For a few Euro more: An RDD analysis of unemployment benefits generosity

Yearly VisitInps Conference 2020

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    - Time pattern.
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- Extensive and credible research on effect of longer duration while research on other margins is thinner. Yet, effects may differ.

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  - UI costs larger for older workers (for younger workers, comparable with increases in PBD)
  - Large heterogeneity in estimates across groups of workers.

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- Identification generally challenging: rules uniform for all individuals.
- Italian setting offers a unique opportunity for a clear and intuitive analysis of UB generosity.

Institutional setting & Identification

Institutional setting (1): general

- Main unemployment benefit in Italy before 2013: **benefit for ordinary unemployment with normal requirement** (Disoccupazione Ordinaria a Requisiti Normali).

- Eligibility: at least one year of work in last two years before layoff; at least two years since first contribution to social security.

- Duration: 8 months if fired below 50 years of age and 12 months if fired above. We start pooling both groups.

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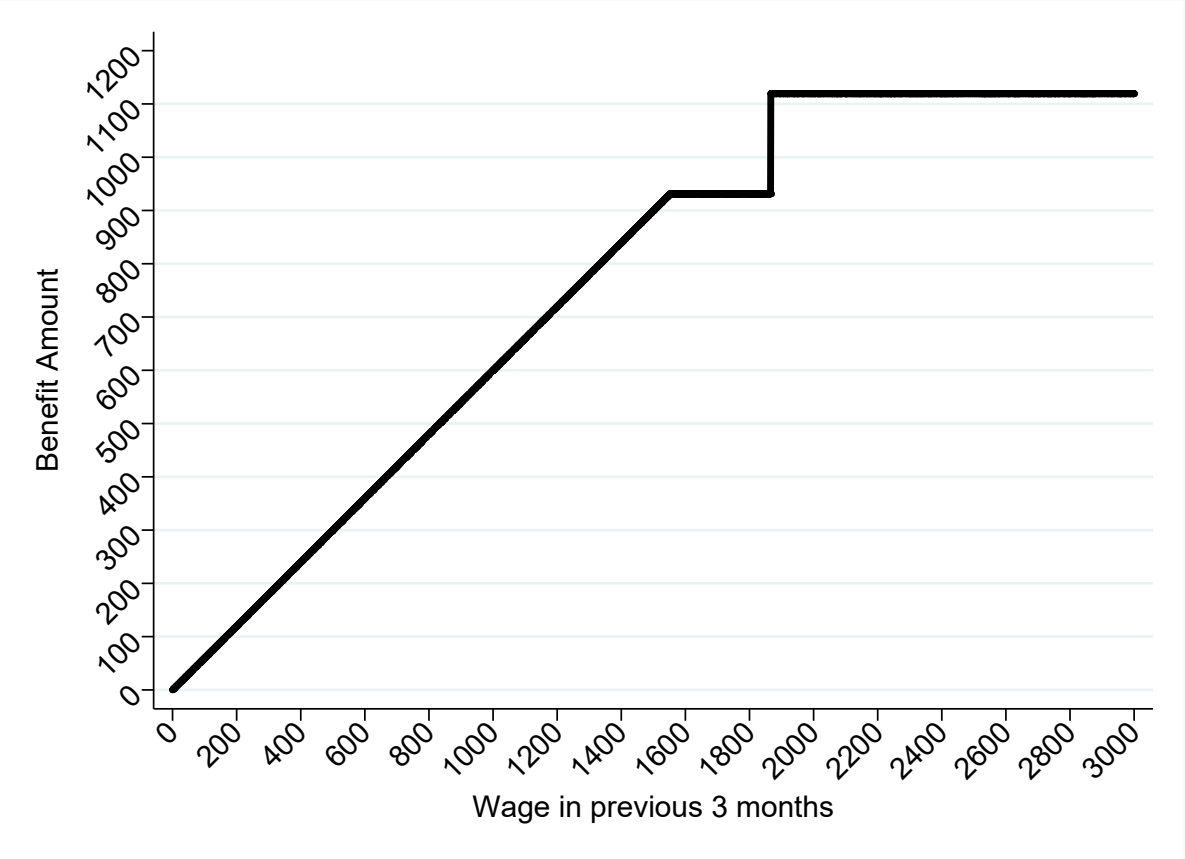
  - Above threshold (1866 euros in our year): higher cap (**1119 euro per month**).
- Total change in benefit: 15% for younger workers and 11% for older workers. Non negligible increase.

Double Cap System: benefit per month (first 6 months)



RR Density

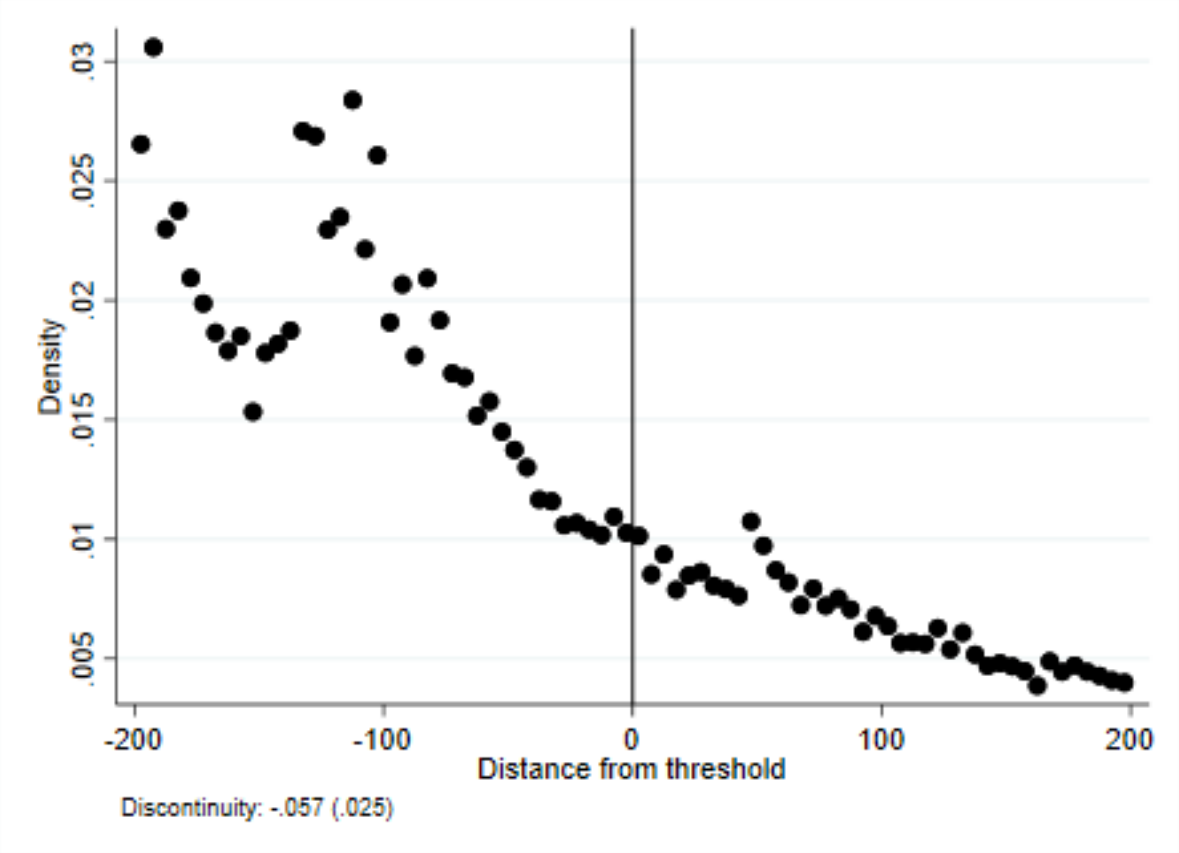
Identification Strategy

- Sharp increase in benefit beyond cutoff: sharp Regression Discontinuity Design.
- Classical specification:

$$y_{irt} = \beta_0 + \beta_1 \text{Above T}_{irt} + \Sigma_{j=1}^{k} \gamma_j \tilde{w}_{irt}^{j} + \delta_j \tilde{w}_{irt}^{j} X \text{Above T}_{irt} + \\ + X_{irt}\psi + \phi_t + \nu_r + \epsilon_{irt}$$

- Where $\tilde{w}_{irt}$ is the distance of the wage from the cutoff.
- Estimation through local polynomial (Calonico et al., 2014) with optimal bandwidth (minimum square error).
- Standard errors clustered at province level.

Density and manipulation



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Balancing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(log) Size	Permanent	Full Time	Female	Age	Above 50	Mkt Exp.	Tenure	White Collar	N-C
Above T	-0.071	-0.007	-0.008	-0.016	-0.204	-0.006	-0.307	-0.473*	0.025	-0.059
	(0.216)	(0.033)	(0.007)	(0.024)	(0.582)	(0.018)	(0.623)	(0.282)	(0.028)	(0.095)
Observations	131,317	131,317	131,317	131,317	131,317	131,317	131,317	131,317	131,317	131,317
Obs. used	25035	27522	23539	28438	19182	23377	17220	15346	14325	30099
Baseline	3.697	0.452	0.968	0.319	41.682	0.206	19.638	4.407	0.258	0.690
Clust. p	0.742	0.835	0.254	0.517	0.726	0.757	0.622	0.0933	0.373	0.531
Rob. p	0.622	0.966	0.226	0.687	0.521	0.588	0.421	0.0481	0.278	0.433

Graphs

Data

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- Data drawn from Italian Social Security Archive (INPS). Part of VisitINPS program.

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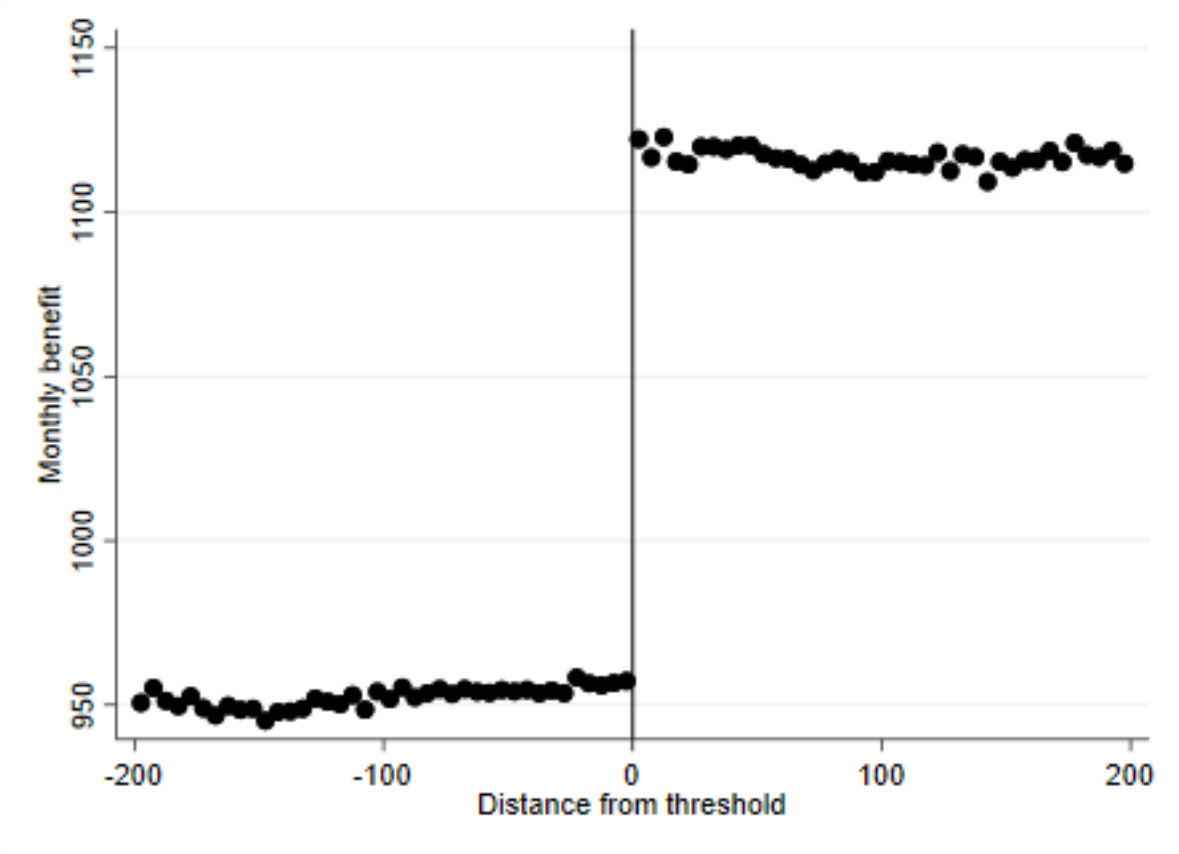
- Exclude workers not matched with their previous employer in UNIEMENS, above 64, and Construction Share.

Summary Stats

	Mean	Sd	Min	Max
Benefit Duration	24	13.58	0.14	51.43
Nonemployment Duration (2yc)	44.77	36.52	0	104
No Job	0.23	0.42	0	1
Recall	0.39	0.49	0	1
Female	0.36	0.48	0	1
Permanent	0.43	0.49	0	1
Full time	0.97	0.18	0	1
White Collar	0.30	0.46	0	1
Age	40.88	9.37	19.70	61.90
Above 50	0.18	0.39	0	1
Mkt Exp	18.81	10.61	2	50
Tenure	3.97	4.65	0.08	30
North	0.5	0.5	0	1
Centre	0.17	0.38	0	1
South and Island	0.33	0.47	0	1
Less than 15 empl.	0.47	0.5	0	1
Between 15 and 50	0.20	0.40	0	1
More than 50	0.33	0.47	0	1
Observations	129,263			
Workers	124,537			

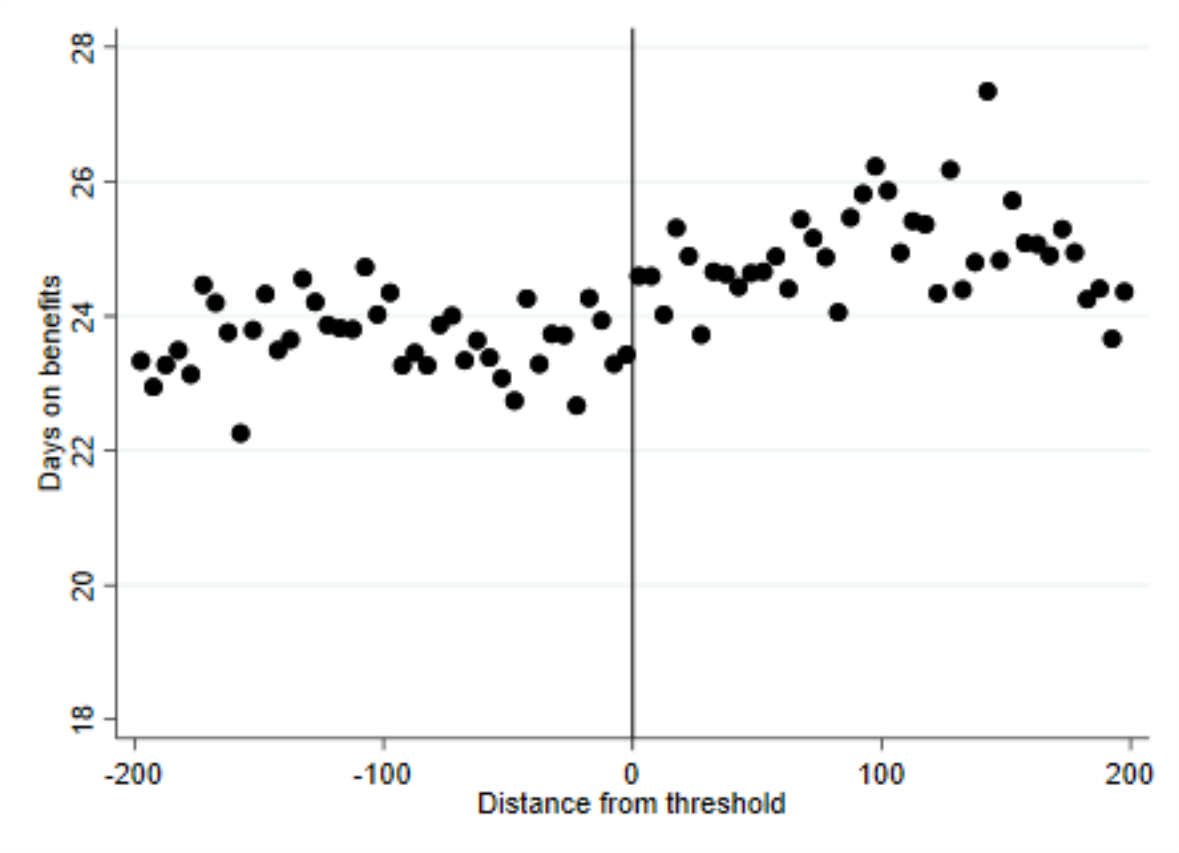
Results

Past Wages and Generosity

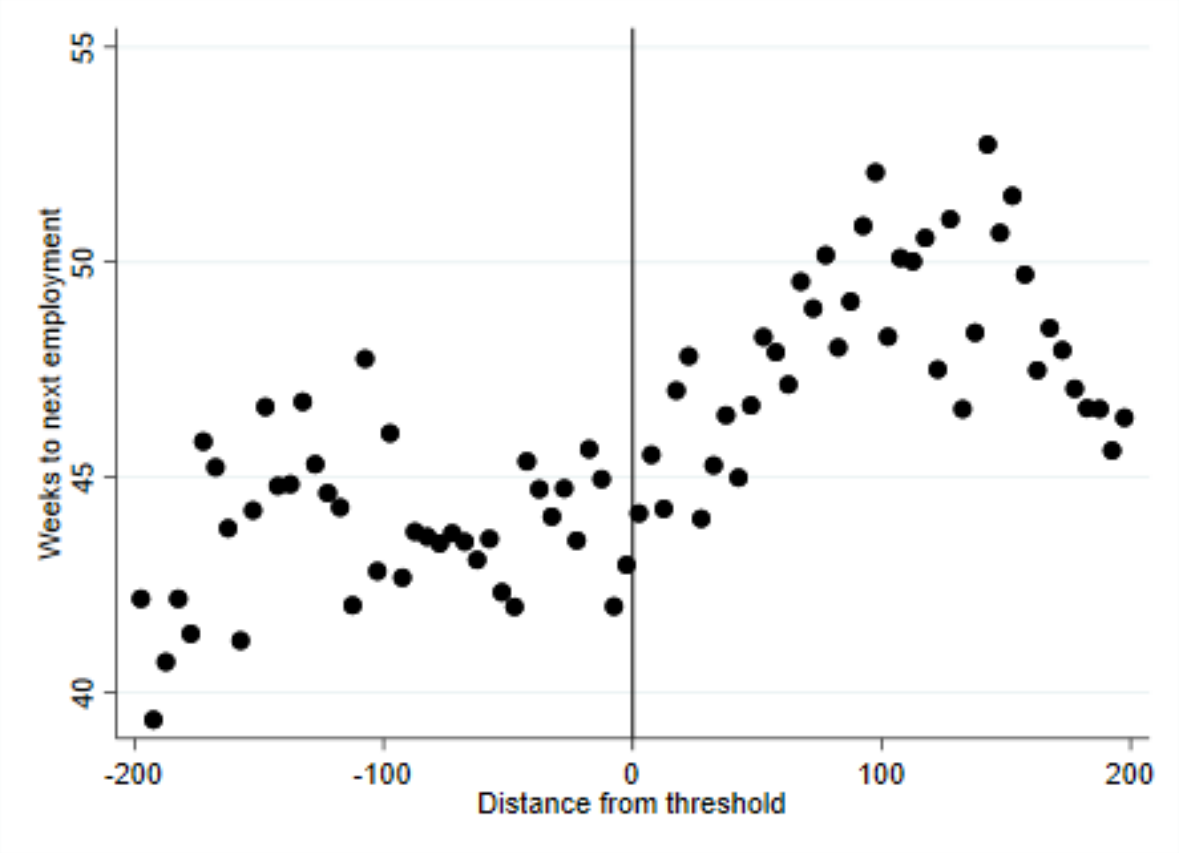


Estimated change in monthly benefits at cutoff is 162 Euro; implies a change in overall benefits received of about 1062 euro.

Benefit Duration



Nonemployment Duration



Estimates

	(1) Benefit	(2) Nonemp (2y)	(3) No job (2y)	(4) Benefit	(5) Nonemp (2y)	(6) No job (2y)
Above T	0.936	1.982	-0.002	0.954**	2.651***	0.009
	(0.892)	(1.937)	(0.019)	(0.391)	(0.987)	(0.010)
Obs.	129,263	129,263	129,263	129,263	129,263	129,263
Obs. used	45,475	21,866	24,237	30,013	26,782	29,296
Baseline	23.573	44.077	0.223	23.573	44.077	0.223
Controls	NO	NO	NO	YES	YES	YES
Month FE	NO	NO	NO	YES	YES	YES
Region FE	NO	NO	NO	YES	YES	YES
Clust. p	0.294	0.306	0.917	0.015	0.007	0.375
Rob. p	0.278	0.205	0.907	0.021	0.007	0.312
Bandwidth	80.88	43.66	47.26	56.63	51.44	55.37

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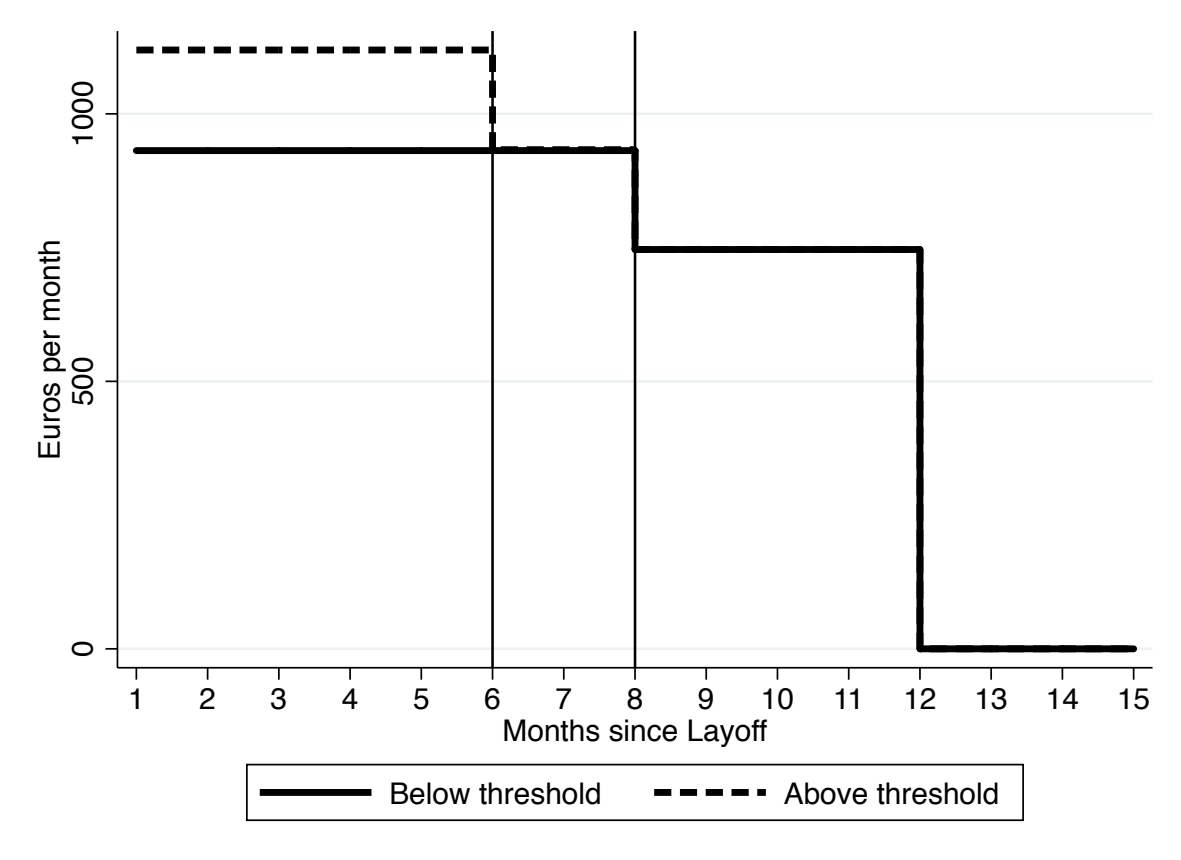
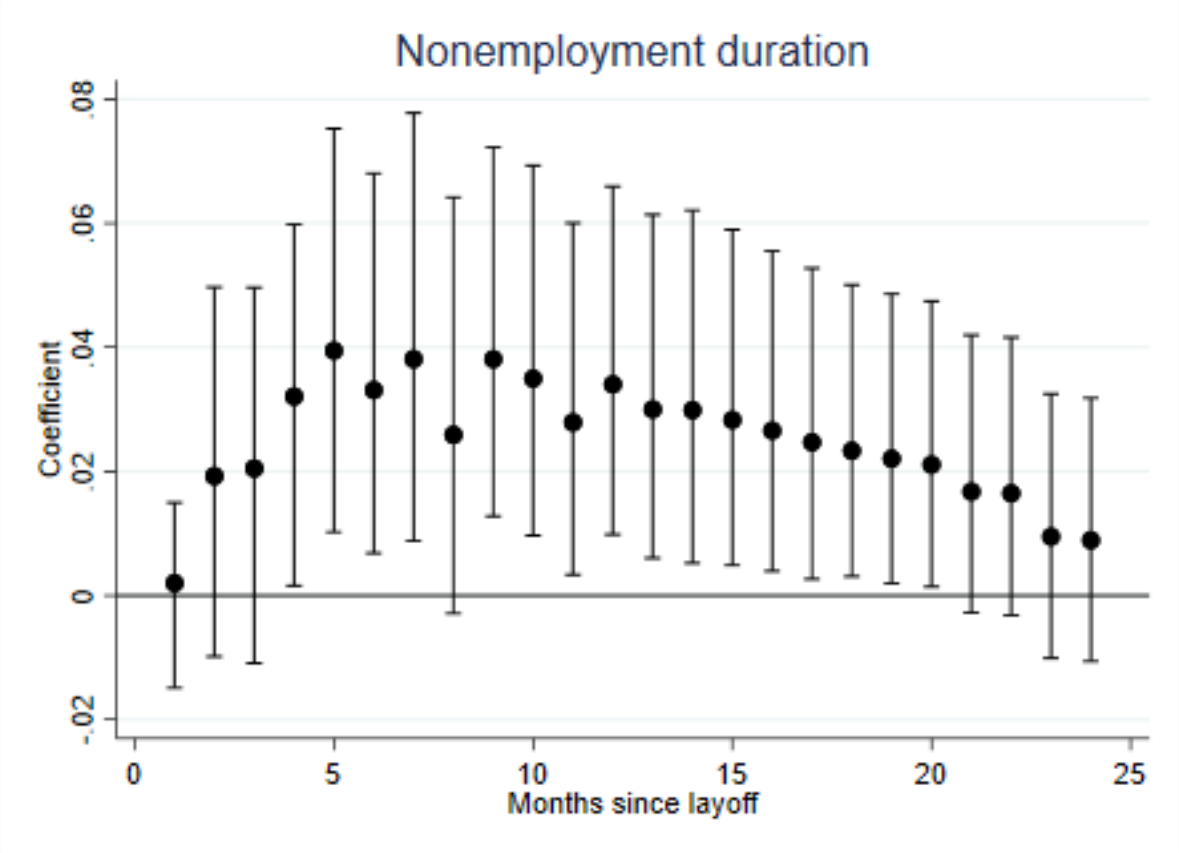
- Difference in Survival curves over two years.
- Ideally: difference increasing first six months and then declining.

Differences over two years horizon



Time pattern: estimates



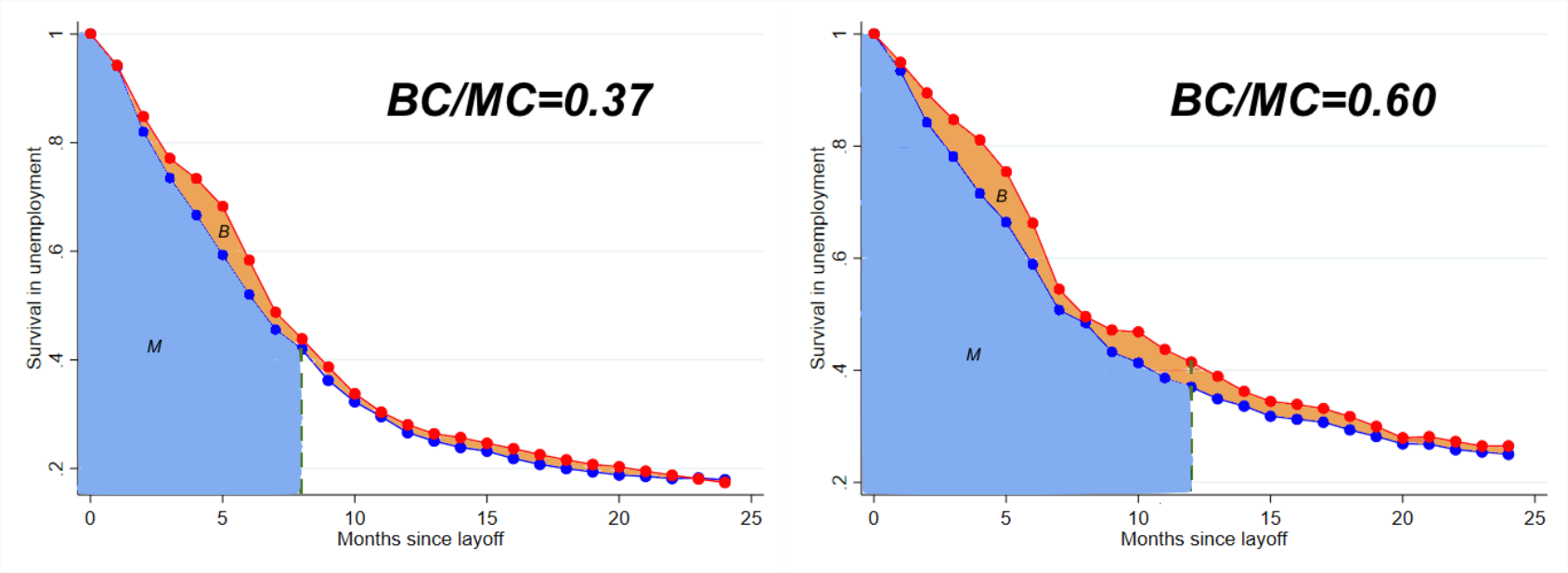
Post Unemployment Outcomes

	(1) (log) Daily wage	(2) Full time	(3) Permanent	(4) Tenure	(5) Recall
Above T	-0.019	0.004	0.011	2.452	0.007
	(0.014)	(0.011)	(0.013)	(1.714)	(0.021)
Obs.	108,458	109,777	109,777	109,777	109,777
Obs. used	18,490	19,490	22,015	25,633	17,859
Baseline	4.131	0.829	0.177	48.068	0.368
Controls	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES
Region FE	YES	YES	YES	YES	YES
Clust. p	0.180	0.705	0.433	0.152	0.745
Rob. p.	0.134	0.808	0.389	0.170	0.819
Order Poly	1	1	1	1	1
Order Bias (q)	2	2	2	2	2
Bandwidth	43.87	45.51	50.10	56.91	42

Mechanical and behavioural effects

- What is the additional expenditure related to behavioural responses?
- Following Schmieder and Von Wachter (2017), we scale the behavioural response by the mechanical effects of increasing benefit generosity.
- As the mechanical effect is different for individuals below and above 50 years, we compute the ratio separately for the two groups

Mechanical and behavioural effects



(a) Below 50 **(b)** Above 50

- $BC/MC = \frac{B \times b^{high}}{M \times (b^{high} - b^{low})}$
- BC/MC ratio at the threshold for increasing PBD comparable to those below 50

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- Robustness:
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  - Classical parametric Table
  - Placebo Graph
- Alternative approaches:
  - Regression Kink Design: high variance and irregularities at kink RKD

Conclusions

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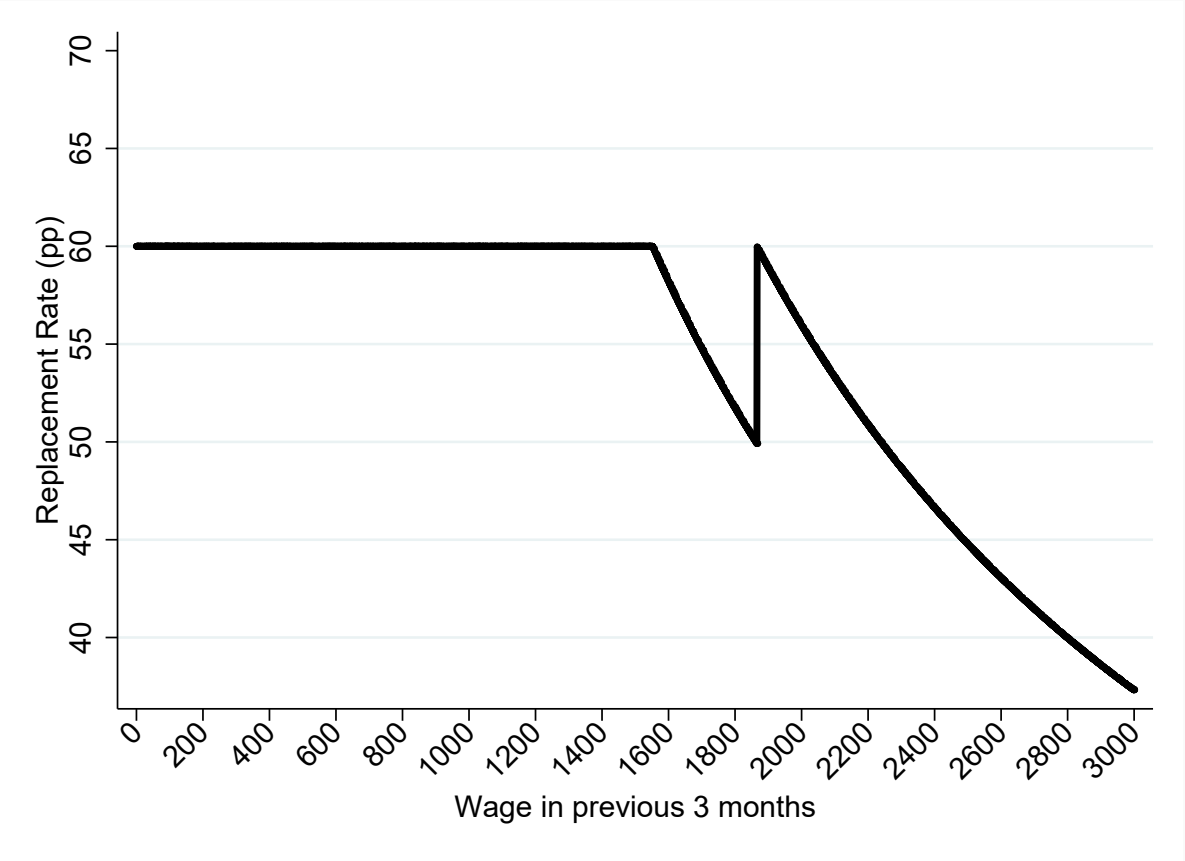
- This work exploits a unique setting to study UB generosity: clear identification framework.
- More generous benefits have detrimental effects on job search. Elasticity of time to next employment about 0.5 (from 0.12 to 1.25 for older workers).
- Overall no effect on job quality but large heterogeneity with some negative effects on wages partly offset by longer tenure.
- Setting offers additional opportunities for research: extending comparison between effects of increasing PBD vs. amount may yield important insights as to the consumption effects of UB generosity

Thanks for your attention!

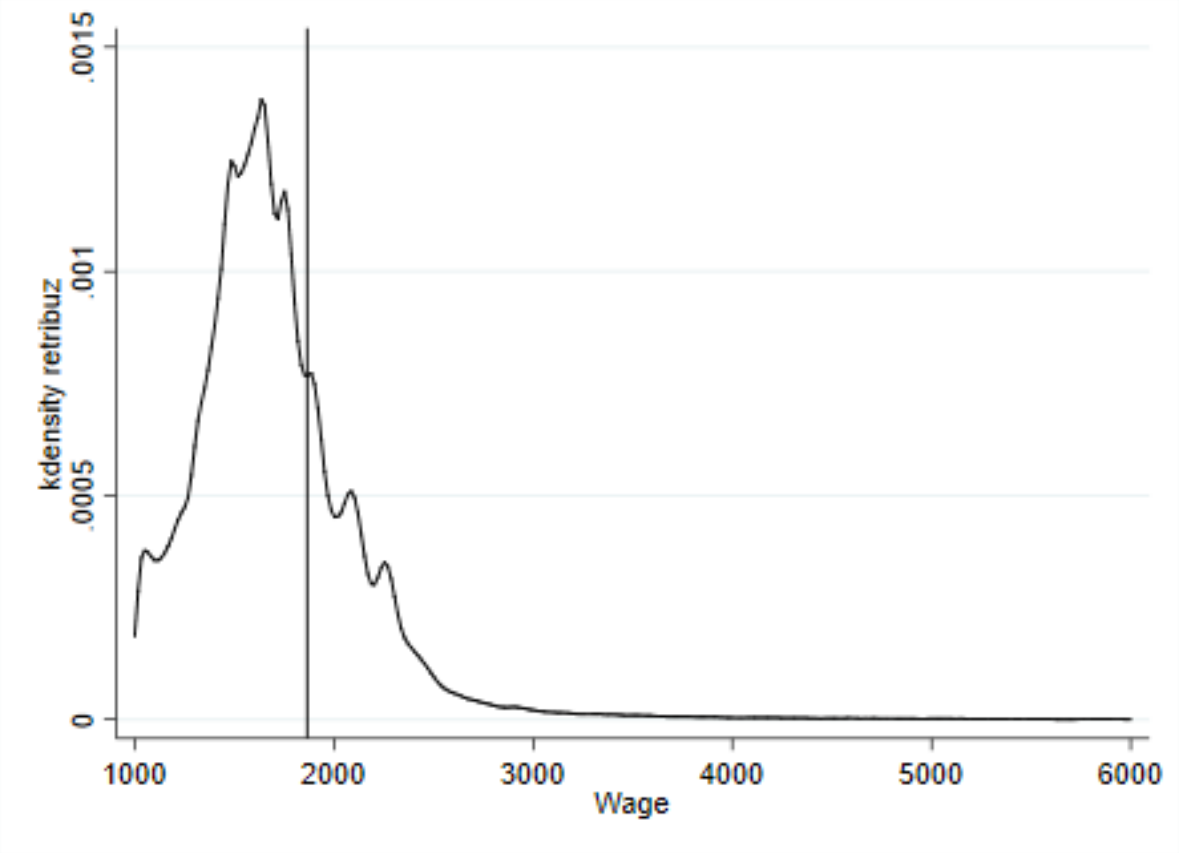
Appendix

Double Cap System: Replacement Rate (first 6 months)



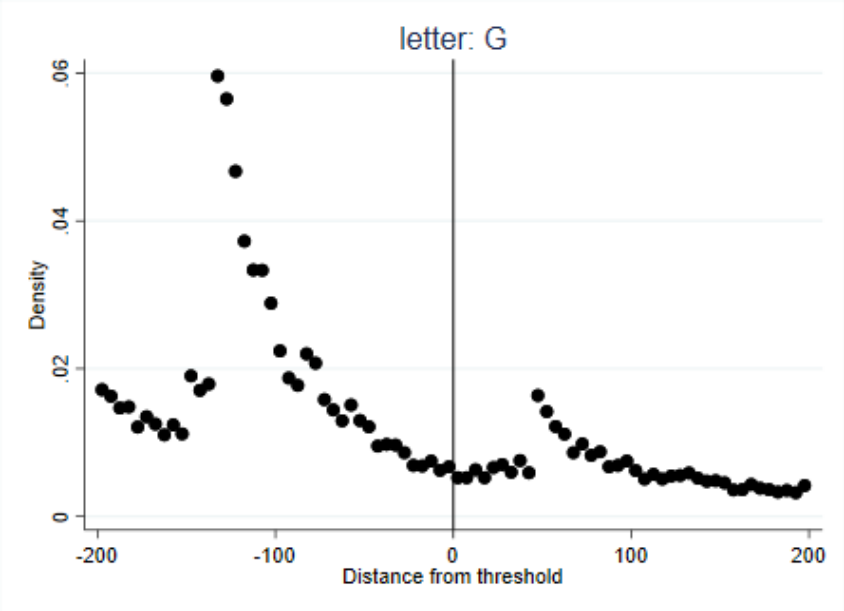
back

Double Cap System: Wage distribution

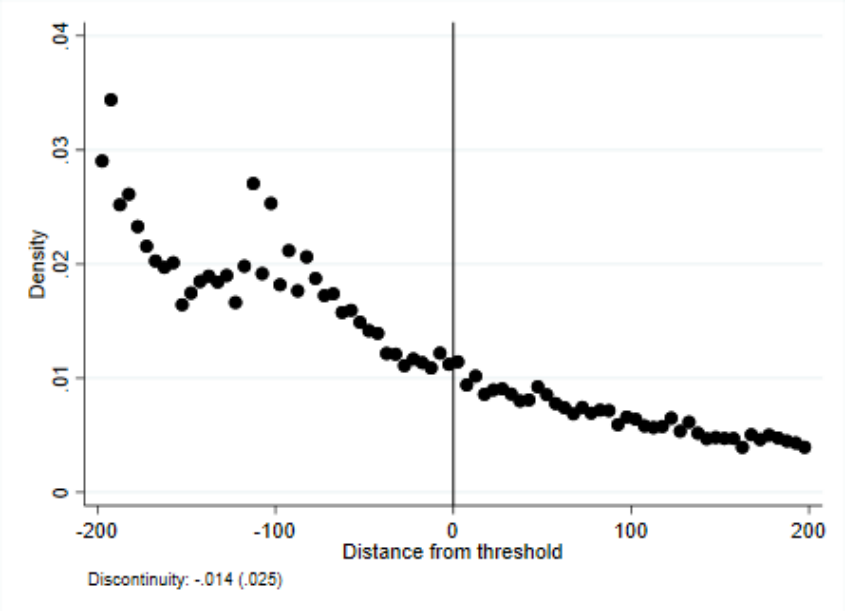


back

Density and Manipulation



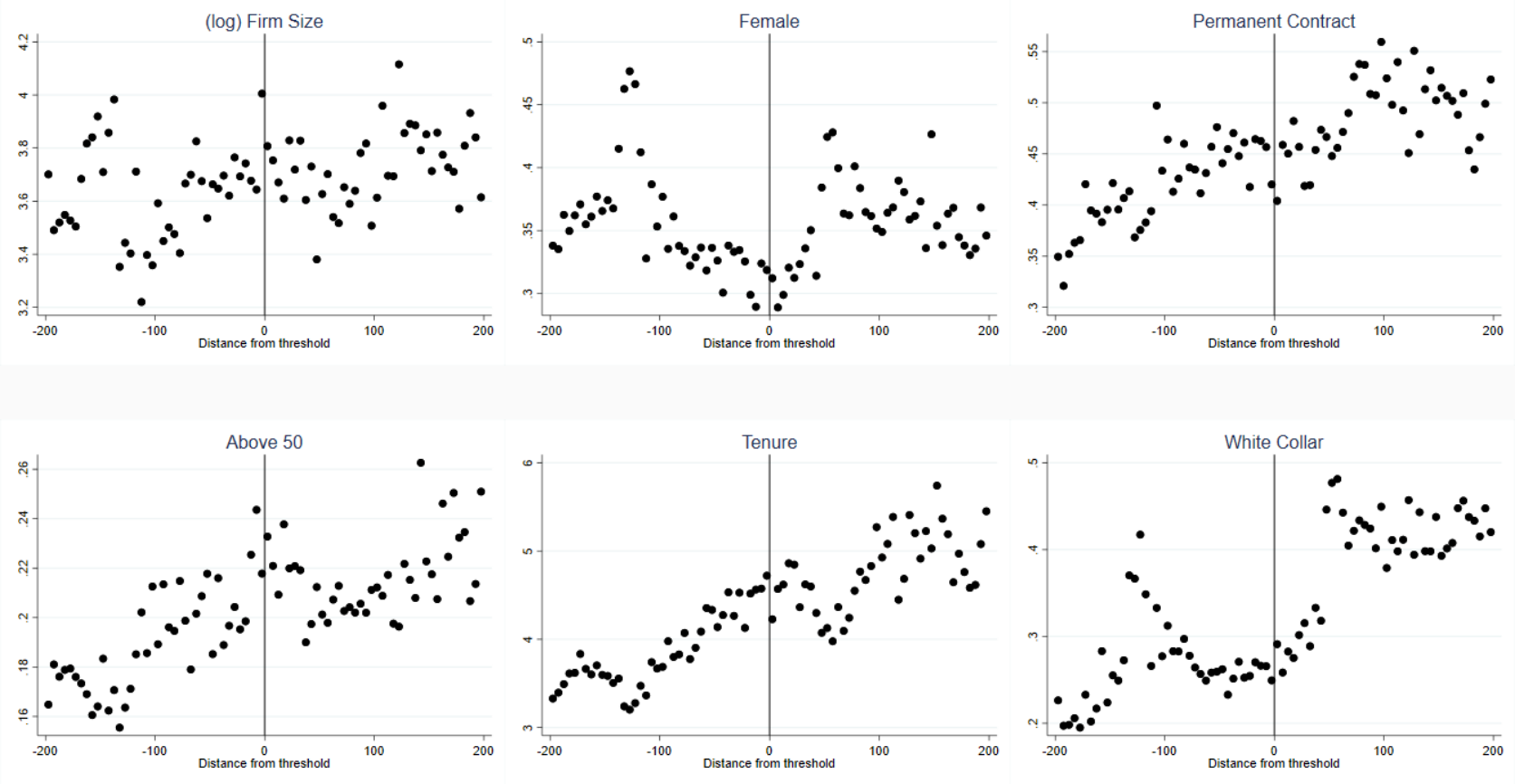
(d) density NACE section G



(e) density NACE sections $\neq$ G

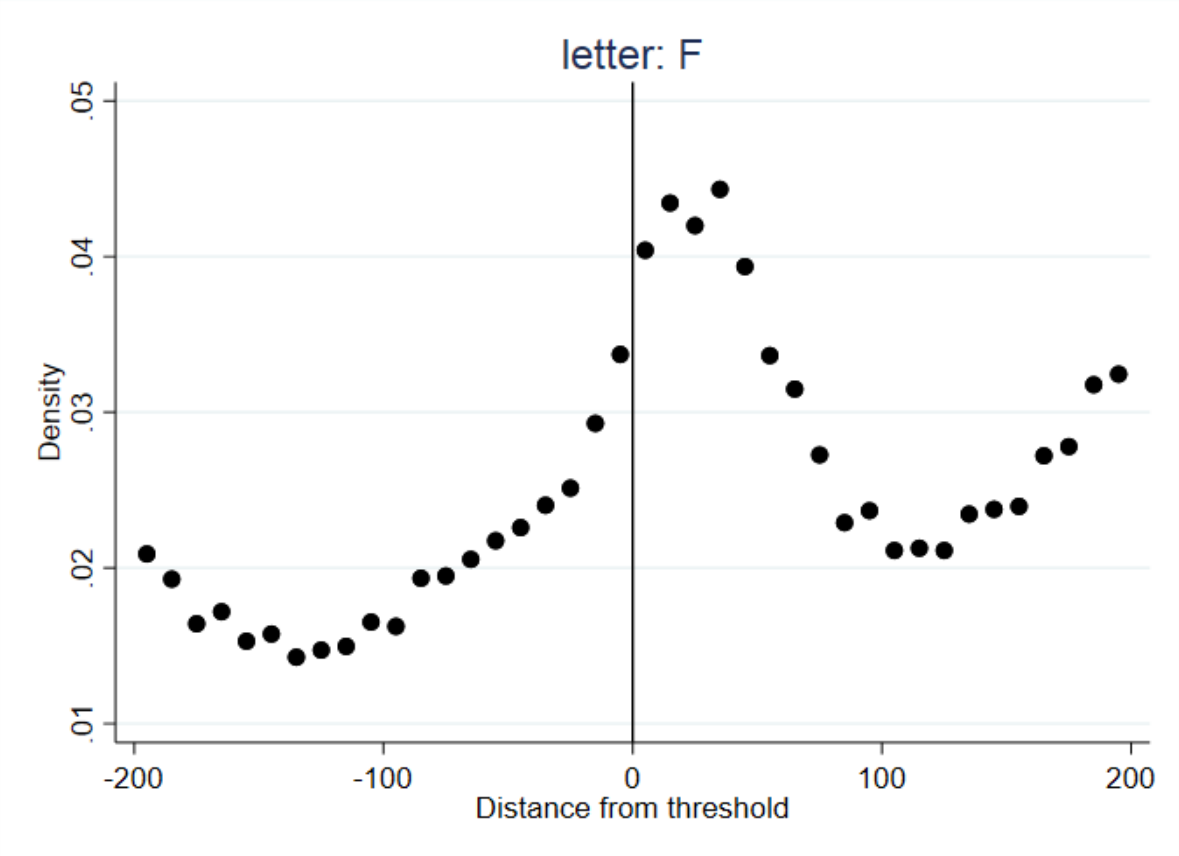
back

Balancing Observables



back

Share of workers in Construction



back

Heterogeneity

	(1) Female	(2) Temporary	(3) Permanent	(4) Age<50	(5) Age>50	(6) Size>15	(7) Size <= 15	(8) N-C	(9) S-I
					Benefit Duration				
Above T	1.111*	0.893*	0.797*	0.377	3.241***	1.077**	0.843*	0.961*	1.002**
	(0.655)	(0.515)	(0.465)	(0.407)	(0.887)	(0.490)	(0.476)	(0.517)	(0.477)
Baseline	23.179	19.406	28.663	21.850	31.218	20.679	26.804	21.915	27.338
					Nonemployment				
Above T	3.625**	1.793	2.247	0.892	7.183***	2.157**	2.722**	2.964**	1.704
	(1.489)	(1.204)	(1.378)	(1.040)	(1.956)	(1.037)	(1.363)	(1.167)	(1.554)
Baseline	45.574	31.888	58.963	42.458	52.060	36.734	52.271	41.185	50.642
					(log) Wage New Job				
Above T	-0.0122	-0.0337*	-0.00618	0.00691	-0.0862**	-0.0703***	0.0124	-0.00784	-0.0220
	(0.0215)	(0.0183)	(0.0228)	(0.0124)	(0.0340)	(0.0185)	(0.0182)	(0.0160)	(0.0225)
					Tenure New Job				
Above T	0.117	3.729*	0.383	3.822**	-4.032	6.152***	-2.907	1.061	4.444
	(2.512)	(2.139)	(3.092)	(1.930)	(3.333)	(2.351)	(2.896)	(2.483)	(2.858)
Baseline	49.588	44.281	53.666	48.215	46.754	45.556	51.163	48.479	47.106
Obs.	47,057	73,926	55,337	105,787	25,530	68,186	61,077	86,376	42,887
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Region FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

back

Polynomial Order

	(1)	(2)	(3)	(4)
	Benefit			
Above T	0.891***	0.954**	0.931**	1.357**
	(0.344)	(0.391)	(0.419)	(0.570)
	Nonemployment			
Above T	2.459***	2.651***	2.405**	3.753***
	(0.878)	(0.987)	(1.052)	(1.431)
	Tenure			
Above T	1.857	2.452	2.291	2.188
	(1.418)	(1.714)	(2.313)	(2.549)
Observations	129,263	129,263	129,263	129,263
Controls	YES	YES	YES	YES
Month FE	YES	YES	YES	YES
Region FE	YES	YES	YES	YES
Order Poly	0	1	2	3
Order Bias (q)	1	2	3	4

back

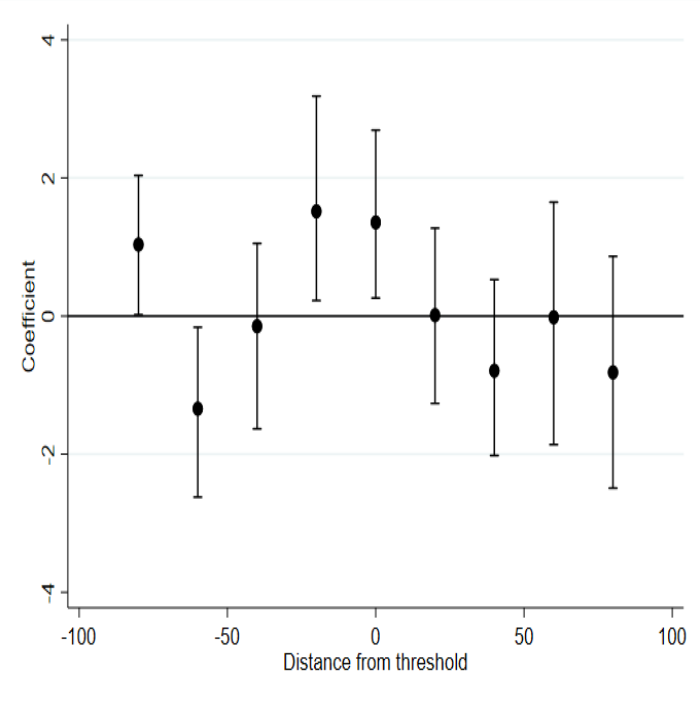
Classical Parametric Estimation

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Benefit	Nonemp	No job (2y)	Benefit	Nonemp	No job (2y)
Above T	1.285**	2.544	-0.001	1.107**	3.042**	0.007
	(0.614)	(1.553)	(0.015)	(0.456)	(1.168)	(0.012)
Observations	25,902	25,902	25,902	25,902	25,902	25,902
Baseline	23.573	44.077	0.223	23.573	44.077	0.223
Controls	NO	NO	NO	YES	YES	YES
Month FE	NO	NO	NO	YES	YES	YES
Region FE	NO	NO	NO	YES	YES	YES

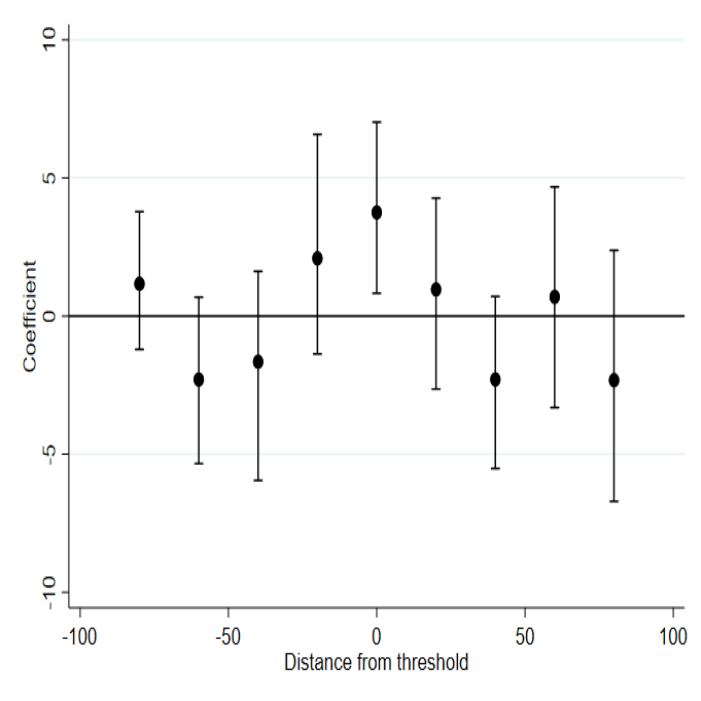
Note: 2nd order polynomial; 50 euro bandwidth. Standard errors clustered at the LLM level.

back

Placebo



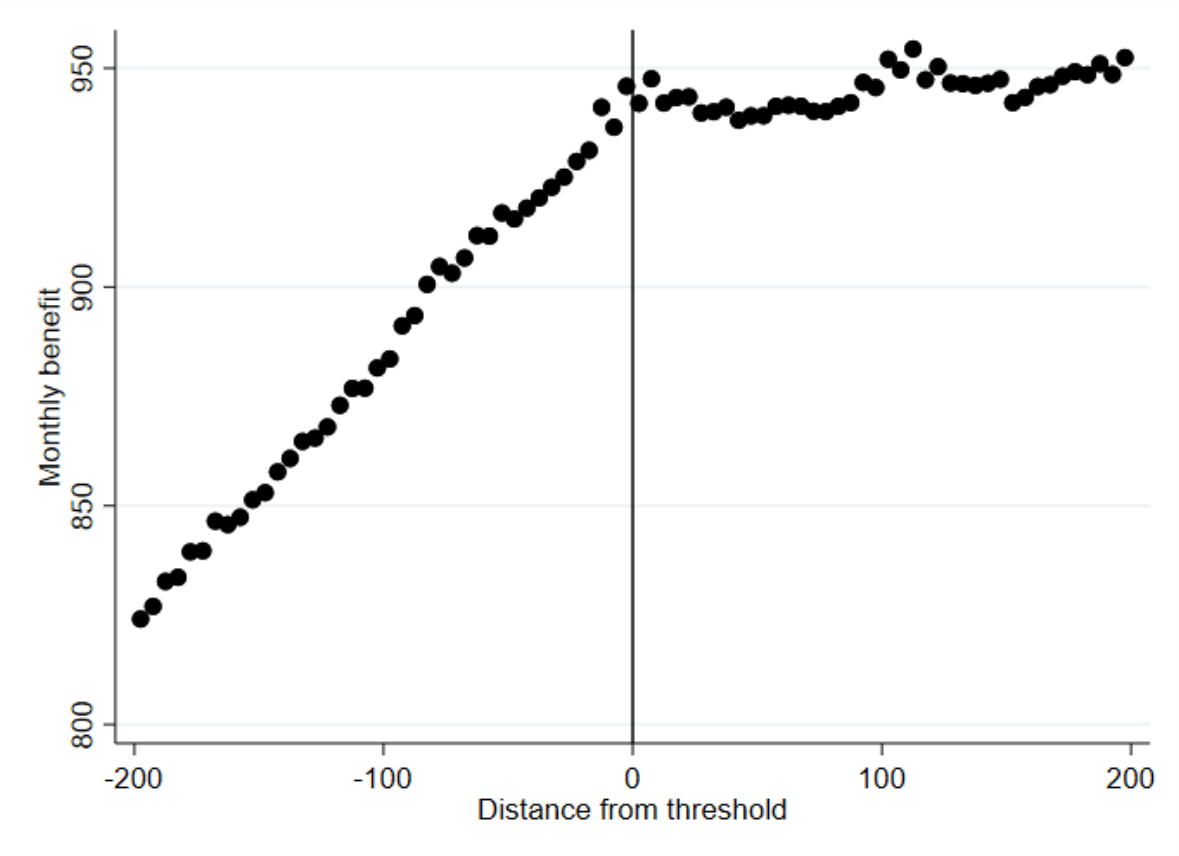
(a) Benefit



(b) Nonemployment

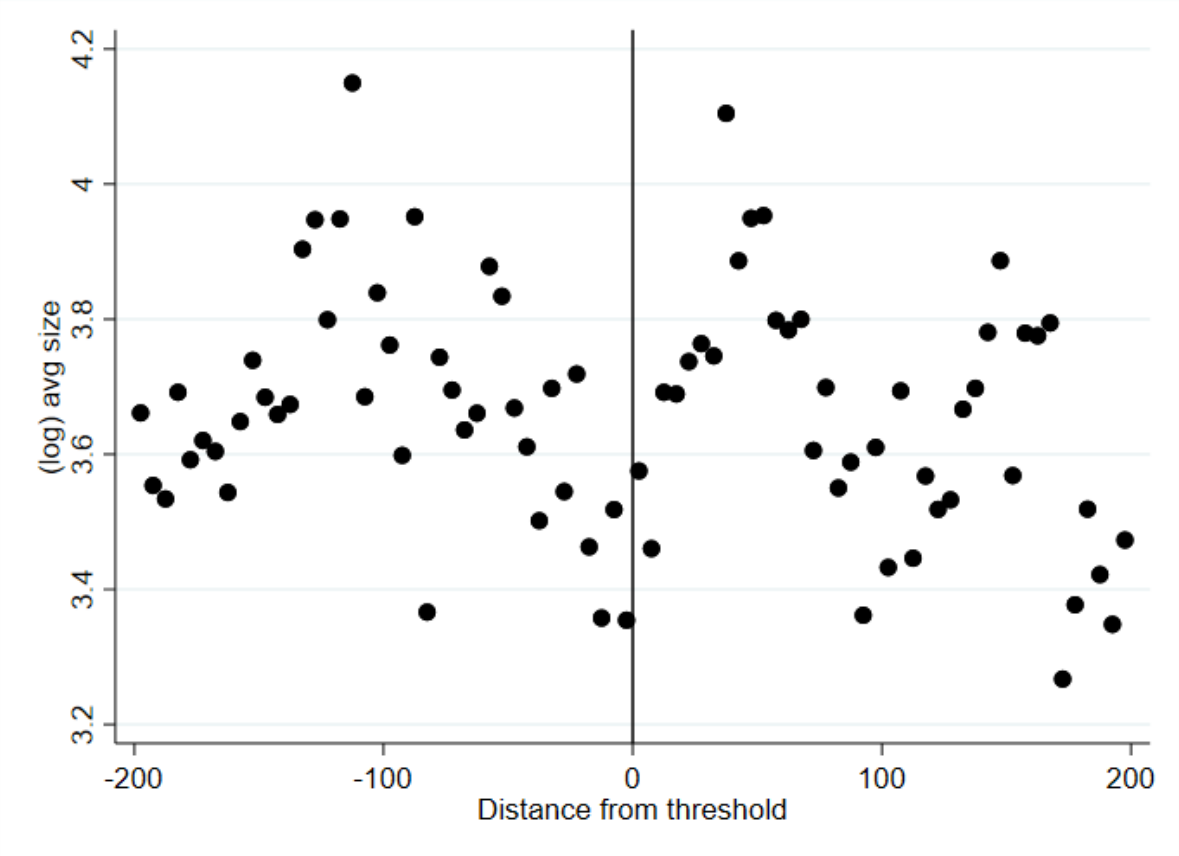
back

Regression Kink Design: Monthly benefit amount



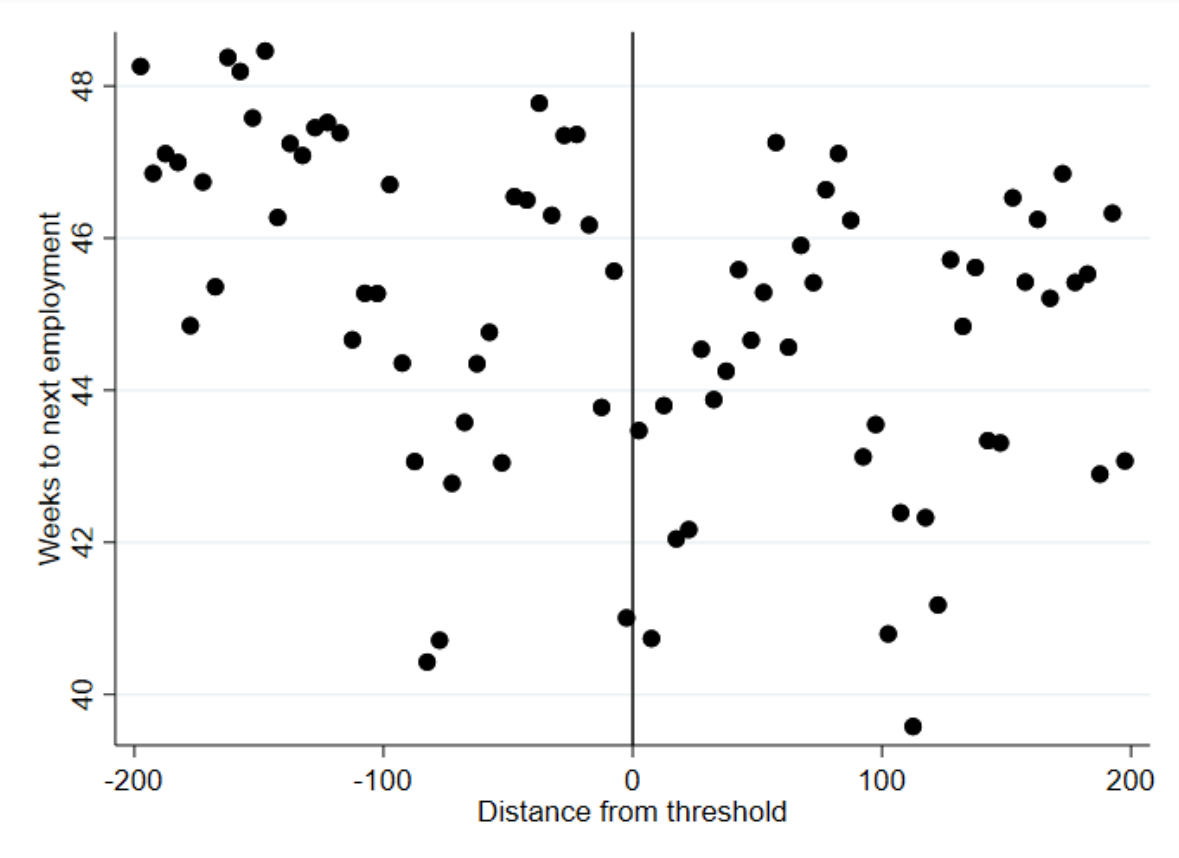
back

Regression Kink Design: Pre-unemployment Firm size



back

Regression Kink Design: Nonemployment Duration



back