

The Effects of Employers' Disability and
Unemployment Insurance Costs on Benefit Inflows

Supplementary Appendix

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1 Firm sizes over time

A possible worry is that some firms may have manipulated their size in response to the reform. For that reason we classified firms as large or small ones based on their average payroll in the pre-reform years. Nevertheless, it is interesting to see how firm sizes evolve over time. Figure A1, panel A shows the share of firms that cross the size threshold of 1.5 million in 2004 euros in different years. Only about 1% of small firms cross the threshold from below each year. A much larger share of large firms (on average, 4%) cross the threshold from above. This is due to the skewness of the firm size distribution: a majority of the small firms are well below the size threshold, whereas most large firms are clustered above the lower size threshold, as seen in panel B.

What is striking in panel A is the huge jump in the share of large firms crossing the size threshold from above in 2009. However, we do not believe that the jump is related to the UI and DI rules but it is likely driven by the global financial crisis following the collapse of the US subprime mortgage market. In 2009, the sample firms' payrolls decreased on average by 8%. In all the other years, the payroll growth was positive. Payroll grew on average by 9% over the years other than 2009. These growth rates also explain why the size distribution shifted to the right in panel B by 2012. Moreover, 37% of the firms that went from large to small in 2009 were above the size threshold in some later year.

We do not see a clear mass point at the size threshold of 1.5 million in 2012, although the number of firms is higher below the threshold than just above it. Also the McCrary test rejects the hypothesis of a discontinuity in the density at the payroll threshold (p-value of 0.73). The lack of bunching of the observations at the size threshold implies that firms did not respond to the reform by actively manipulating their size to avoid UI and DI cost liabilities. This is not surprising because the degree of the cost liabilities increases linearly with payroll between 1.5 and 24 million, so that firms whose payroll is just above 1.5 million are only marginally subject to experience rating in DI and coinsurance in UI.

2 Differences between TEL- and LEL-insured workers

Figures A2 and A3 show the disability benefit inflow (all benefit types combined) and layoff rates for TEL- and LEL-insured workers prior to the TyEL reform in 2007. LEL-insured workers have on average about a 30% higher risk of becoming disability benefit recipients and a 70% higher layoff probability than TEL-insured workers. Figure A4 shows the shares of medical diagnoses in 1999–2006 by insurance type. The most common causes of disability are musculoskeletal and connective tissue diseases for both groups, but their share is somewhat higher for LEL-insured workers. The share of mental health and behavioral disorders is clearly lower for LEL-insured workers than for TEL-insured

workers.

3 Specification checks

In the main analysis, we assume that the differences in the outcomes between large and small firms are constant over the years 1999–2005, i.e. that the parallel trend assumption holds until 2005. Table A7 reports the results from extended model specifications with the full set of year and large-firm interactions until 2008. We use 2005 as the reference year, as we found evidence of anticipatory behavior in 2006 (see the discussion in Section 6.1 in the published version). Under the parallel trend assumption, coefficients on these interactions should be close to 0 until 2004. Since only one coefficient out of 36 coefficients differs from 0 at the conventional risk levels, the parallel trend assumption seems plausible.

In Table A8, we report the estimates of the effects of a placebo reform, using only pre-reform data from the period 1999–2005 and assuming that large firms became subject to experience rating in DI and coinsurance in UI in 2003. The year 2006 is excluded due to the evidence of anticipation effects. Note that we cannot perform placebo tests based on the post-reform data because the experience-rating system was adopted gradually over time and because it may take time for firms to learn the new rules and change their behavior. With the observation 1999–2005, the direct effect of UT eligibility is hardly identified, because the age threshold of the UT scheme was fixed at 55 until 2004 (see Figure 2 in the published version). Nevertheless, its interaction with the large-firm dummy and the triple interaction for the placebo effect of UI costs are identified. The placebo effects of DI costs are small and insignificant for all outcomes. The placebo effects of UI costs are larger but statistically insignificant except the effect on the inflow to vocational rehabilitation programs that is significant at the 5% risk level. However, only one UT-eligible worker started a vocational rehabilitation program in 1999–2005, and he appeared to be employed by a large firm and started the program in 2005. As such, the only significant placebo effect is due to noise.

4 Robustness checks

Table A1 shows the results when all the control variables except age are excluded, whereas Table A2 reports the results when the models also include firm fixed effects along with the control variables. The results in both cases are very close to our baseline estimates (Table 2 in the published version).

In Tables A3 and A4, we assess the robustness of our results with respect to alternative restrictions on the minimum number of LEL-insured employees. In the main

analysis, we include firms with at least 5 LEL-insured employees. Adding also firms with at least 3 or 4 LEL-insured employees to the analysis does affect the results, as the effects of DI and UI costs in Table A3 are close to our baseline results (Table 2 in the published version). When only firms with at least 10 LEL-insured employees are included in the analysis, the effect of UI costs on the layoff risk drops by a quarter in absolute terms compared to our baseline estimate (-1.031 vs. -1.394), and it is not statistically significant anymore at the conventional risk levels (Table A4). However, in this case also the excess layoff risk of UT-eligible workers in the large firms (i.e. the coefficient on Large x UT eligibility) is smaller than in our baseline case (0.995 vs 1.438), and it is roughly equal to the effect of UI costs as in our baseline model. Other results do not change notably when the minimum number of 3 or 10 LEL-insured employees is required as opposed to 5 LEL-insured used in the main analysis.

Table A5 reports the results when the group of large firms only includes the 21 largest firms that are fully covered by experience rating and coinsurance, i.e. when firms whose payroll is between 1.5 and 24 million in 2004 euros are dropped from the analysis. In this case, the effects of DI and UI costs are somewhat stronger than in the baseline case. This is what we should expect given that most excluded firms are close to the lower payroll threshold of 1.5 million euros (see Figure A1, panel B), and are therefore only marginally affected by experience rating in DI and coinsurance in UI.

Table A6 shows the results when the group of large firms only includes those firms whose payroll is above 1.5 but below 24 million in 2004 euros, i.e. firms that are only partially covered by experience rating and coinsurance. In this case, the effect of DI costs on the disability pension inflow is almost identical to our baseline estimate while the effect on the inflow to sickness benefits is somewhat smaller in absolute terms than our baseline estimate. However, the effect of DI costs on vocational training and the effect of UI costs on the layoff risk are clearly smaller in absolute terms and do not differ statistically from 0 at the conventional risk levels. These findings together with the estimates in Table A5 imply that lower degrees of experience rating and coinsurance are associated with weaker responses by employers, as expected.

5 Impact heterogeneity

In the main analysis, we use data on workers between ages 20 and 64. Since the risk of health problems increases sharply with age and since also the layoff risk is higher for older workers, the introduction of experience rating in DI and coinsurance in UI is more relevant for older groups. Therefore, we perform our analysis separately for workers aged 45 and over. The time patterns of the inflow rates for this age group in Figure A5 are

rather similar to the time patterns for all workers (Figure 3 in the published version), although the levels of the inflow rates are somewhat higher. As a result, the associated DID estimates of the effect of the 2007 reform in Figure A6 are otherwise similar to the baseline estimates (Figure 4 in the published version) but the absolute sizes of the effects on the inflows to sickness benefits and disability pensions are higher. In Table A9, the estimated effects of DI costs on the inflows to sickness benefits and disability pensions are higher in absolute terms but roughly the same in relative terms compared to the baseline estimates. However, the effect of UI costs on the layoff risk is somewhat smaller both in absolute and relative terms than our baseline estimate (-0.956 vs -1.394), and it does not differ from 0 significantly. The smaller effect from the sample of older workers suggests that there may be some differences in the time patterns of the layoff risk of older and younger workers in small and large firms. However, we do not find evidence of such differences: all coefficients on the large-firm and time period interactions (i.e. the effects of DI costs) in column 5 of Table A9 are statistically insignificant and close to the corresponding estimates in our baseline model (see Table 2 in the published version). Likewise, if we add interactions also for the pre-reform years, their coefficients will be insignificant except for 2003 and thereby similar to the results in Table A7. Thus, the differences in layoff risks between small and large firms over time are similar in the samples of all workers and workers aged 45 and over, so that the parallel trend assumption seems to be equally valid in the both cases. Because the effect of UI costs is imprecisely estimated in the both cases, the estimated effects in Table A9 and Table 2 in the published version do not differ from each other significantly, suggesting that our results for the effect of UI costs are not entirely robust.

Tables A10–A13 reports the results by education level and by industry. The magnitude and statistical significance of the point estimates varies to some extent, but in general the estimated effects of DI and UI cost are all in the same ballpark and also in line with our baseline results for all workers (Table 2 in the published version). The only notable exception is non-construction workers: experience rating in DI has no effect on participation in vocational rehabilitation programs for this group.

6 Benefit duration effects

UI and DI costs may not only affect the inflow to benefits but also the time spent on those benefits. In Table A14, we report the effects of experience rating in DI and coinsurance in UI on the duration of benefit receipt. Since only those who actually received the benefits are included in the analysis, the samples are rather small and selective due to the significant effects of experience rating in DI and coinsurance in UI on the benefit inflows.

In all the cases, the outcome variable is the logarithm of benefit days. We do not consider the time spent on unemployment benefits because long-term unemployed individuals born before 1950 typically started receiving unemployment pension benefits at age 60, whereas those born later continued receiving unemployment benefits.

As seen in column 1, the average duration of sickness benefits increased by about 20% in large firms compared to small firms after the reform. Thus, the reduction in the inflow to sickness benefits comes at the cost of longer benefit spells. It seems that large employers mainly succeeded in eliminating short sickness spells, which explains much of the strong effect on the sickness benefit inflow in the years 2007–2014.

In column 2, the effect of DI costs on the duration of vocational rehabilitation programs is large and positive in 2006 and 2008, close to zero in 2007, and large and negative in the years 2009–2014. Since the effect is very imprecisely estimated for each period, the results are essentially uninformative for this outcome. Also, the effects on the duration of rehabilitation benefits and disability pensions in columns 3 and 4 change their sign over the post-reform years and are imprecisely estimated. Although we do not find significant effects on the duration of vocational rehabilitation programs or disability-related benefits, we cannot rule out moderate-sized effects due to the high standard errors.

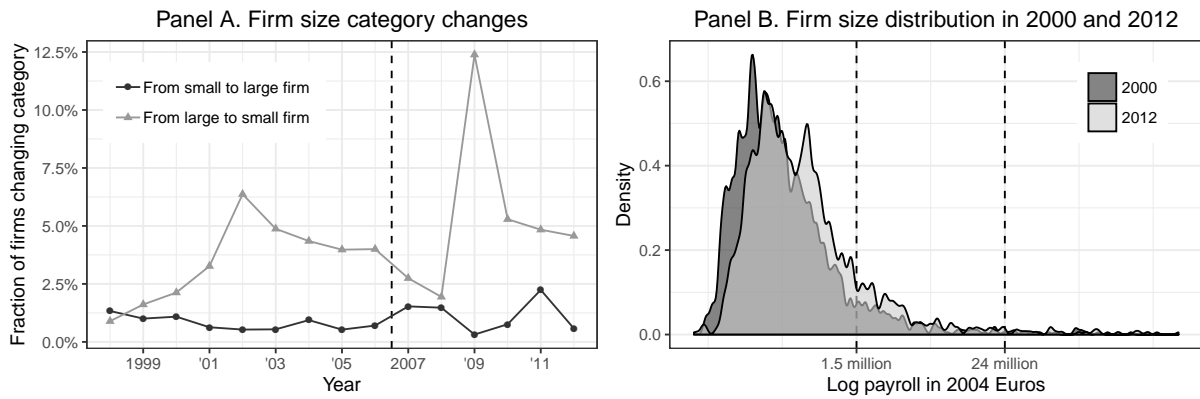


Figure A1: Changes in firm size

Notes: Panel A shows the fractions of firms crossing the payroll size threshold of 1.5 million in 2004 euros. Panel B shows Kernel density estimates for log payrolls in 2000 and 2012. The vertical lines in Panel B divide the firms into those that only pay flat-rate premiums (payroll 1.5 million or less), those that are partially liable for the UI and DI costs of their former employees (payroll between 1.5 and 24 million) and those that are fully liable (payroll no less than 24 million).

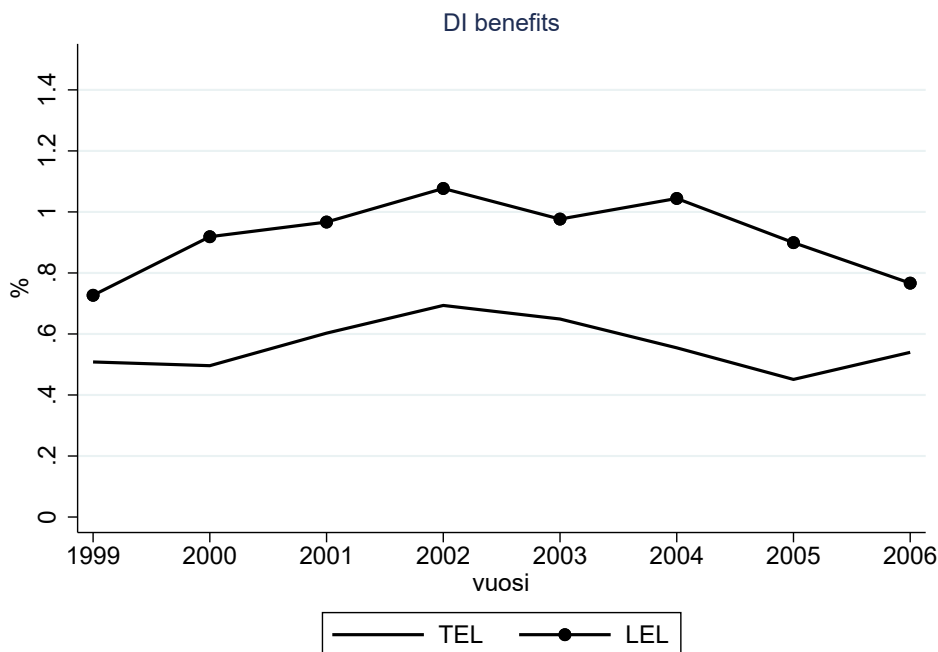


Figure A2: Disability inflow rate by insurance type

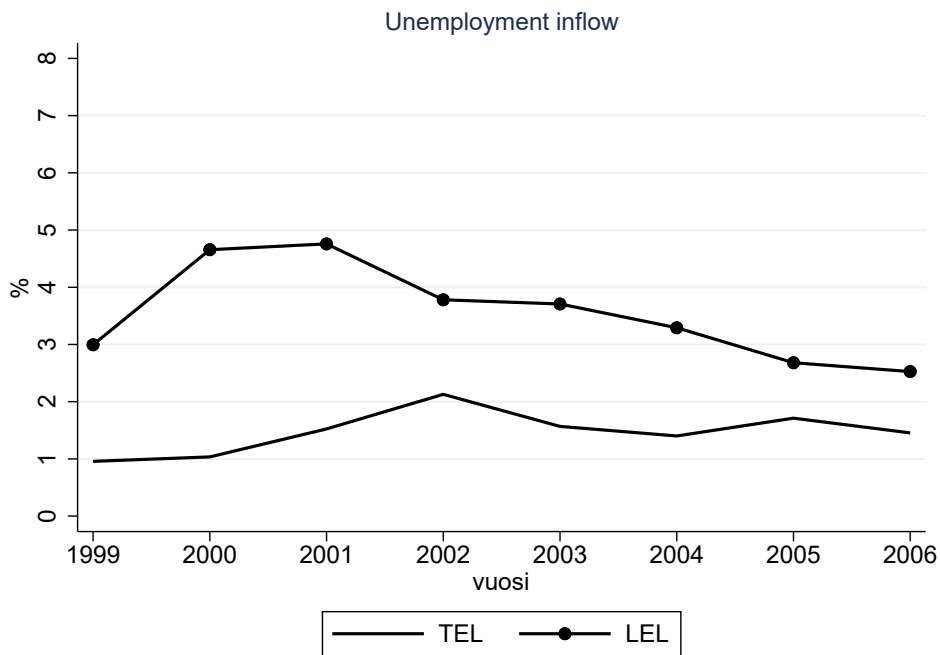


Figure A3: Layoff rate by insurance type

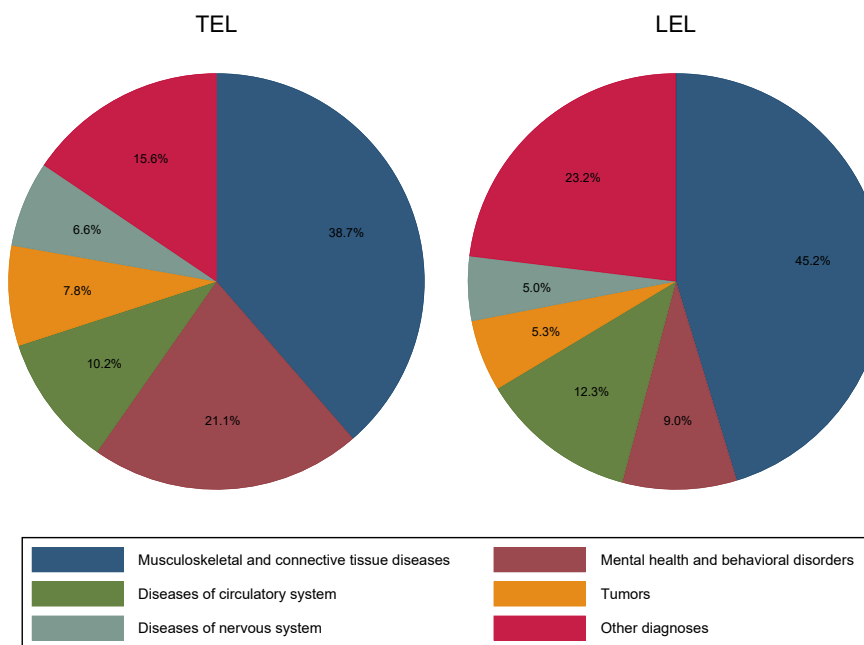


Figure A4: Medical diagnosis in 1999–2006 for new DI recipients

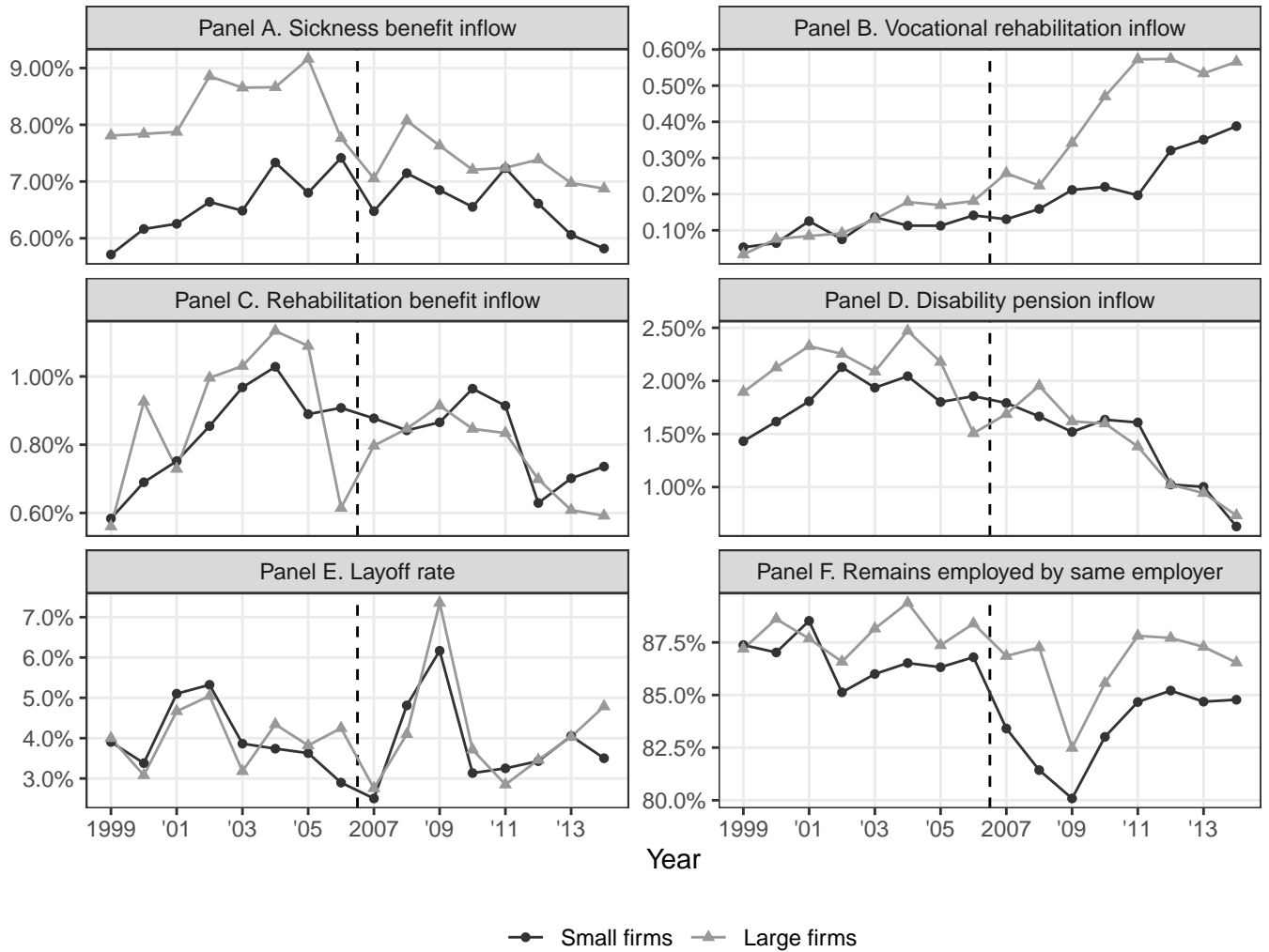


Figure A5: Inflow rates by year and firm size for workers aged 45 and over

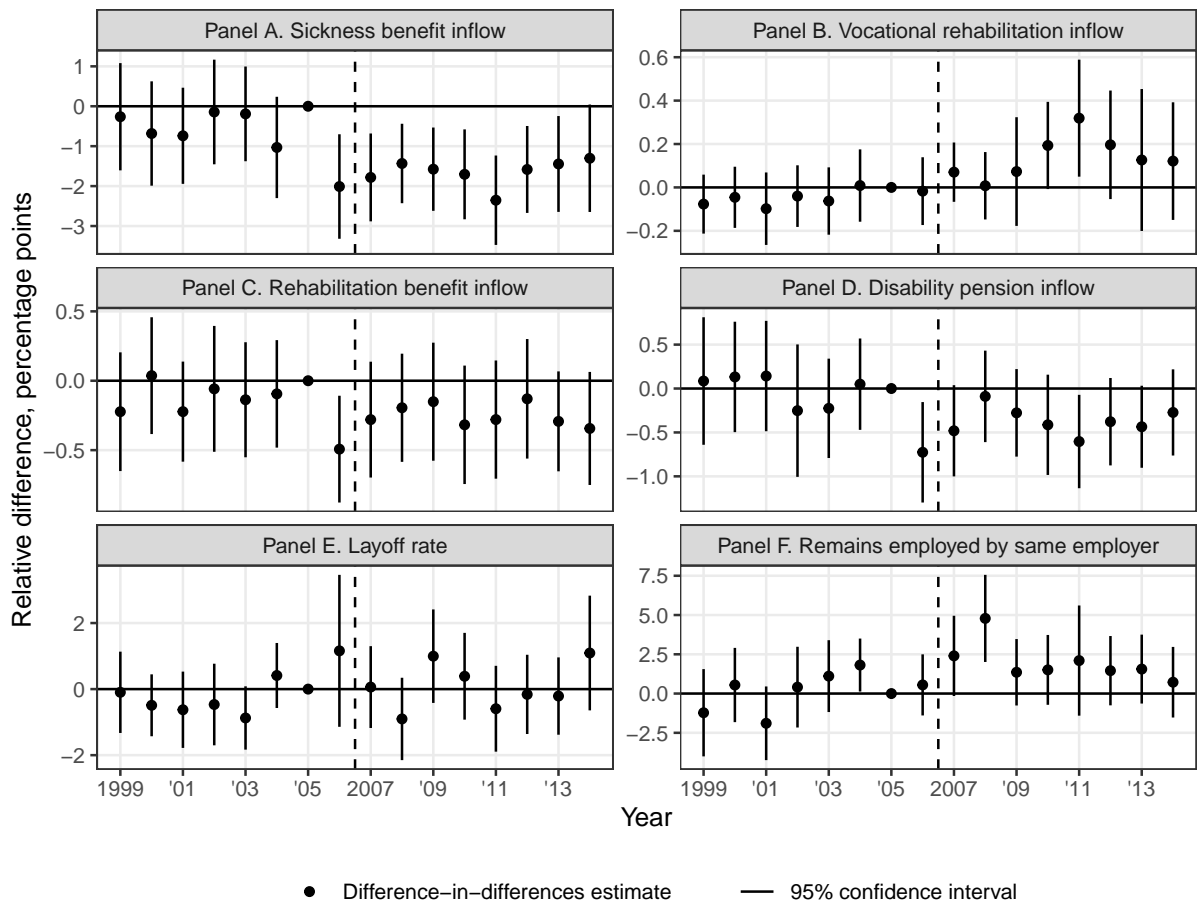


Figure A6: DID estimates of the effect of the 2007 reform on workers aged 45 and over

Table A1: Effects on employment exits from models without control variables

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.614	0.236	0.534	0.811	3.471	85.46
Large	1.626*** (0.529)	0.015 (0.038)	-0.058 (0.170)	0.088 (0.252)	-0.342 (0.479)	1.129 (1.275)
UT eligibility	-0.034 (0.559)	0.049 (0.047)	0.022 (0.187)	0.605** (0.269)	0.783* (0.432)	-3.173*** (0.698)
Born 1950+	0.089 (0.423)	0.101*** (0.036)	0.131 (0.142)	-0.102 (0.190)	-0.191 (0.336)	-0.863 (0.570)
Large x UT eligibility	0.161 (0.570)	-0.044 (0.040)	0.025 (0.189)	0.334 (0.290)	1.319* (0.750)	-1.136 (1.111)
Large x Born 1950+	-0.066 (0.543)	-0.006 (0.041)	0.097 (0.171)	0.031 (0.256)	0.448 (0.409)	0.889 (0.751)
UT eligibility x Born 1950+	0.796 (0.558)	-0.125** (0.049)	0.112 (0.172)	-0.302 (0.281)	0.803* (0.443)	1.803** (0.745)
Effect of DI costs						
Large x Year 2006	-0.610 (0.479)	0.056 (0.047)	-0.149* (0.080)	-0.327*** (0.097)	0.837 (0.641)	0.707 (0.910)
Large x Year 2007	-0.943*** (0.328)	0.050 (0.045)	-0.050 (0.082)	-0.211** (0.087)	-0.043 (0.349)	3.514*** (0.916)
Large x Year 2008	-0.728** (0.325)	0.064 (0.052)	0.026 (0.077)	0.010 (0.092)	-0.211 (0.435)	4.367*** (1.160)
Large x Year 2009–2014	-0.900*** (0.271)	0.199*** (0.063)	-0.023 (0.054)	-0.181*** (0.049)	0.529 (0.389)	0.657 (0.865)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.072 (0.684)	-0.024 (0.061)	-0.184 (0.204)	-0.280 (0.343)	-1.355* (0.734)	0.441 (1.212)
Number of observations	533,408	563,959	563,959	563,959	532,376	563,959

Notes: All models include year dummies and controls for age. Significance levels: *** 1%, ** 5% and * 10%.

Table A2: Effects on employment exits from models with firm fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.614	0.236	0.534	0.811	3.471	85.46
UT eligibility	-0.049 (0.561)	0.043 (0.048)	0.024 (0.188)	0.648** (0.270)	0.915** (0.427)	-3.460*** (0.660)
Born 1950+	0.183 (0.427)	0.079** (0.037)	0.104 (0.145)	-0.113 (0.190)	-0.172 (0.329)	-1.234** (0.537)
Large x UT eligibility	0.189 (0.568)	-0.034 (0.040)	0.027 (0.189)	0.274 (0.292)	1.409* (0.737)	-1.587 (0.998)
Large x Born 1950+	-0.012 (0.519)	0.018 (0.042)	0.127 (0.170)	0.069 (0.260)	0.348 (0.382)	1.022 (0.663)
UT eligibility x Born 1950+	0.813 (0.563)	-0.112** (0.050)	0.124 (0.173)	-0.287 (0.282)	0.593 (0.439)	2.496*** (0.725)
Effect of DI costs						
Large x Year 2006	-0.647 (0.473)	0.050 (0.047)	-0.154* (0.083)	-0.357*** (0.097)	0.930 (0.609)	0.007 (0.725)
Large x Year 2007	-1.026*** (0.331)	0.048 (0.046)	-0.065 (0.084)	-0.249*** (0.087)	0.115 (0.346)	2.761*** (0.830)
Large x Year 2008	-0.832** (0.333)	0.062 (0.052)	-0.000 (0.079)	-0.032 (0.093)	-0.102 (0.425)	4.302*** (1.243)
Large x Year 2009–2014	-1.084*** (0.259)	0.205*** (0.061)	-0.050 (0.059)	-0.204*** (0.051)	-0.025 (0.416)	3.490*** (0.945)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.145 (0.665)	-0.049 (0.062)	-0.196 (0.203)	-0.292 (0.343)	-1.382* (0.709)	0.907 (1.078)
Number of observations	533,408	563,959	563,959	563,959	532,376	563,959

Notes: All models include year dummies, firm fixed effects, and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A3: Effects on employment exits from a sample of firms with at least 3 LEL-insured employees

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.418	0.224	0.516	0.777	3.439	85.024
Large	1.551*** (0.487)	0.041 (0.038)	0.058 (0.152)	0.232 (0.232)	-0.078 (0.421)	-0.002 (1.101)
UT eligibility	-0.207 (0.496)	0.061 (0.041)	0.105 (0.161)	0.653*** (0.237)	0.707* (0.392)	-2.963*** (0.612)
Born 1950+	0.126 (0.372)	0.099*** (0.030)	0.244** (0.118)	0.052 (0.159)	-0.064 (0.299)	-1.024** (0.476)
Large x UT eligibility	0.356 (0.526)	-0.054 (0.036)	-0.037 (0.170)	0.255 (0.266)	1.573** (0.711)	-2.052* (1.057)
Large x Born 1950+	-0.059 (0.476)	-0.009 (0.037)	-0.009 (0.151)	-0.105 (0.235)	0.411 (0.361)	0.712 (0.680)
UT eligibility x Born 1950+	0.782 (0.492)	-0.124*** (0.041)	0.017 (0.144)	-0.424* (0.242)	0.723* (0.400)	1.919*** (0.652)
Effect of DI costs						
Large x Year 2006	-0.602 (0.461)	0.053 (0.045)	-0.166** (0.076)	-0.332*** (0.091)	0.912 (0.594)	0.570 (0.781)
Large x Year 2007	-0.814** (0.317)	0.039 (0.043)	-0.066 (0.078)	-0.195** (0.080)	-0.032 (0.336)	3.882*** (0.769)
Large x Year 2008	-0.744** (0.313)	0.065 (0.048)	0.002 (0.073)	-0.022 (0.087)	-0.219 (0.409)	4.569*** (1.248)
Large x Year 2009–2014	-0.936*** (0.250)	0.201*** (0.062)	-0.039 (0.052)	-0.203*** (0.046)	0.129 (0.396)	2.496*** (0.920)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.087 (0.612)	-0.026 (0.056)	-0.094 (0.181)	-0.161 (0.313)	-1.569** (0.665)	1.238 (1.068)
Number of observations	623,920	658,051	658,051	658,051	621,907	658,051

Notes: All models include year dummies, firm fixed effects, and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A4: Effects on employment exits from a sample of firms with at least 10 LEL-insured employees

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.939	0.254	0.555	0.855	3.538	86.095
Large	1.898*** (0.636)	0.010 (0.058)	0.133 (0.193)	0.373 (0.294)	0.355 (0.519)	-1.000 (1.215)
UT eligibility	0.657 (0.721)	0.023 (0.067)	0.372 (0.227)	0.864*** (0.329)	1.136** (0.543)	-3.436*** (0.859)
Born 1950+	0.843 (0.557)	0.095* (0.057)	0.339* (0.173)	0.283 (0.243)	0.266 (0.420)	-1.716** (0.680)
Large x UT eligibility	-0.278 (0.709)	-0.019 (0.058)	-0.254 (0.220)	0.165 (0.340)	0.995 (0.787)	-1.360 (1.200)
Large x Born 1950+	-0.752 (0.622)	0.015 (0.059)	-0.146 (0.195)	-0.312 (0.298)	-0.092 (0.457)	1.308 (0.830)
UT eligibility x Born 1950+	0.489 (0.766)	-0.145** (0.071)	-0.205 (0.218)	-0.241 (0.364)	0.290 (0.591)	2.483*** (0.961)
Effect of DI costs						
Large x Year 2006	-0.689 (0.493)	0.065 (0.053)	-0.105 (0.093)	-0.338*** (0.112)	1.157* (0.615)	0.633 (0.854)
Large x Year 2007	-0.960*** (0.362)	0.019 (0.053)	-0.094 (0.097)	-0.217** (0.106)	0.043 (0.370)	3.152*** (0.940)
Large x Year 2008	-0.546 (0.361)	0.078 (0.060)	0.085 (0.091)	0.021 (0.104)	-0.424 (0.460)	4.970*** (1.367)
Large x Year 2009–2014	-1.069*** (0.278)	0.177*** (0.067)	-0.007 (0.064)	-0.139** (0.057)	0.181 (0.426)	1.770* (0.964)
Effect of UI costs						
Large x UT eligibility x Born 1950+	0.111 (0.842)	-0.029 (0.078)	0.178 (0.243)	-0.367 (0.412)	-1.031 (0.789)	0.973 (1.286)
Number of observations	397,450	421,941	421,941	421,941	396,885	421,941

Notes: All models include year dummies, firm fixed effects, and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A5: Effects on employment exits from a sample of small firms and large firms with a payroll at least 24 million in 2004 euros

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.464	0.239	0.532	0.8	3.489	85.127
Large	1.618*** (0.591)	0.043 (0.054)	-0.009 (0.186)	0.261 (0.298)	-0.122 (0.501)	-0.178 (1.444)
UT eligibility	0.104 (0.578)	0.093* (0.050)	0.088 (0.199)	0.606** (0.280)	0.727 (0.475)	-3.023*** (0.703)
Born 1950+	0.353 (0.428)	0.119*** (0.037)	0.183 (0.146)	-0.059 (0.192)	-0.029 (0.342)	-1.222** (0.534)
Large x UT eligibility	0.068 (0.619)	-0.062 (0.048)	-0.024 (0.208)	0.063 (0.327)	2.105** (1.055)	-2.567* (1.396)
Large x Born 1950+	-0.185 (0.571)	-0.005 (0.047)	0.046 (0.184)	-0.143 (0.305)	0.480 (0.426)	1.007 (0.780)
UT eligibility x Born 1950+	0.673 (0.562)	-0.151*** (0.050)	0.081 (0.174)	-0.333 (0.284)	0.575 (0.458)	2.459*** (0.742)
Effect of DI costs						
Large x Year 2006	-0.730 (0.722)	0.066 (0.058)	-0.135 (0.102)	-0.346*** (0.121)	1.344 (0.963)	0.430 (1.133)
Large x Year 2007	-1.225*** (0.455)	0.062 (0.054)	-0.092 (0.095)	-0.196** (0.092)	0.100 (0.527)	3.585*** (1.072)
Large x Year 2008	-1.098** (0.430)	0.083 (0.061)	-0.022 (0.083)	-0.019 (0.106)	0.349 (0.564)	3.671** (1.845)
Large x Year 2009–2014	-1.093*** (0.376)	0.288*** (0.074)	-0.057 (0.073)	-0.175*** (0.058)	0.182 (0.626)	2.325* (1.366)
Effect of UI costs						
Large x UT eligibility x Born 1950+	0.040 (0.711)	-0.009 (0.073)	-0.064 (0.208)	-0.112 (0.360)	-1.893** (0.845)	0.821 (1.358)
Number of observations	435,612	459,690	459,690	459,690	434,016	459,690

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A6: Effects on employment exits from a sample of small firms and large firms with payroll less than 24 million in 2004 euros

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.342	0.203	0.523	0.766	3.281	84.83
Large	1.674** (0.683)	0.014 (0.045)	-0.123 (0.230)	-0.248 (0.301)	0.094 (0.623)	-0.862 (1.459)
UT eligibility	-0.538 (0.579)	0.053 (0.051)	-0.023 (0.204)	0.500* (0.299)	1.064** (0.433)	-3.631*** (0.752)
Born 1950+	0.230 (0.433)	0.070* (0.039)	0.167 (0.145)	-0.091 (0.193)	0.003 (0.331)	-0.868 (0.562)
Large x UT eligibility	0.318 (0.771)	-0.020 (0.047)	0.093 (0.263)	0.792** (0.376)	0.342 (0.575)	0.176 (1.242)
Large x Born 1950+	-0.359 (0.694)	-0.006 (0.050)	0.139 (0.231)	0.329 (0.300)	0.038 (0.517)	1.243 (1.084)
UT eligibility x Born 1950+	0.682 (0.574)	-0.086* (0.050)	0.061 (0.175)	-0.280 (0.285)	0.576 (0.441)	1.986*** (0.752)
Effect of DI costs						
Large x Year 2006	-0.295 (0.349)	0.035 (0.065)	-0.163* (0.092)	-0.300** (0.117)	0.348 (0.316)	0.588 (0.894)
Large x Year 2007	-0.426 (0.369)	0.025 (0.059)	0.014 (0.113)	-0.230* (0.126)	-0.083 (0.298)	3.397*** (0.974)
Large x Year 2008	-0.114 (0.382)	0.029 (0.066)	0.097 (0.114)	0.055 (0.127)	-0.954** (0.419)	5.714*** (1.101)
Large x Year 2009–2014	-0.799*** (0.236)	0.066 (0.055)	0.012 (0.056)	-0.172*** (0.064)	0.140 (0.393)	1.807* (1.004)
Effect of UI costs						
Large x UT eligibility x Born 1950+	0.049 (0.920)	-0.065 (0.079)	-0.329 (0.283)	-0.570 (0.483)	-0.505 (0.787)	0.321 (1.380)
Number of observations	387,519	408,232	408,232	408,232	388,981	408,232

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A7: Effects on employment exits from a model with the full set of firm-size and year interactions for the pre-reform period

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.614	0.236	0.534	0.811	3.471	85.46
Effect of DI costs						
Large x Year 1999	0.149 (0.402)	-0.029 (0.060)	-0.018 (0.109)	0.073 (0.165)	-0.230 (0.487)	-1.294 (1.294)
Large x Year 2000	-0.150 (0.359)	-0.021 (0.063)	0.065 (0.105)	0.097 (0.132)	-0.503 (0.342)	-1.153 (0.938)
Large x Year 2001	-0.343 (0.363)	-0.054 (0.071)	-0.056 (0.104)	0.134 (0.150)	-0.292 (0.442)	-1.114 (0.900)
Large x Year 2002	-0.018 (0.408)	-0.013 (0.061)	0.021 (0.120)	-0.055 (0.178)	-0.298 (0.459)	-0.625 (0.973)
Large x Year 2003	-0.315 (0.361)	-0.027 (0.062)	-0.012 (0.113)	-0.068 (0.131)	-0.973*** (0.297)	0.625 (0.823)
Large x Year 2004	-0.362 (0.366)	0.002 (0.074)	0.099 (0.106)	0.054 (0.121)	-0.043 (0.318)	0.166 (0.622)
Large x Year 2006	-0.714* (0.428)	0.035 (0.059)	-0.130 (0.113)	-0.298** (0.143)	0.617 (0.644)	0.102 (0.686)
Large x Year 2007	-1.057*** (0.359)	0.028 (0.059)	-0.032 (0.117)	-0.181 (0.123)	-0.308 (0.334)	3.113*** (0.829)
Large x Year 2008	-0.853** (0.332)	0.041 (0.071)	0.043 (0.114)	0.042 (0.123)	-0.528 (0.481)	4.118*** (1.339)
Large x Year 2009–2014	-1.149*** (0.258)	0.178** (0.076)	-0.017 (0.094)	-0.155 (0.103)	-0.205 (0.426)	1.755* (0.931)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.005 (0.658)	-0.016 (0.060)	-0.151 (0.201)	-0.295 (0.341)	-1.329* (0.712)	1.385 (1.028)
Number of observations	533408	563959	563959	563959	532376	563959

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A8: Placebo effects on employment exits using data on the years 1999–2005

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.854	0.142	0.564	0.954	4.033	84.329
Large	1.072*** (0.255)	0.010 (0.023)	-0.026 (0.047)	0.023 (0.059)	-0.034 (0.342)	2.829*** (0.984)
UT eligibility	-1.170 (0.972)	0.065** (0.028)	0.060 (0.355)	-0.233 (0.538)	0.045 (0.839)	-0.666 (1.339)
Large x UT eligibility	0.426 (0.574)	0.039 (0.024)	-0.046 (0.137)	0.790** (0.311)	-0.045 (0.778)	-1.383 (1.085)
Placebo effect of DI costs						
Large x Years 2003–2005	-0.152 (0.250)	0.021 (0.035)	0.013 (0.061)	-0.022 (0.075)	0.081 (0.281)	0.205 (0.706)
Placebo effect of UI costs						
Large x UT eligibility x Years 2003–2005	0.627 (0.545)	-0.075** (0.031)	0.197 (0.126)	-0.433 (0.356)	0.094 (0.665)	-0.036 (1.036)
Number of observations	249,587	263,251	263,251	263,251	244,948	263,251

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A9: Effects on employment exits for workers aged 45 and above

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	7.232	0.235	0.836	1.661	4.006	85.879
Large	1.610*** (0.518)	0.028 (0.041)	-0.058 (0.170)	0.072 (0.253)	-0.082 (0.464)	-0.235 (1.154)
UT eligibility	-0.276 (0.554)	0.080* (0.048)	-0.112 (0.190)	0.478* (0.280)	0.802* (0.438)	-3.284*** (0.699)
Born 1950+	0.178 (0.460)	0.031 (0.041)	0.055 (0.155)	0.321 (0.208)	-0.062 (0.344)	-0.754 (0.576)
Large x UT eligibility	0.398 (0.576)	-0.046 (0.044)	0.093 (0.194)	0.381 (0.296)	1.340* (0.690)	-1.398 (1.086)
Large x Born 1950+	0.216 (0.530)	0.034 (0.042)	0.212 (0.184)	0.122 (0.281)	-0.133 (0.404)	0.695 (0.776)
UT eligibility x Born 1950+	0.823 (0.577)	-0.110** (0.053)	0.196 (0.180)	-0.373 (0.291)	0.561 (0.445)	2.426*** (0.747)
Effect of DI costs						
Large x Year 2006	-1.554** (0.657)	0.020 (0.072)	-0.419*** (0.144)	-0.740*** (0.216)	1.662 (1.147)	0.006 (0.962)
Large x Year 2007	-1.319*** (0.457)	0.109 (0.069)	-0.209 (0.164)	-0.460** (0.201)	0.568 (0.599)	2.039 (1.248)
Large x Year 2008	-0.999** (0.484)	0.046 (0.075)	-0.136 (0.144)	-0.042 (0.203)	-0.419 (0.605)	4.356*** (1.389)
Large x Year 2009–2014	-1.472*** (0.376)	0.210** (0.082)	-0.207* (0.112)	-0.331*** (0.110)	0.242 (0.496)	2.425** (0.964)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.175 (0.700)	-0.086 (0.068)	-0.204 (0.209)	-0.259 (0.350)	-0.956 (0.643)	0.700 (1.113)
Number of observations	237,006	254,318	254,318	254,318	239,344	254,318

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A10: Effects on employment exits for workers with less than upper secondary education

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	6.718	0.17	0.664	1.309	3.961	84.419
Large	1.691** (0.730)	0.058 (0.035)	-0.176 (0.227)	-0.060 (0.314)	0.045 (0.506)	-0.772 (1.188)
UT eligibility	-0.676 (0.784)	0.085 (0.055)	-0.064 (0.266)	0.137 (0.394)	0.842 (0.565)	-2.543*** (0.904)
Born 1950+	0.276 (0.561)	0.045 (0.033)	0.126 (0.192)	0.275 (0.264)	-0.207 (0.394)	-0.624 (0.705)
Large x UT eligibility	-0.064 (0.845)	-0.061** (0.030)	0.135 (0.240)	0.647* (0.382)	1.493* (0.873)	-1.600 (1.207)
Large x Born 1950+	-0.032 (0.774)	-0.009 (0.043)	0.280 (0.231)	0.228 (0.323)	0.271 (0.476)	1.176 (0.851)
UT eligibility x Born 1950+	0.646 (0.747)	-0.152*** (0.047)	0.078 (0.228)	-0.610 (0.393)	0.820 (0.563)	2.347** (0.981)
Effect of DI costs						
Large x Year 2006	-1.555** (0.723)	0.014 (0.075)	-0.210 (0.146)	-0.572*** (0.199)	2.140* (1.251)	0.496 (1.133)
Large x Year 2007	-1.647*** (0.546)	0.064 (0.070)	0.059 (0.147)	-0.206 (0.188)	0.487 (0.660)	2.182* (1.193)
Large x Year 2008	-0.912 (0.602)	-0.072 (0.061)	-0.080 (0.162)	-0.216 (0.203)	-0.621 (0.512)	3.918*** (1.314)
Large x Year 2009–2014	-0.863** (0.350)	0.146** (0.070)	-0.157 (0.114)	-0.338*** (0.114)	0.593 (0.564)	1.444 (0.930)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.217 (0.976)	0.011 (0.088)	-0.352 (0.273)	-0.598 (0.520)	-1.342* (0.803)	0.169 (1.337)
Number of observations	167,130	178,339	178,339	178,339	167,363	178,339

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A11: Effects on employment exits for workers with upper secondary or tertiary education

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.11	0.266	0.474	0.58	3.246	85.942
Large	1.452* (0.745)	-0.008 (0.090)	0.131 (0.247)	0.319 (0.342)	-0.294 (0.643)	0.167 (1.427)
UT eligibility	0.585 (0.802)	-0.003 (0.088)	0.170 (0.294)	1.128*** (0.411)	0.871 (0.650)	-4.615*** (1.054)
Born 1950+	0.320 (0.670)	0.115 (0.077)	0.176 (0.210)	-0.147 (0.279)	-0.337 (0.532)	-1.220 (0.805)
Large x UT eligibility	0.658 (0.812)	0.003 (0.092)	-0.134 (0.289)	-0.134 (0.416)	1.137 (0.729)	-1.123 (1.392)
Large x Born 1950+	-0.176 (0.743)	0.029 (0.087)	-0.134 (0.247)	-0.252 (0.344)	0.596 (0.609)	0.547 (1.093)
UT eligibility x Born 1950+	0.696 (0.840)	-0.062 (0.094)	0.046 (0.261)	-0.130 (0.409)	0.509 (0.681)	2.492** (1.096)
Effect of DI costs						
Large x Year 2006	-0.087 (0.422)	0.073 (0.054)	-0.116 (0.085)	-0.202** (0.098)	0.373 (0.368)	0.437 (0.766)
Large x Year 2007	-0.557 (0.358)	0.038 (0.060)	-0.096 (0.093)	-0.212** (0.099)	-0.208 (0.290)	4.083*** (0.777)
Large x Year 2008	-0.574* (0.302)	0.111 (0.068)	0.077 (0.088)	0.125 (0.102)	-0.029 (0.450)	4.804*** (1.384)
Large x Year 2009–2014	-1.026*** (0.265)	0.211*** (0.070)	0.020 (0.052)	-0.130*** (0.050)	-0.011 (0.365)	2.172** (0.952)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.318 (1.024)	-0.089 (0.103)	0.024 (0.323)	0.262 (0.502)	-1.414* (0.848)	1.358 (1.484)
Number of observations	366,278	385,620	385,620	385,620	365,013	385,620

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A12: Effects on employment exits for workers in the construction sector

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.613	0.276	0.555	0.818	3.329	85
Large	1.051 (0.684)	0.009 (0.064)	-0.105 (0.229)	-0.184 (0.338)	-0.506 (0.542)	-0.283 (1.566)
UT eligibility	0.204 (0.691)	0.045 (0.062)	-0.097 (0.235)	0.552 (0.343)	0.711 (0.485)	-2.785*** (0.789)
Born 1950+	0.319 (0.505)	0.096* (0.051)	0.063 (0.185)	-0.337 (0.243)	-0.473 (0.389)	-0.885 (0.624)
Large x UT eligibility	0.593 (0.747)	-0.068 (0.064)	0.115 (0.266)	0.553 (0.354)	0.973* (0.516)	-0.500 (1.187)
Large x Born 1950+	0.101 (0.644)	0.026 (0.062)	0.135 (0.230)	0.275 (0.340)	0.887** (0.429)	0.502 (1.022)
UT eligibility x Born 1950+	0.683 (0.670)	-0.108 (0.068)	0.164 (0.220)	0.062 (0.355)	0.800 (0.516)	2.015** (0.864)
Effect of DI costs						
Large x Year 2006	-0.026 (0.366)	0.050 (0.063)	-0.153 (0.100)	-0.279** (0.135)	0.085 (0.291)	1.369 (0.902)
Large x Year 2007	-0.642* (0.344)	0.038 (0.059)	-0.077 (0.099)	-0.194* (0.110)	-0.386 (0.305)	3.863*** (0.846)
Large x Year 2008	-0.311 (0.333)	0.152** (0.059)	0.095 (0.100)	0.030 (0.110)	-0.633 (0.451)	4.723*** (1.104)
Large x Year 2009–2014	-0.797*** (0.271)	0.265*** (0.083)	-0.057 (0.065)	-0.167*** (0.059)	-0.144 (0.382)	2.272** (1.150)
Effect of UI costs						
Large x UT eligibility x Born 1950+	-0.321 (0.820)	-0.083 (0.086)	-0.245 (0.267)	-0.754* (0.427)	-1.436** (0.669)	0.058 (1.419)
Number of observations	347,722	368,034	368,034	368,034	355,733	368,034

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A13: Effects on employment exits for workers in other sectors than construction

	(1)	(2)	(3)	(4)	(5)	(6)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension	Layoff	Same employer
Mean outcome, %	5.615	0.16	0.494	0.798	3.756	86.325
Large	2.583*** (0.758)	0.027 (0.025)	0.130 (0.246)	0.619* (0.355)	0.575 (0.859)	0.622 (1.487)
UT eligibility	-0.511 (0.883)	0.065 (0.068)	0.291 (0.305)	0.748* (0.432)	0.974 (0.883)	-4.060*** (1.281)
Born 1950+	0.227 (0.708)	0.116*** (0.039)	0.336 (0.215)	0.477* (0.289)	0.744 (0.575)	-1.970** (0.988)
Large x UT eligibility	-0.110 (0.849)	-0.017 (0.032)	-0.198 (0.279)	-0.015 (0.476)	2.149 (1.345)	-2.894* (1.720)
Large x Born 1950+	-0.316 (0.970)	-0.051 (0.035)	-0.080 (0.251)	-0.490 (0.367)	-0.481 (0.666)	1.939* (1.169)
UT eligibility x Born 1950+	0.579 (0.951)	-0.174*** (0.054)	-0.069 (0.266)	-1.193*** (0.451)	0.354 (0.815)	3.068** (1.328)
Effect of DI costs						
Large x Year 2006	-1.290 (0.830)	0.056 (0.070)	-0.133 (0.128)	-0.363*** (0.131)	2.480** (1.202)	-0.769 (1.057)
Large x Year 2007	-1.103** (0.543)	0.051 (0.064)	0.024 (0.126)	-0.170 (0.137)	0.901 (0.775)	2.706** (1.378)
Large x Year 2008	-1.157** (0.523)	-0.116 (0.074)	-0.108 (0.123)	0.000 (0.146)	0.893 (0.903)	3.774* (2.089)
Large x Year 2009–2014	-0.934** (0.395)	0.069 (0.043)	0.055 (0.092)	-0.142 (0.093)	1.092 (0.797)	1.013 (1.295)
Effect of UI costs						
Large x UT eligibility x Born 1950+	0.098 (1.173)	0.091 (0.083)	0.021 (0.321)	0.729 (0.602)	-1.269 (1.381)	1.352 (1.686)
Number of observations	185,686	195,925	195,925	195,925	176,643	195,925

Notes: All models include year dummies and controls for age gender, education, marital status, tenure, living region, having a child under age 7, home ownership and industry. Standard errors clustered at individual and firm levels in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.

Table A14: Effects on the duration of benefit receipt

	(1)	(2)	(3)	(4)
	Sick leave	Vocational rehab	Rehab benefits	Disability pension
Log duration	3.649	5.604	5.885	7.19
Large	-0.389*** (0.115)	-0.148 (0.779)	0.036 (0.179)	0.002 (0.087)
UT eligibility	0.045 (0.115)	-2.029** (0.889)	0.228 (0.162)	-0.177** (0.082)
Born 1950+	-0.137 (0.091)	0.497 (0.752)	0.306** (0.144)	0.152** (0.075)
Large x UT eligibility	0.057 (0.130)	1.403* (0.816)	-0.347 (0.223)	0.030 (0.097)
Large x Born 1950+	0.039 (0.123)	0.192 (0.793)	-0.050 (0.180)	0.056 (0.088)
UT eligibility x Born 1950+	-0.034 (0.110)	1.147 (0.814)	-0.424** (0.180)	0.400*** (0.082)
Effect of DI costs				
Large x Year 2006	0.113 (0.079)	0.392 (0.355)	0.041 (0.141)	0.030 (0.076)
Large x Year 2007	0.160** (0.082)	0.041 (0.309)	-0.160 (0.138)	-0.010 (0.075)
Large x Year 2008	0.172** (0.071)	0.117 (0.241)	-0.007 (0.137)	0.092 (0.071)
Large x Year 2009–2014	0.224*** (0.064)	-0.139 (0.167)	0.084 (0.083)	-0.077 (0.069)
Effect of UI costs				
Large x UT eligibility x Born 1950+	-0.054 (0.146)	-1.296 (0.829)	0.198 (0.243)	-0.035 (0.117)
Number of observations	29,946	1329	3011	4573

Notes: In all cases, the outcome variable is the logarithm of benefit days. In column 1, the outcome is the sum of sickness benefit days in years t and $t + 1$. In columns 2–4, the outcome is the number of benefit days associated with the same retirement event across all years. All models include year dummies and controls for age, gender, education, marital status, tenure, region of residence, having a young child, home ownership and industry. Standard errors clustered at the firm level in parenthesis. Significance levels: *** 1%, ** 5% and * 10%.