% drop for those eligible. This gap persists after five years. Thus, a lump-sum compensation worth around 1 month of salary partially protects displaced workers from suffering more pronounced and lasting scars in job security.

To further isolate the role of liquidity, we investigate whether the estimated eligibility effect differs between two groups: individuals with the highest 20% of liquid wealth, as defined in Section 2, and those with the lowest 20%. For both groups, the lump-sum transfer is approximately equal to one month salary (Figure 1). However, when compared to pre-displacement liquid wealth, the liquidity shock is notably larger for those in the lowest quintile. For the latter, the lump-sum transfer represents more than twice their liquid holdings, while among high-wealth individuals, this payment represents only 2% of liquid wealth. If liquidity constraint is driving the differential impact of displacement on job security between eligible and non-eligible workers, one would expect a lump-sum transfer to have a larger impact on those with low pre-displacement liquid wealth, who are more likely to be liquidity-constrained.[10] Alternative explanations reflecting potential differences in unobserved characteristics between eligible and non-eligible workers, such as skills, job search technology or risk aversion, would not necessarily predict a differential effect between high- and low-wealth workers.

Panel (b) and (c) of Figure 2 replicate Panel (a) for both groups. Among those in the lowest quintile of liquid wealth, eligibility to a lump-sum transfer upon displacement reduces the loss in permanent employment by 10 percentage points (pp) within a year (Panel (b)): non-eligible workers experience a decline of 34% , compared to 24% for those eligible. In contrast, for high-wealth individuals, eligibility only reduces the drop in permanent employment by 5.7 pp (Panel (c)). For those with low liquid wealth, the sensitivity of permanent employment to cash-on-hand is thus nearly twice as high. This difference becomes more (less) pronounced with narrower (wider) wealth bands (Online Appendix Figure A.3). The gap in permanent employment between eligible and non-eligible workers persists among the bottom

[10] Average liquid wealth of displaced workers at the bottom 20% of the liquid wealth distribution is around 850 euros, suggesting that many may not be in a position to smooth consumption while unemployed. This contrasts with an average of 160 thousand euros among those at the top 20%.

20% until year 5 after displacement. This contrasts with high liquid wealth individuals for whom the gap in permanent employment disappears within five years of displacement.

Liquidity Constraints? Our findings reveal that eligibility to a lump-sum transfer protects workers from severe scars in job security after displacement, reducing declines in permanent employment. Importantly, this effect is nearly twice as high and persistent among those with little liquid wealth prior to job loss. When we split the sample based on other pre-layoff dimensions such as age, job tenure or worker type in terms of wage, we do not observe such heterogeneity (Online Appendix Figure A.4). This suggests that the eligibility impact on permanent employment is primarily driven by liquidity-related effects, rather than differences in other dimensions between eligible and non-eligible workers.

Displaced workers with little liquid wealth can, however, tap into their illiquid wealth, namely their home equity, as an alternative income source (e.g. they can sell their property and relocate to a rental or smaller owned home). Online Appendix Figure A.5 shows that illiquid wealth, defined as the value of owned real estate assets minus mortgage owed, does not play a role in our context. The impact of eligibility for a lump-sum transfer on permanent employment is the same across workers with little liquid wealth, but different amounts of illiquid wealth (Panel (a) and (b)). This is consistent with the importance of liquidity, as assessing home equity involves higher and longer transaction costs than drawing down liquid assets. Our results are in line with recent work emphasizing the key role of liquid wealth in shaping individual's behavior after job loss. For instance, Fontaine et al. (2023) show that liquid assets affect reemployment probability, but not illiquid assets or liabilities, and Andersen et al. (2023) find that liquid savings are the most important mechanism unemployed workers use to compensate for lost income.

A plausible explanation for our findings is that liquidity affects search behavior. Workers with low liquid wealth are likely to run into liquidity constraints sooner while unemployed, and a lump-sum transfer allows them to prolong job search, resulting in a more secure job. Several studies provide evidence of such mechanism (e.g. Card et al., 2007; Chetty, 2008; Basten et al., 2014; Griffy, 2021). Consistently, Online Appendix Table A.5 shows that eligibility to a lump-sum transfer prolongs average non-employment duration by two weeks.

Importantly, this effect is driven by low-wealth individuals, where eligibility increases non-employment duration by more than two weeks (significant at 1%), while it is statistically insignificant among high-wealth individuals.[11] Overall, our findings suggest that receiving a lump-sum transfer alleviates liquidity constraints, allowing unemployed workers to extend their job search, which results in more stable jobs.

Robustness Results hold when we split the sample only in terms of holdings in savings accounts; net liquid wealth (liquid wealth minus debt excluding the mortgage value in the primary residence), and liquid wealth relative to the prior wage, which approximates how long workers can sustain previous expenditure level (Online Appendix Figure A.6). Our results are also robust to alternative samples. We relax firm size restrictions, use a random sample of control workers, focus on displacements occurring before 2010 with at least 5 years of post-displacement outcomes, and include workers experiencing multiple displacements, considering only the first event (Online Appendix Figure A.7). Finally, controlling for sector fixed effects and the number of adults in the household, to account for family insurance opportunities, does not alter our findings (Online Appendix Figure A.8).

5 Implications for the Cost of Job Loss

Starting with Jacobson et al. (1993), an extensive empirical literature has shown that displaced workers experience large losses in wages that persist in the long-term. Our findings in Section 4 suggest such scarring effects could be partly explained by losses in job security. In what follows, we investigate further this hypothesis. Building on Schmieder et al. (2023), we first estimate the average cost of job loss at the individual level. Then, we analyse how important is loss in job security for the cost of displacement, while accounting for other explanatory factors studied in the literature. Finally, we employ a decomposition exercise to estimate the extent to which differences in job security can explain the gap in wage loss between eligible and non-eligible workers.

[11] We find similar results using a Cox regression: the job-finding hazard for eligible low-wealth workers is 8% lower, with no significant effect among high-wealth individuals.

The Cost of Job Loss While we readily observe post-job loss wages, estimating the wage loss from displacement at the individual level requires a measure of counterfactual wages for each displaced worker. Leveraging on the fact that each displaced worker in our sample is matched with a non-displaced control worker, who closely resembles them in terms of pre-job loss observables, we compute an individual-level estimate of the wage impact of displacement for each treated-control worker pair following Schmieder et al. (2023):

$$\Delta w_{idj} \;=\; \Delta_d w_{idj} \;-\; \Delta_{nd} w_{idj} \tag{2}$$

where Δw_{idj} is the the estimate of the individual treatment effect from job loss after j years. $\Delta_d w_{idj}$ is the difference between pre-displacement wage and the wage j years after job loss for worker i displaced in year d and $\Delta_{nd} w_{idj}$ is the wage change for the matched non-displaced worker.

Using the log daily wage, we compute individual-level job loss effects on wages 5 years after job loss relative to 1 year before displacement. Consistent with prior work, displaced workers experience an average large wage drop of about 14% after job loss. Being eligible to a lump-sum transfer upon displacement attenuates this loss. Eligible workers suffer a wage decline that is 5 pp lower when compared to the non-eligible ones (Table 2, Column 1). Mimicking the patterns documented for permanent employment in Section 4, the eligibility effect matters most for low-wealth workers. Among displaced workers at the bottom 20% of the liquid wealth distribution, a lump-sum transfer worth around 1 month of salary reduces wage loss by 7.7 pp, while for those at the top 20% this gap is not statistically significant.

Job Security and Wage Loss To investigate the role of job security loss in the wage cost of displacement, we adopt the method proposed by Schmieder et al. (2023) and estimate

$$\Delta w_{idj} \;=\; \beta \cdot temporary_{ij} \;+\; \delta\, \hat{\alpha}_i \;+\; \gamma\, \hat{\psi}_{J(id)} \;+\; \xi\, \Delta\hat{\psi}_{J(id)} \;+\; \theta' X_i \;+\; \pi_1\, t \;+\; \pi_2\, t^2 \;+\epsilon_{ijd}, \tag{3}$$

where Δw_{idj} is the individual-level estimate of the wage loss j years after displacement for worker i displaced in year d, and $temporary_{ij}$ is an indicator variable for displaced workers being in a temporary job or not j years after displacement. To control for differences in worker characteristics, we add an estimate of worker fixed effect, $\hat{\alpha}_i$, a migrant background dummy

and quadratic polynomials for age and prior job tenure, that captures the potential loss in firm-specific skills (Topel, 1990; Jacobson et al., 1993). We also control for other potential explanatory factors behind the cost of job loss. First, we control for both the estimated fixed effect of the displacing firms, $\hat{\psi}_{J(id)}$, and the change of the firm effect after job loss relative to the control group, $\Delta\hat{\psi}_{J(id)}$(Helm et al., 2022; Bertheau et al., 2023; Schmieder et al., 2023). We obtain firm and worker fixed effects from a standard AKM model using spells of full-time male workers aged 20 to 55 years old, and compute $\Delta\hat{\psi}_{J(id)}$ in the same way as Δw_{ijd}.[12] Additionally, we add an indicator variable for switching sector after displacement to capture losses in sector-specific skills (Neal, 1995; Huckfeldt, 2022), and post-displacement sector fixed effects (Jacobson et al., 1993). We also include a quadratic time trend.

The parameter of interest, β, measures wage loss differences between workers with a temporary contract j years after displacement and those with a permanent one. Given the negative mean of Δw_{idj}, if $\beta < 0$ workers with a temporary contract after displacement have larger wage losses than permanent workers. Figure 3 reports the $\hat{\beta}$'s from specifications of equation 3 which sequentially includes controls.

Starting from a specification including only worker-level controls, we find that being a temporary worker is associated with a wage loss 35% larger 5 years after displacement. Controlling for the estimated fixed effect of the displacing firm, post-displacement sector fixed effects and a sector switcher dummy barely changes the estimated coefficient. However, once we introduce the change in employer-specific wage premiums, $|\hat{\beta}|$ becomes smaller. This suggests that part of the wage loss effect of losing job security can be attributed to workers reallocating into lower-paying firms. The estimated coefficient changes little when we reintroduce all other controls. Still, the effect of losing job security on wage losses remains statistically and economically significant: the wage loss is on average 21% higher for displaced workers with temporary contract 5 years after job loss, relative to an average wage loss of 14% for all displaced workers. Reassuringly, we obtain a similar estimate if displaced workers are instead assigned a random control observation who satisfies the same tenure, firm size

[12]Since job loss may affect the premiums firms pay their employees, we exclude post-displacement observations of displacement firms, displaced workers, and corresponding control workers. Moreover, we mitigate concerns regarding limited mobility bias by partitioning firms in the bottom 10% of the firm size distribution into 20 distinct clusters of firms with a similar wage distribution (i.e. the discretized empirical CDF of their log wages) using the K-means clustering algorithm (Bonhomme et al., 2019).

and age restrictions (Online Appendix Table A.4).

Decomposing the Wage Loss Gap In light of these findings, we investigate the extent to which the gap in wage losses between eligible and non-eligible can be attributed to differences in job security after displacement, as documented in Section 4. We address this question by employing an Oaxaca-Blinder decomposition which allows us to disentangle the percentage of the difference in wage loss between these two groups that can be attributed to observable characteristics from the part that remains unexplained (Kaila et al., 2021; Bertheau et al., 2023). We first regress the individual-level job loss effect (Δw_{id}) on a vector of worker and employer observables X, including a quadratic polynomial in prior job tenure and age, a migrant background dummy, estimated worker and displacing firm fixed effects, post-displacement sector fixed effects, a sector switcher dummy, the change in firm fixed effects after job loss ($\Delta\hat{\psi}_{J(id)}$), and a binary variable for the contract type (permanent versus temporary). Using the estimated coefficients, we decompose the average gap in wage loss 5 years after displacement between eligible (e) and non-eligible (ne) workers into the explained and unexplained portions as follows:

$$\Delta_j = \underbrace{\sum_{x \in X} \hat{\beta}_x^* (E[x_{i,e}] - E[x_{i,ne}])}_{\text{Explained}} + \underbrace{\sum_{x \in X} (\hat{\beta}_x^e - \hat{\beta}_x^*) E[x_{i,e}] + (\hat{\beta}_x^{ne} - \hat{\beta}_x^*) E[x_{i,ne}]}_{\text{Unexplained}} \tag{4}$$

where $\hat{\beta}_x^*$ is coefficient associated with observable x_i from the pooled regression over both groups (Neumark, 1988).

Table 2 reports the results. Observable differences in job security and changes in employer-specific wage premiums after displacement (Column 2 and 3) explain a significant portion of the wage loss gap between eligible and non-eligible workers (Column 1). Specifically, out of a 5 pp gap, 21% is due to differences in job security after displacement (Column 2). For low-wealth individuals, differences in job security account for 13% of the 7.7 pp wage loss gap.[13] Overall, we conclude that being eligible to a lump-sum transfer worth one month of salary protects displaced workers against more severe scars in job security, significantly

[13] As reported in the last row of Table 2, this gap is small and not statistically significant for high liquid-wealth individuals so we do not decompose its effects.

reducing the wage cost of job loss. The results also suggest that eligibility helps workers in finding jobs in high-quality firm, specially those with low-wealth (Column 3).

6 Conclusion

Using rich administrative data from the Netherlands and quasi-experimental variation in liquid wealth upon job loss, we investigate the impact of displacement on job security and the role of liquidity. Within a year of displacement, the likelihood of having a permanent job drops by 19%. Five years later, displaced workers still experience lower job security. Importantly, eligibility to a lump-sum transfer when displaced mitigates losses in job security, reducing the drop in permanent employment by 9 percentage points. This effect is mainly driven by liquid-constrained workers, while we find no heterogeneity in other dimensions. Our findings thus suggest that cash-on-hand is a key mechanism linking displacement to job security.

We also show that losing job security plays an important role in the wage cost of displacement, explaining a significant fraction of the wage loss gap between eligible and non-eligible workers. Policy-wise, our findings highlight the role of social transfers in protecting against negative job security shocks —and its associated large wage costs —that are large and lasting following job loss, particularly for those that are more likely to be financially constrained.

References

Ahn, Hie Joo, Bart Hobijn, and Ayşegül Şahin, "The Dual US Labor Market Uncovered," Technical Report, National Bureau of Economic Research 2023.

Andersen, Asger Lau, Amalie Sofie Jensen, Niels Johannesen, Claus Thustrup Kreiner, Søren Leth-Petersen, and Adam Sheridan, "How Do Households Respond to Job Loss? Lessons from Multiple High-Frequency Datasets," *American Economic Journal: Applied Economics*, October 2023, *15* (4), 1–29.

Basten, Christoph, Andreas Fagereng, and Kjetil Telle, "Cash-on-hand and the Duration of Job Search: Quasi-experimental Evidence from Norway," *The Economic Journal*, 2014, *124* (576), 540–568.

Bentolila, Samuel, Juan Jose Dolado, and Juan F Jimeno, "Dual labour markets revisited," 2019.

Bertheau, Antoine, Edoardo Maria Acabbi, Cristina Barceló, Andreas Gulyas, Stefano Lombardi, and Raffaele Saggio, "The Unequal Consequences of Job Loss across Countries," *American Economic Review: Insights*, September 2023, *5* (3), 393–408.

Bonhomme, Stéphane, Thibaut Lamadon, and Elena Manresa, "A distributional framework for matched employer employee data," *Econometrica*, 2019, *87* (3), 699–739.

Britto, Diogo G. C., Paolo Pinotti, and Breno Sampaio, "The Effect of Job Loss and Unemployment Insurance on Crime in Brazil," *Econometrica*, 2022, *90* (4), 1393–1423.

Callaway, Brantly and Pedro H.C. Sant'Anna, "Difference-in-Differences with multiple time periods," *Journal of Econometrics*, 2021, *225* (2), 200–230. Themed Issue: Treatment Effect 1.

Card, David, Raj Chetty, and Andrea Weber, "Cash-on-hand and competing models of intertemporal behavior: New evidence from the labor market," *The Quarterly journal of economics*, 2007, *122* (4), 1511–1560.

Chetty, Raj, "Moral Hazard versus Liquidity and Optimal Unemployment Insurance," *Journal of Political Economy*, 2008, *116* (2), 173–234.

Couch, Kenneth A and Dana W Placzek, "Earnings losses of displaced workers revisited," *American Economic Review*, 2010, *100* (1), 572–589.

Davis, Stevens J. and Till Von Wachter, "Recessions and the Cost of Job Los," *Brookings papers on economic activity*, 2011, *2*, 1–72.

Fackler, Daniel, Steffen Mueller, and Jens Stegmaier, "Explaining wage losses after job displacement: Employer size and lost firm wage premiums," *Journal of the European Economic Association*, 2021, *19* (5), 2695–2736.

Fontaine, François, Janne Nyborg Jensen, and Rune Vejlin, "Wealth, Portfolios, and Nonemployment Duration," *Journal of Money, Credit and Banking*, 2023.

Frenk, M.M., "Job security in the Netherlands." PhD dissertation, Maastricht University, Netherlands January 2013.

Goodman-Bacon, Andrew, "Difference-in-differences with variation in treatment timing," *Journal of Econometrics*, 2021, *225* (2), 254–277. Themed Issue: Treatment Effect 1.

Griffy, Benjamin S, "Search And The Sources Of Life-Cycle Inequality," *International Economic Review*, 2021, *62* (4), 1321–1362.

Helm, Ines, Alice Kügler, and Uta Schönberg, "Displacement effects in manufacturing," *Manuskript. Department of Economics, Ludwig-Maximilians-Universität München*, 2022.

Huckfeldt, Christopher, "Understanding the scarring effect of recessions," *American Economic Review*, 2022, *112* (4), 1273–1310.

Jacobson, Louis S, Robert J LaLonde, and Daniel G Sullivan, "Earnings losses of displaced workers," *The American economic review*, 1993, pp. 685–709.

Kaila, Martti, Emily Nix, and Krista Riukula, "Disparate impacts of job loss by parental income and implications for intergenerational mobility," *Federal Reserve Bank of Minneapolis*, 2021.

Moore, Brendan and Judith Scott-Clayton, "The Firm's Role in Displaced Workers' Earnings Losses," Technical Report, National Bureau of Economic Research 2019.

Neal, Derek, "Industry-specific human capital: Evidence from displaced workers," *Journal of labor Economics*, 1995, *13* (4), 653–677.

Neumark, David, "Employers' discriminatory behavior and the estimation of wage discrimination," *Journal of Human resources*, 1988, pp. 279–295.

OECD, *OECD Employment Outlook 2014* 2014.

Schmieder, Johannes F, Till Von Wachter, and Jörg Heining, "The costs of job displacement over the business cycle and its sources: evidence from Germany," *American Economic Review*, 2023, *113* (5), 1208–1254.

Sun, Liyang and Sarah Abraham, "Estimating dynamic treatment effects in event studies with heterogeneous treatment effects," *Journal of Econometrics*, 2021, *225* (2), 175–199. Themed Issue: Treatment Effect 1.

Topel, Robert, "Specific capital and unemployment: Measuring the costs and consequences of job loss," in "Carnegie-Rochester conference series on public policy," Vol. 33 Elsevier 1990, pp. 181–214.

van den Berge, Wiljan, "How do severance pay and job search assistance jointly affect unemployment duration and job quality?," Technical Report, CPB Netherlands Bureau for Economic Policy Analysis 2016.

Table 1: Descriptive Statistics, Matched sample

	Full Sample				Top 20%		Bottom 20%	
	Non-displaced	All displaced	Bankruptcies	Layoffs	Non-displaced	Displaced	Non-displaced	Displaced
Age (years)	38.2	38.2	37.9	38.7	39.6	39.6	36.8	36.8
Migrant Background (%)	17.4	19.5	17.8	21.7	6.7	7.7	30.4	33.5
Wealth (000 Euros)								
Savings accounts	25.9	25.0	25.4	24.5	122.1	116.0	0.9	0.8
Liquid wealth	32.7	30.8	31.7	29.7	167.7	153.6	0.9	0.8
Net illiquid wealth	62.5	59.7	62.2	56.3	182.9	169.4	11.1	10.2
Job								
Tenure (years)	9.3	9.3	9.2	9.5	10.1	10.1	7.9	7.9
Annual wage (000 Euros)	42.3	42.0	43.1	40.6	55.4	54.5	35.2	35.1
Firm size	95.2	89.0	79.2	101.8	94.3	88.4	96.0	89.3
Industry (%)								
Manufacturing	33.8	34.1	30.6	38.6	30.9	31.0	34.0	34.3
Wholesale and retail trade	22.4	22.9	23.5	22.1	24.3	24.7	19.9	20.4
Construction	17.8	17.3	17.7	17.4	16.7	16.3	17.2	16.7
Real Estate	16.1	15.9	17.1	14.3	20.1	19.9	16.6	16.2
Transportation	5.8	5.7	7.2	3.8	3.4	3.4	7.4	7.4
Permanent employment (%)								
1-year before displacement	98.9	98.8	98.4	99.4	99.6	99.6	97.5	97.6
1-year after displacement	98.6	79.4	82.8	74.5	99.4	87.2	97.0	70.0
Observations	38,396	38,925	22,004	16,921	4,995	5,052	9,112	9,282

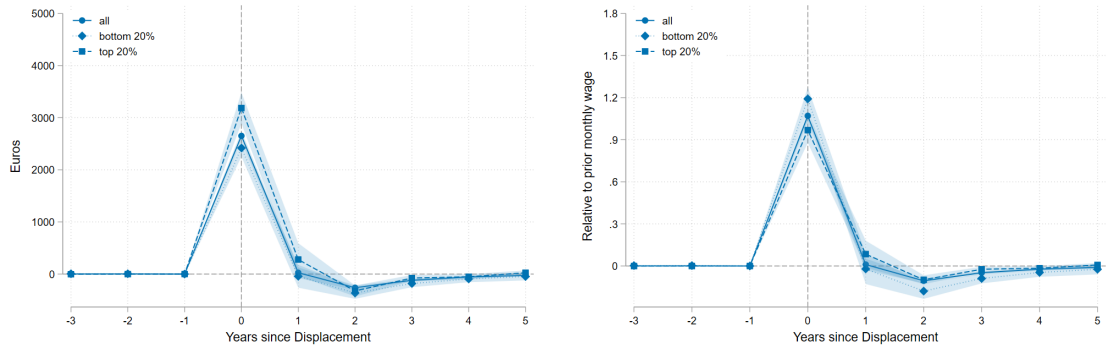
Notes: The table reports average characteristics of matched displaced and non-displaced workers one year before displacement, unless stated otherwise. *Bankruptcies* refer to individuals at firms that underwent closures. *Layoffs* refers to individuals who lost their job due to other economic reasons. Top (bottom) 20% corresponds to individuals in top (bottom) 20% of the liquid wealth distribution. *Migrant Background* refers to individuals with at least one foreign-born parent, including first and second-generation immigrants. *Liquid wealth* is the total value of financial asset holdings (saving accounts, stocks, and bonds). *Net illiquid wealth* corresponds the value of owned real estate minus the mortgage in the primary residence. Wealth and earnings are deflated and measured in 2015 Euros. Sample defined in Section 2.

Table 2: Decomposition of Differences in the Wage Loss between Eligible and Non-eligible Workers

	Wage Loss	Explained				Unexplained
	Gap	Job Security	Δ Firm FE	Post	Pre	Total
Full Sample	-4.97 (0.81)	-1.03	-2.82	-0.33	1.27	-2.06
Bottom 20%	-7.72 (1.93)	-1.04	-5.54	-0.21	0.78	-1.70
Top 20%	-0.96 (2.25)	–	–	–	–	–

Notes: Column 1 shows the wage loss gap between eligible and non-eligible workers five years after displacement, with standard errors in parenthesis. Columns 2-5 report the part that is explained by differences in job security loss, captured by an indicator variable that equals one if the individual is a temporary worker 5 years after displacement and 0 otherwise (Column 2), changes in firm fixed effect (Column 3), other post-displacement observables (sector fixed effects and sector change) (Column 4) and pre-displacement observables (quadratic polynomial in prior job tenure and age, a migrant background dummy, estimated worker fixed effects, estimated fixed effects of the displacing firm) (Column 5). Column 6 reports the part unexplained by average differences in observables. Estimates are based on Equation 4. Magnitudes are reported in percentage points. Sample of displaced workers defined in Section 2.

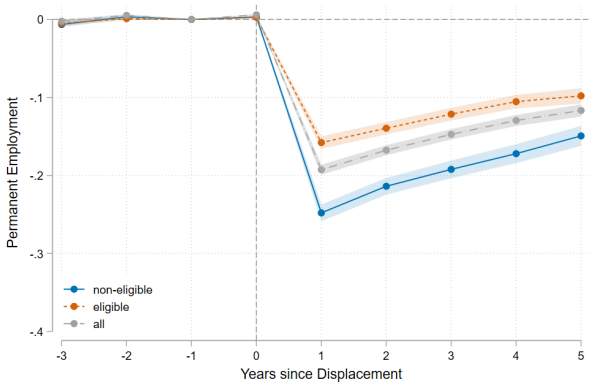
Figure 1: Difference in Yearly Transfers between Eligible and Non-eligible Workers



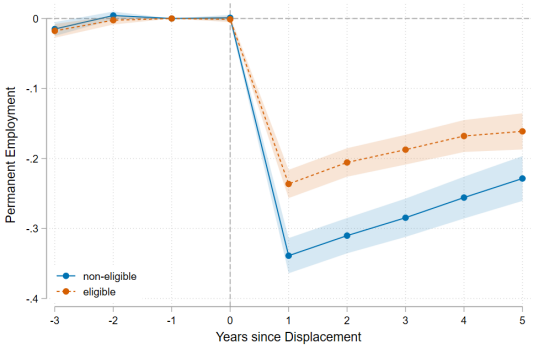
Notes: Figures plot estimated difference in the transfer amount received in a year by eligible and non-eligible workers, conditional on unemployment insurance. Estimates are obtained from the following regression: $transfer_{ij} = \beta_j \cdot eligible_i + controls_{ij} + \epsilon_{ij}$, $j \in [-3, ..., 5]$, where $transfer_{ij}$ is the average monthly amount received on unemployment insurance and lump-sum payments in year j since displacement and $eligible_i$ is a dummy that equals one for eligible workers and 0 for non-eligible. Controls include age, its square, a migrant background dummy, pre-displacement tenure and monthly wage, as a proxy for unemployment insurance, and displacement-year fixed effects. β_j is the difference in the average monthly benefit received in year j since displacement between eligible and non-eligible workers conditional on unemployment insurance, thus capturing the lump-sum transfer. The left panel plots $\hat{\beta}_j$ multiplied by the number of months eligible workers receive such benefits in a year, on average, and the right panel plots this value normalized to the average monthly salary prior to displacement. Shaded area are 95% confidence intervals. Sample of displaced workers as defined in Section 2.

Figure 2: The Impact of Displacement on Permanent Employment by Eligibility and Wealth

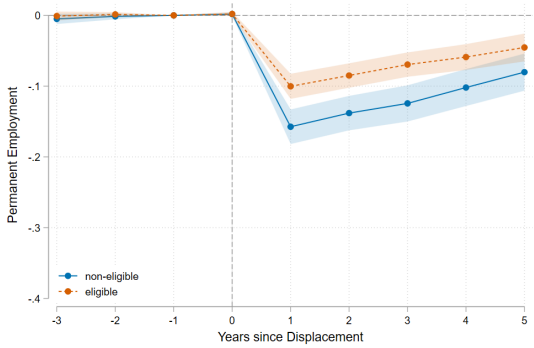
(a) Eligible vs Non-eligible



(b) Eligible vs Non-eligible: Bottom 20%

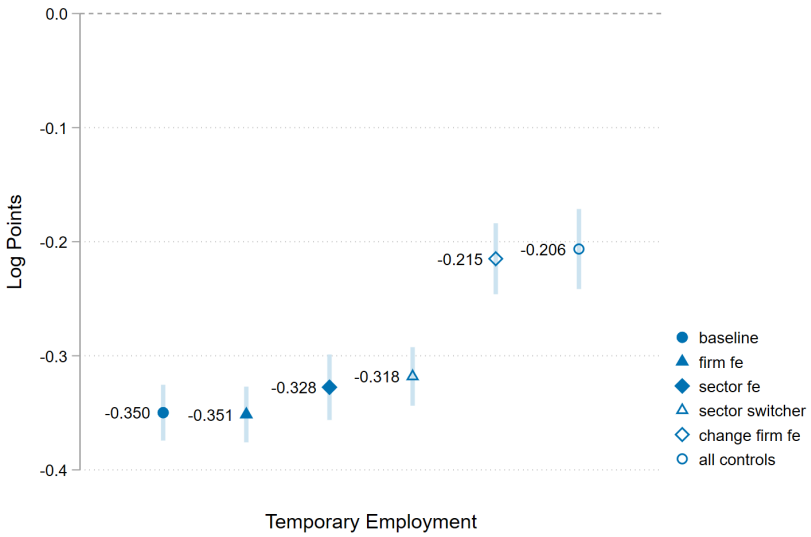


(c) Eligible vs Non-eligible: Top 20%



Notes: Each panel plots estimates of δ_j obtained from Equation 1, estimated separately for displaced workers eligible for a lump-sum transfer upon displacement (orange line) and those non-eligible (blue line). Panel (a) uses the full sample, while Panel (b) and (c) restrict focus to individuals in the bottom and top 20% of the liquid wealth distribution, respectively. The outcome variable is a categorical variable that equals 1 for permanent workers and 0 for temporary workers j years since displacement. All regressions control for a quadratic polynomial in age, displacement-year fixed effects, calendar-year fixed effects and individual fixed effects. Shaded areas correspond to 99% confidence intervals. Online Appendix Table A.3 reports estimates and standard errors clustered at individual level. Sample defined in Section 2.

Figure 3: Losses in Job Security and the Cost of Job Loss



Notes: Figure displays estimates of β obtained from Equation 3. The dependent variable is the individual-level estimate of wage loss Δw_{idj}, i.e., the change in the log daily wage compared to a matched control observation 5 years after displacement relative to the year prior to displacement (Equation 2). Baseline controls include quadratic polynomial in pre-displacement age and job tenure, a migrant background dummy, estimated worker fixed effects and a quadratic time trend. The remaining specifications introduce the specified control: *firm fe* adds the estimated fixed effect of the displacing firm, *sector fe* adds post-displacement sector fixed effects, *sector switcher* adds a sector switcher dummy, *change firm fe* adds the change in employer-specific wage premiums. Mean of dependent variable equals -14%. Sample defined in Section 2.

Job Security and Liquid Wealth

Ana Figueiredo Olivier Marie Agnieszka Markiewicz

Online Appendix

Table A.1: Descriptive Statistics, Permanent vs. Temporary Workers

	Temporary	Permanent
Age (years)	31.8	40.2
Migrant Background (%)	41.8	17.7
Tenure (years)	2.2	9.4
Annual wage (000 Euros) (000 euros)	12.5	41.4

Notes: The table reports average characteristics of temporary and permanent workers. Earnings are deflated and measured in 2015 Euros. The sample consists of full-time male workers whose earnings are higher than €1000 per month between 2004 and 2015.

Table A.2: Descriptive Statistics

	Non-displaced Workers		Displaced Workers	
	Matched	Random	Matched	Full
Age (years)	38.2	38.5	38.2	38.6
Migrant Backgroumd (%)	17.5	14.7	19.5	19.3
Wealth (000 Euros)				
Savings	25.9	34.2	25.0	25.6
Liquid wealth	32.7	43.8	30.8	31.6
Net illiquid wealth	62.5	72.4	59.7	60.5
Job				
Tenure (years)	9.3	10.4	9.3	9.7
Permanent Employment (%)	98.9	99.1	98.8	98.8
Annual wage (000 Euros)	42.3	48.4	42.0	41.7
Firm size	95.2	129.5	89.0	85.8
Industry				
Manufacturing (%)	33.8	25.8	34.1	30.3
Wholesale and retail trade (%)	22.4	11.6	22.9	23.0
Construction (%)	17.8	19.6	17.3	16.3
Real Estate (%)	16.1	16.7	15.9	15.2
Transportation (%)	5.8	7.6	5.7	6.8
Observations	38,396	45,308	38,925	49,618

Notes: The table reports average characteristics of displaced and non-displaced workers one year before displacement. Column 1 and 2 display characteristics of matched non-displaced and a random sample of non-displaced workers that satisfy the same age, tenure and firm size restrictions as displaced workers. The sample in column 3 and 4 correspond, respectively, to displaced workers that are successfully matched to control workers using the matching process described in Section 2 and the full sample. All wealth variables and wages are deflated and measured in 2015 Euros. Sample defined in Section 2

Table A.3: The Effect of Displacement on Permanent Employment

	Full Sample			Bottom 20%		Top 20%	
	All	Non-Eligible	Eligible	Non-Eligible	Eligible	Non-eligible	Eligible
-3	-0.0023	-0.0064	-0.0046	-0.0150	-0.0177	-0.0050	-0.0010
	(0.0009)	(0.0014)	(-0.0046)	(0.0038)	(0.0038)	(0.0028)	(0.0025)
-2	0.0052	0.0035	0.0011	0.0042	-0.0024	-0.0015	0.0013
	(0.0006)	(0.0008)	(0.0011)	(0.0022)	(0.0024)	(0.0016)	(0.0013)
-1	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
0	0.0060	0.0032	0.0027	0.0010	-0.0011	0.0017	0.0020
	(0.0004)	(0.0006)	(0.0027)	(0.0016)	(0.0016)	(0.0010)	(0.0011)
1	-0.1926	-0.2479	-0.1578	-0.3389	-0.2364	-0.1573	-0.1002
	(0.0025)	(0.0042)	(-0.1578)	(0.0097)	(0.0078)	(0.0095)	(0.0069)
2	-0.1676	-0.2139	-0.1394	-0.3102	-0.2057	-0.1381	-0.0849
	(0.0025)	(0.0041)	(-0.1394)	(0.0098)	(0.0079)	(0.0094)	(0.0067)
3	-0.1473	-0.1922	-0.1214	-0.2847	-0.1874	-0.1244	-0.0695
	(0.0026)	(0.0044)	(-0.1214)	(0.0106)	(0.0082)	(0.0099)	(0.0067)
4	-0.1294	-0.1720	-0.1053	-0.2558	-0.1679	-0.1020	-0.0589
	(0.0027)	(0.0047)	(-0.1053)	(0.0116)	(0.0088)	(0.0101)	(0.0071)
5	-0.1167	-0.1493	-0.0979	-0.2286	-0.1612	-0.0802	-0.0454
	(0.0030)	(0.0050)	(-0.0979)	(0.0124)	(0.0100)	(0.0102)	(0.0076)
N	826,797	360,968	468,187	84,321	105,906	47,246	61,693

Notes: Table reports event time coefficients underlying Panel A, B and C in Figure 2. Estimates are obtained from Equation 1. The outcome variable is a binary variable that takes value one if an individual is employed under a permanent contract and 0 if the individual has a temporary contract. All regressions control for a quadratic polynomial in age, displacement year, calendar year and individual fixed effects. Standard errors clustered at the individual level in parentheses. Sample defined in Section 2.

Table A.4: Losses in Job Security and the Cost of Job Loss

	Dependent variable: Wage Loss 5 years after Displacement					
	Baseline (1)	Firm FE (2)	Switcher (3)	Sector FE (4)	Change Firm FE (5)	All (6)
Panel A: Matched Controls						
Temporary$_i$	-0.350***	-0.351***	-0.318***	-0.328***	-0.215***	-0.206***
	(0.015)	(0.015)	(0.016)	(0.018)	(0.019)	(0.021)
Change Firm FE					0.532***	0.538***
					(0.046)	(0.057)
Observations	10,115	10,115	10,115	10,115	10,115	10,115
R^2	0.086	0.095	0.094	0.108	0.200	0.214
Panel B: Random Controls						
Temporary$_i$	-0.324***	-0.325***	-0.297***	-0.317***	-0.172***	-0.174***
	(0.014)	(0.014)	(0.014)	(0.016)	(0.018)	(0.020)
Change Firm FE					0.609***	0.638**
					(0.0447)	(0.0592)
Observations	12,933	12,933	12,933	12,933	12,933	12,933
R^2	0.089	0.100	0.096	0.107	0.212	0.225

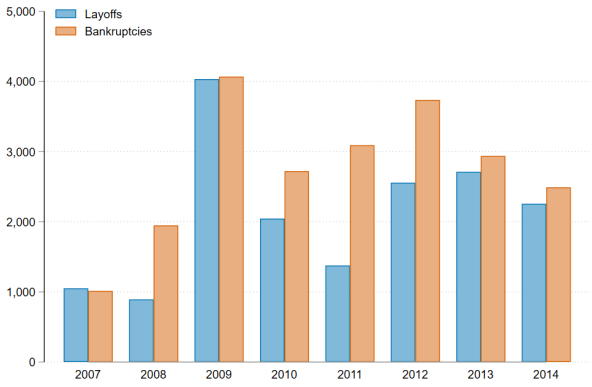
Notes: Table reports estimates of β obtained from Equation 3. $Temporary_i$ is a binary variable equal to 1 if the displaced worker is a temporary worker 5 years after job loss. In Panel A, displaced workers are matched with a similar control, following the matching procedure described in Section 2, while in Panel B they are matched with a random control. All columns include quadratic polynomials in pre-displacement age and job tenure, a migrant background dummy (an indicator variable for individuals with at least one parent foreign born), estimated worker fixed effects and a quadratic time trend. Columns 2 to 5 add the control referred in the header to the baseline. Column 5 includes all controls. Mean of the dependent variable is -14%. Robust standard errors in parenthesis. Sample consists of displaced workers as defined in Section 2.
***, ** and * represent statistical significance at 1%, 5% and 10% levels, respectively.

Table A.5: The Effect of Eligibility on Duration

	Completed Duration				Cox Proportional Model			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Eligible_i	1.881***	2.182***			-0.058***	-0.075***		
	(0.251)	(0.254)			(0.019)	(0.019)		
Bottom 20% · Eligible_i			2.137***	2.137***			-0.090**	-0.082**
			(0.525)	(0.532)			(0.038)	(0.039)
Top 20% · Eligible_i			1.213*	1.094			-0.032	-0.021
			(0.675)	(0.675)			(0.053)	(0.053)
Controls		X		X		X		X
Observations	11,467	11,467	4,091	4,091	11,465	11,465	4,091	4,091

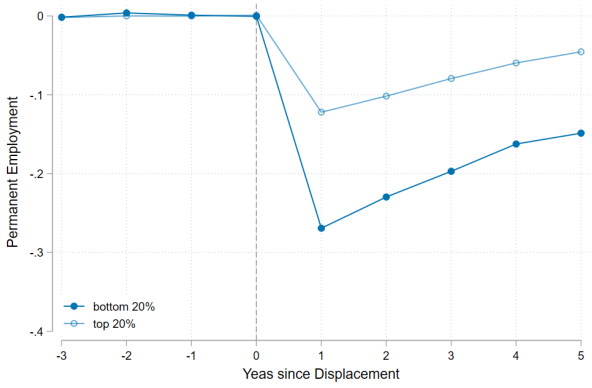
Notes: In columns 1 to 4, the dependent variable is defined as completed duration (in weeks) until re-employment, censored after 1 year. Columns 5 to 8 report estimates from a Cox hazard model. *Eligible*$_i$ is a indicator variable for displaced workers eligible to receive a lump-sum transfer upon job loss. Bottom (Top) 20% · Eligible_i captures the difference between eligible and non-eligible among the bottom (top) 20%. Controls include quadratic polynomials in age and job tenure, a migrant background dummy, pre-displacement sector fixed effects and displacement year-fixed effects. Robust standard errors in parenthesis. Sample consists of displaced workers that took unemployment insurance within 1 year after job loss (as in Chetty, 2008) and found a job within a year after displacement. ***, ** and * represent statistical significance at 1%, 5% and 10% levels, respectively.

Figure A.1: Displacements per Year, 2007-2014



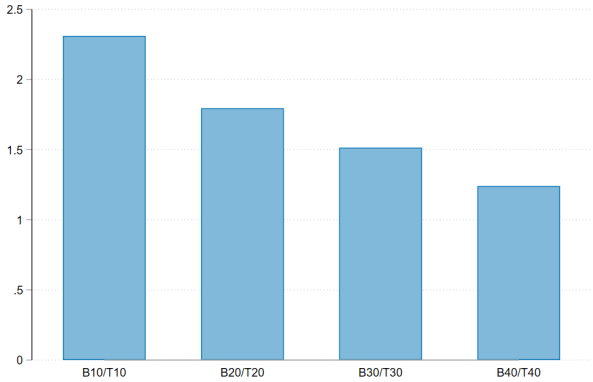
Notes: Figure displays number of displacements per year in the matched sample. *Bankruptices* correspond to workers that lost their job due to firm closure as a result of a bankruptcy. $Layoffs$ correspond to workers dismissed due to other economic reasons. Sample defined in Section 2

Figure A.2: Permanent Employment after Displacement by Wealth: Descriptive Evidence



Notes: Figure displays the difference in permanent employment between displaced and non-displaced workers 3 years before and 5 years after the job loss by pre-displacement liquid wealth. Bottom 20% and Top 20% consist of displaced and non-displaced workers in the bottom and top 20% of the liquid wealth distribution, respectively. Sample defined in Section 2.

Figure A.3: Eligibility Effect on Permanent Employment 1 Year after Displacement: Bottom vs. Top 10%, 20%, 30% and 40%



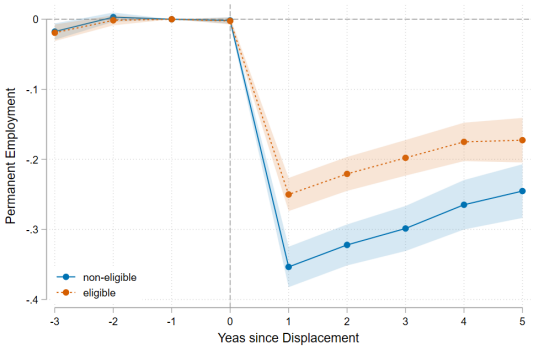
Notes: Figure displays the eligibility effect, that is the difference in the impact of job loss on permanent employment between non-eligible and eligible workers, in the bottom of the liquid wealth distribution relative to the top for different wealth bands. Sample defined in Section 2.

Figure A.4: Eligibility Effect on Permanent Employment 1 Year after Displacement: Heterogeneity in Different Dimensions

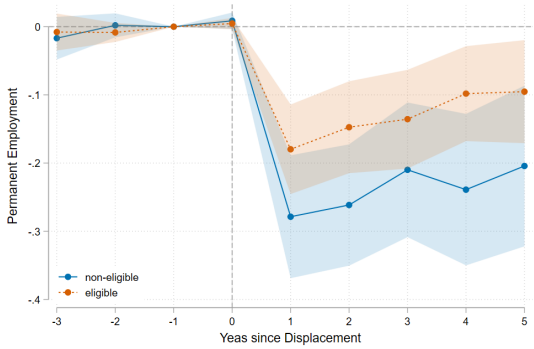
Notes: Figure displays the eligibility effect, that is the difference in the impact of job loss on permanent employment between non-eligible and eligible workers, one year after displacement for different groups of workers: bottom vs. top 20% of the liquid wealth distribution, old vs. young, high vs. low-tenure and high vs. low-wage workers, i.e. those who fall into the top and bottom 40% of the distribution of estimated worker fixed effects using a standard AKM regression. Sample defined in Section 2.

Figure A.5: Eligibility effect by Liquid and Illiquid Wealth

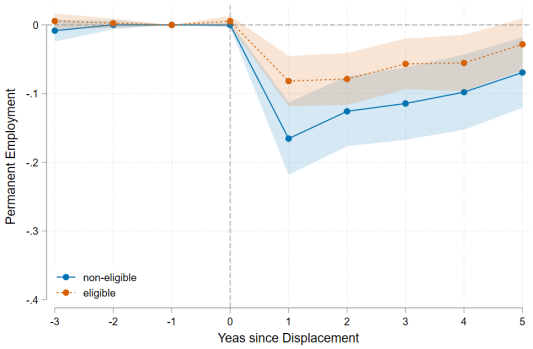
(a) Low Liquidity: Low Illiquid Wealth



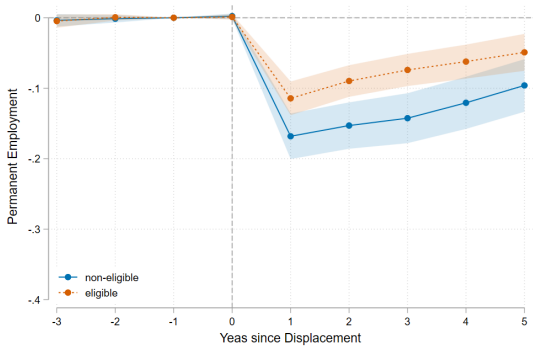
(b) Low Liquidity: High Illiquid Wealth



(c) High Liquidity: Low Illiquid Wealth



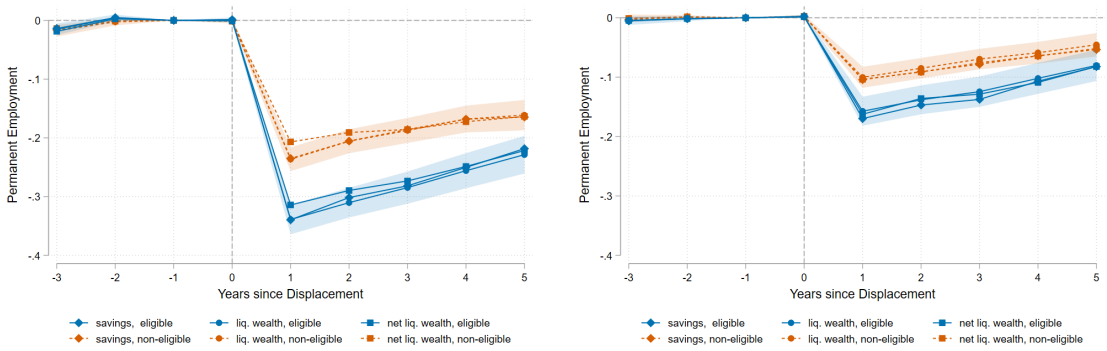
(d) High Liquidity: High Illiquid Wealth



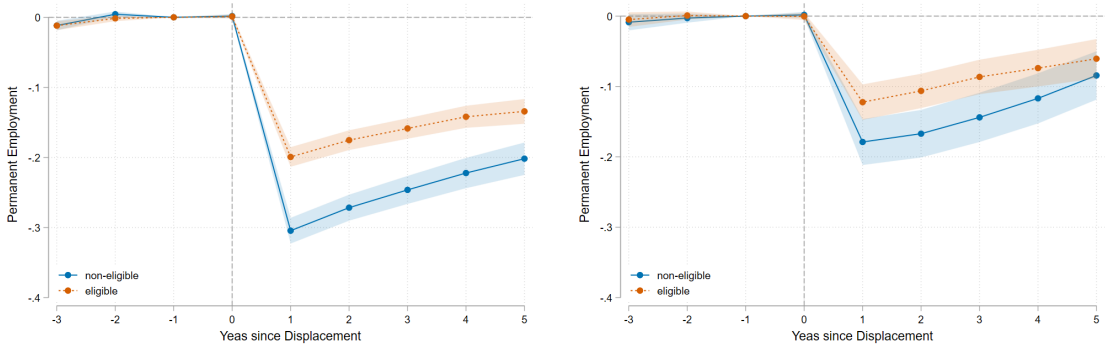
Notes: Panel (a) and (b) show, respectively, the eligibility effect on permanent employment after displacement for displaced workers in the bottom 20% of liquid wealth and in the bottom and top 30% of the net illiquid wealth distribution. Panel (c) and (d) show, respectively, the eligibility effect on permanent employment after displacement for displaced workers in the top 20% of liquid wealth and in the bottom and top 30% of the net illiquid wealth distribution. Shaded areas correspond to 99% confidence intervals. Sample defined in Section 2.

Figure A.6: Robustness Checks: Alternative Definitions

(a) Savings. Liquid Wealth & Net Liquid Wealth



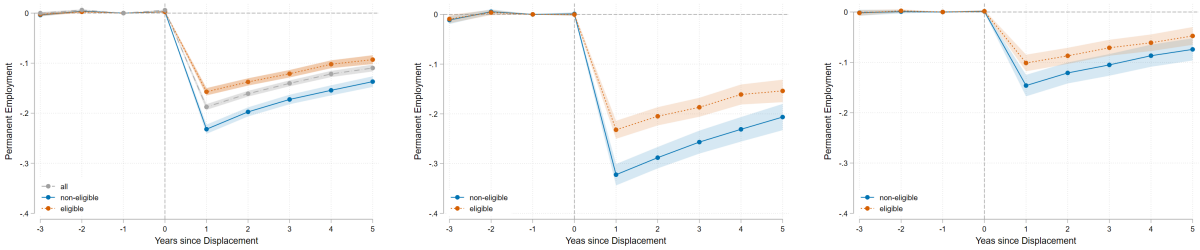
(b) Liquid Wealth relative to Monthly Wage



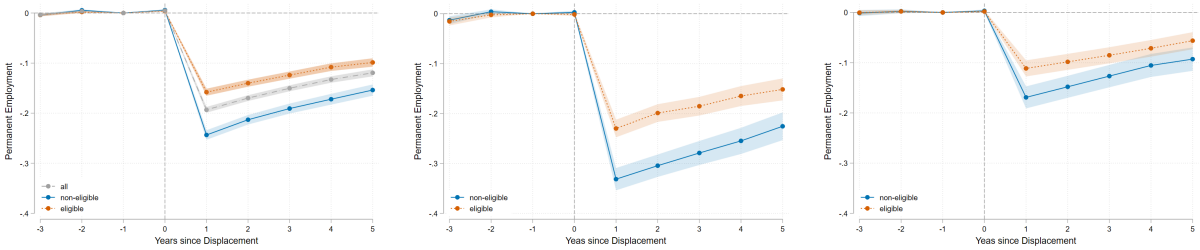
Notes: Each panel replicates Panel (b) (left) and (c) (right) in Figure 2. In Panel (a), the sample is split into high- and low-wealth on the basis of whether households' savings account, liquid wealth (savings accounts + bonds + stocks), and net liquid wealth (liquid wealth - other debt, including debt in credit cards and mortgages related to real estate that is not primary residence of the household) are in the bottom or top quintile of their respective distribution. In Panel (b), the sample is split according to the number of pre-displacement monthly wages covered by pre-displacement liquid wealth. The left panel corresponds to displaced workers for which pre-displacement liquid wealth does not cover more than two monthly salaries, the right panel restricts the sample to displaced workers for which pre-displacement wealth covers more than two years of monthly wages.Shaded areas correspond to 99% confidence intervals. Sample defined in Section 2.

Figure A.7: Robustness Checks: Alternative Samples

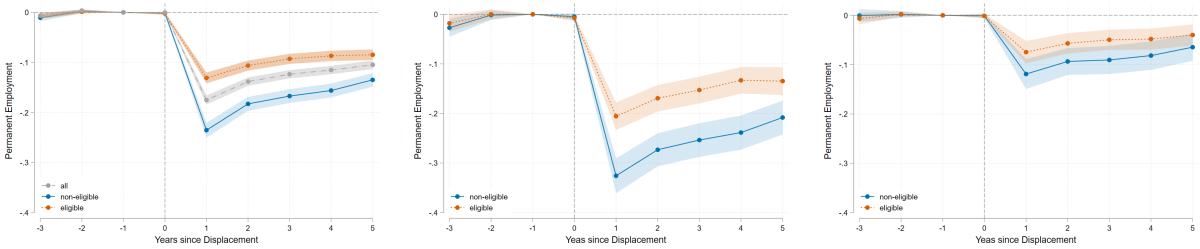
(a) No Firm Size Restriction



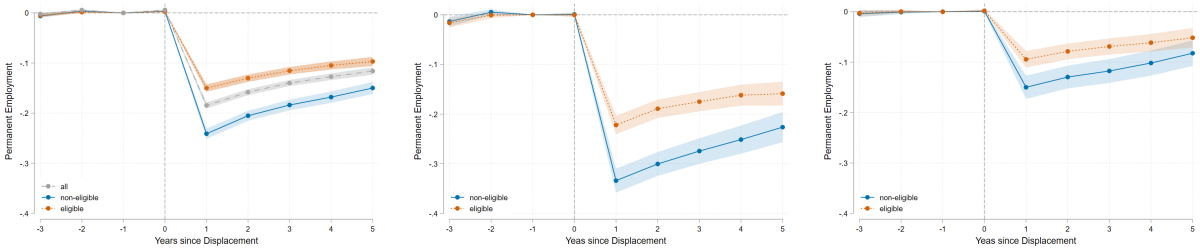
(b) Random Control Sample



(c) Displacements between 2007 and 2010



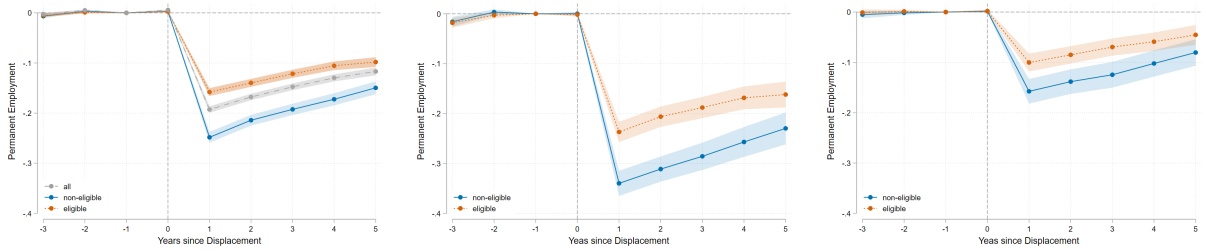
(d) More than one Displacement



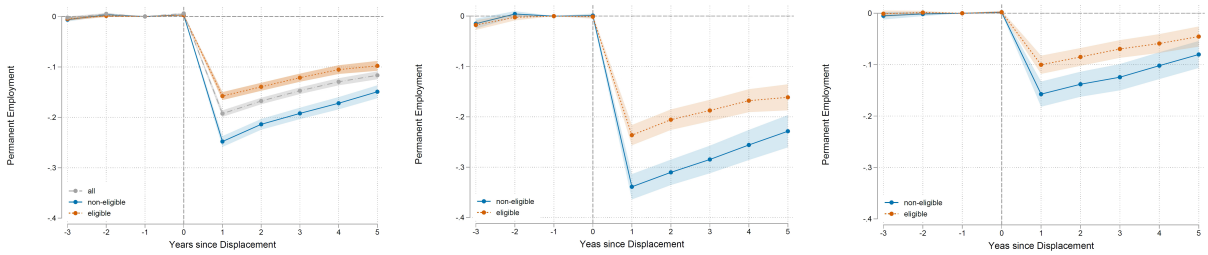
Notes: Each panel replicates Panel (a) (left), (b) (middle) and (c) (right) in Figure 2 under alternative samples. Panel (a) relaxes the firm size restriction, Panel (b) uses a random sample of control workers; Panel (c) restricts the sample to displacements between 2007 and 2010 and Panel (d) includes also workers that experience more than one displacement over the analysis period, but considering only the first displacement as an event in the analysis. Shaded areas correspond to 99% confidence intervals. Sample defined in Section 2.

Figure A.8: Robustness Checks: Additional Controls

(a) Pre-displacement Sector FE



(b) Adults in the Household



Notes: Each panel replicates Panel (a) (left), (b) (middle) and (c) (right) in Figure 2 controlling for observed heterogeneity. Panel (a) adds pre-displacement sector fixed effects to the baseline specification and Panel (b) the number of adults in the household. Shaded areas correspond to 99% confidence intervals. Sample defined in Section 2.