The Effect of Unemployment Benefit Generosity on Unemployment Duration: Quasi-experimental Evidence from Slovenia

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Slovenian unemployment generosity legislation was reformed in 2011

Nature of reforms allows for quasi-experimental approach to studying its effects

- In Slovenia, workers qualify for unemployment benefits if they experience involuntary layoffs and fulfill other eligilibility criteria
- In January 2011, a new law went into effect which increased the replacement rate in the first three months of benefit entitlement
- Despite the increase in generosity, the probability of exiting unemployment to employment did not decrease:
  - aggregate outflows from unemployment increased (to both employment and inactivity), and
  - survival rates in unemployment slightly decreased
- How can this inconsistency be explained?

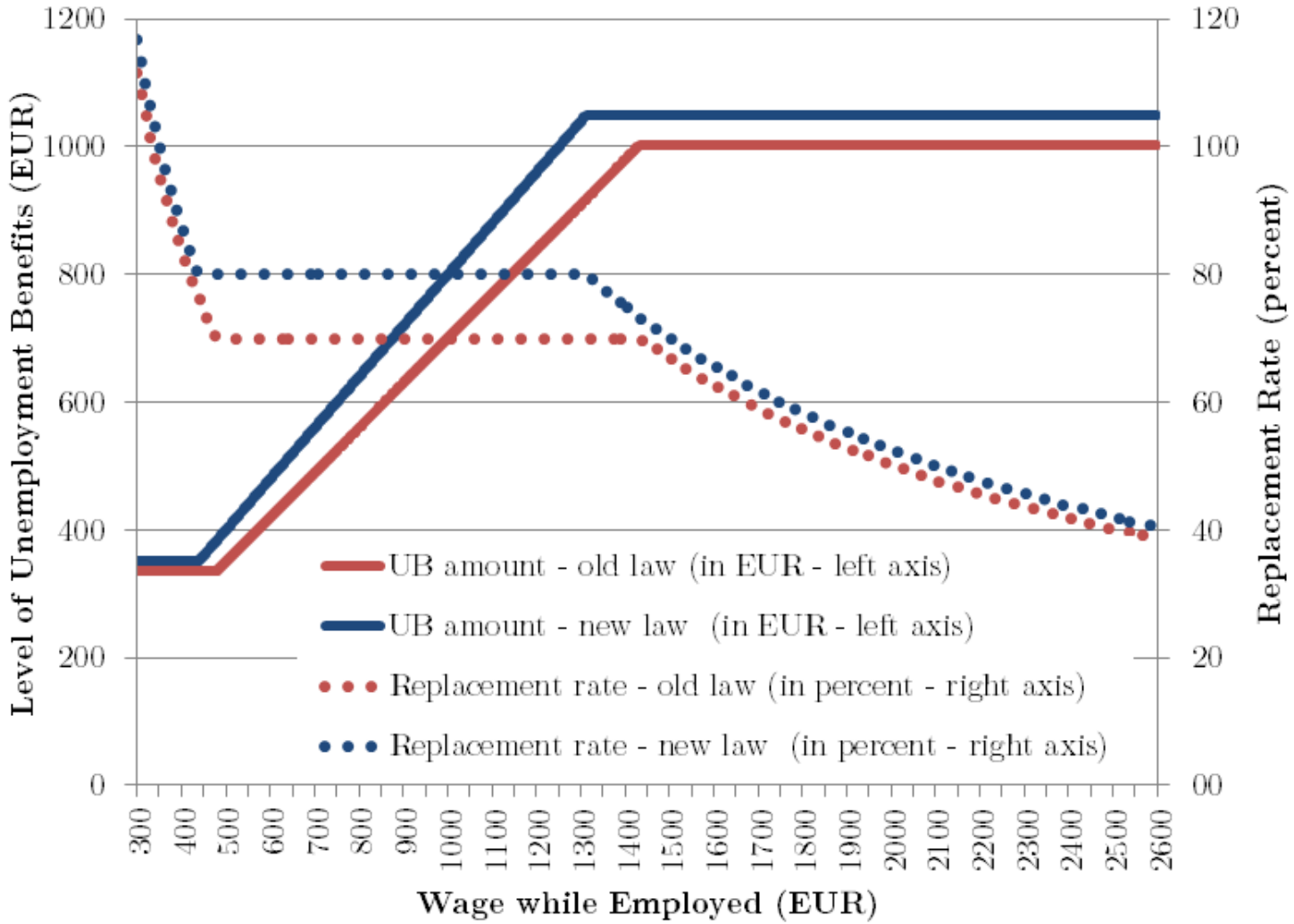
2011 Legislative Changes

- Replacement rate *for the first three months* increased from 70 percent of gross wages to 80 percent
  - replacement rate = level of unemployment insurance benefits as a percentage of worker's gross wages prior to unemployment

- Under both previous and new legislation:
  - replacement rate after 3 months is 60 percent
  - level of benefits is subject to absolute minimum and maximum levels

Replacement rates and benefit levels

Before and after 2011 reform, first three months of benefit receipt



Research Question

What is the effect of the increased replacement rate on the probability of becoming employed?

Identification strategy: "difference-in-differences" approach

- calculate "before and after" hazard rates for the group for which replacement rate changed
- use control group comprised of individuals with unchanged replacement rate to account for period-specific effects (e.g. different macroeconomic environment)
- compare differences in changes in hazard rates between treatment and control groups before and after the law change

Data description

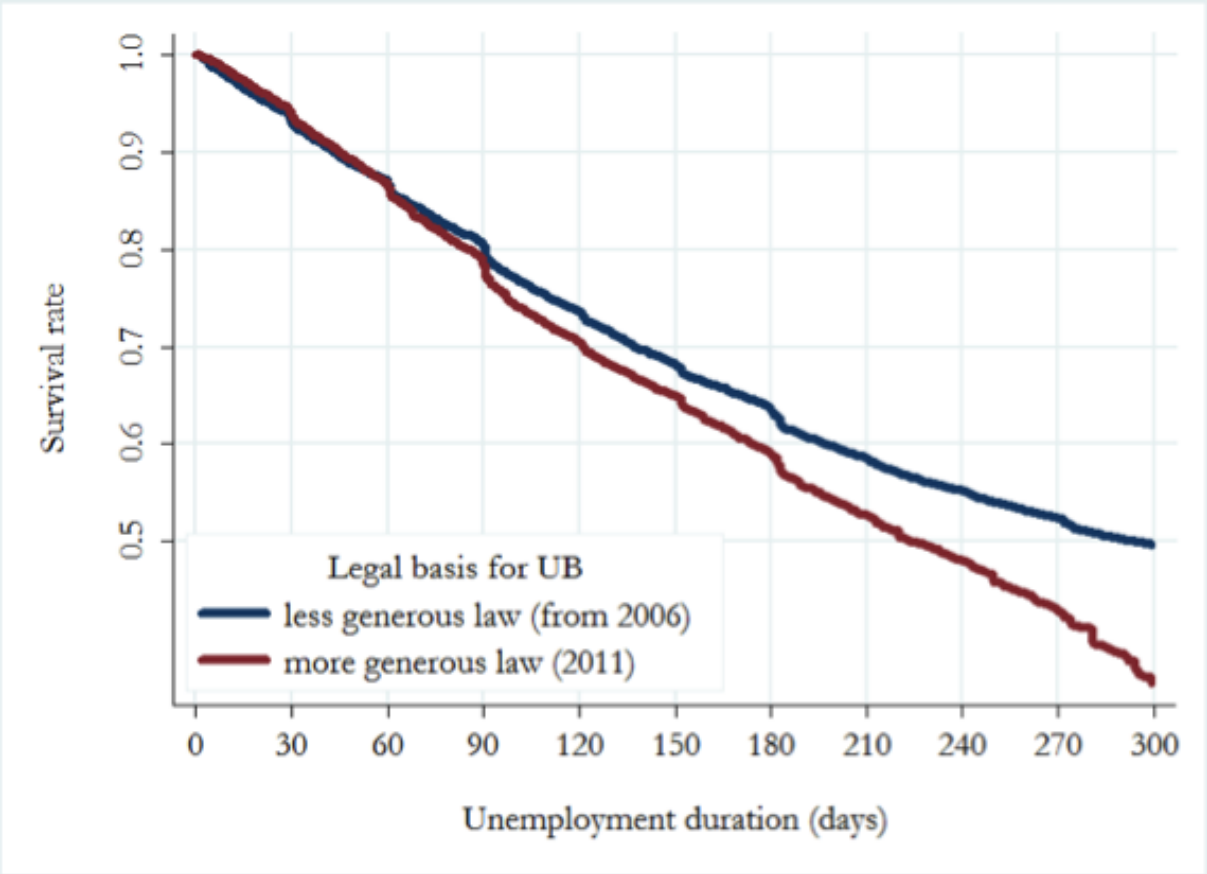
Registry data covering all unemployment spells from January 2010 to December 2011 in Slovenia

- For each individual unemployment spell, register contains:
  - starting and ending dates
  - employment or censoring dates
  - potential duration and level of unemployment benefits
  - wage at previous job (basis for calculating unemployment benefits)
  - personal demographic characteristics (age, education, gender)
- Final dataset contains approximately 130 thousand unemployment spells and 30 thousand "events" (i.e., becoming employed)

Data description
Other issues

- Similar as in van Ours and Vodopivec (2006), we exclude unemployment spells that begin one month before or one month after the law change
  - legislative changes also decreased duration of early retirement schemes for laid-off older workers, increasing incentive for workers to pressure employers to lay them off before new law took effect
  - increased inflows can also be partly attributed to a proposed pension reform

Survival functions
Comparison by law

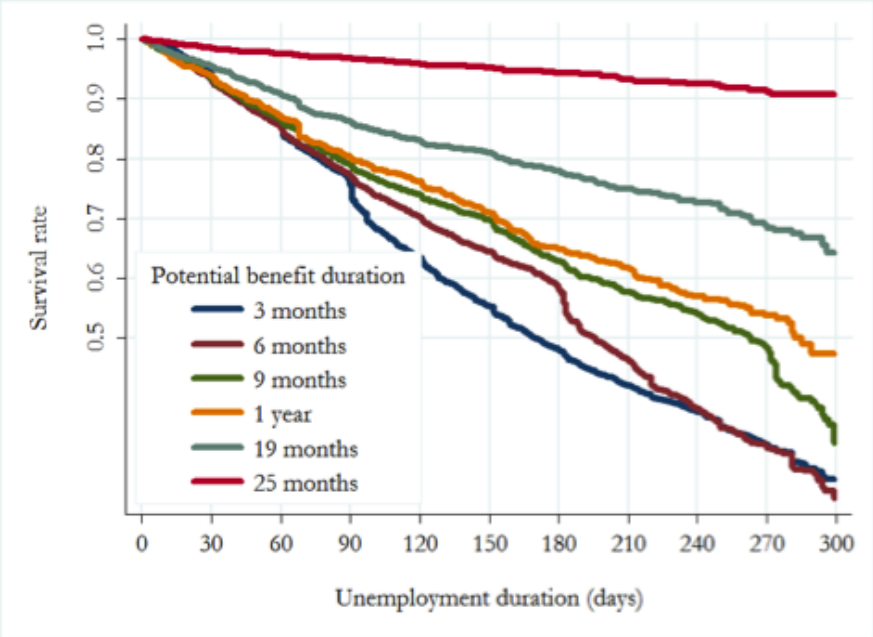


Note: Kaplan-Meier survival functions of individuals who were eligible for unemployment benefits at the onset of unemployment. Failure is defined as exiting to employment; other exits from unemployment registry database are construed as censoring.

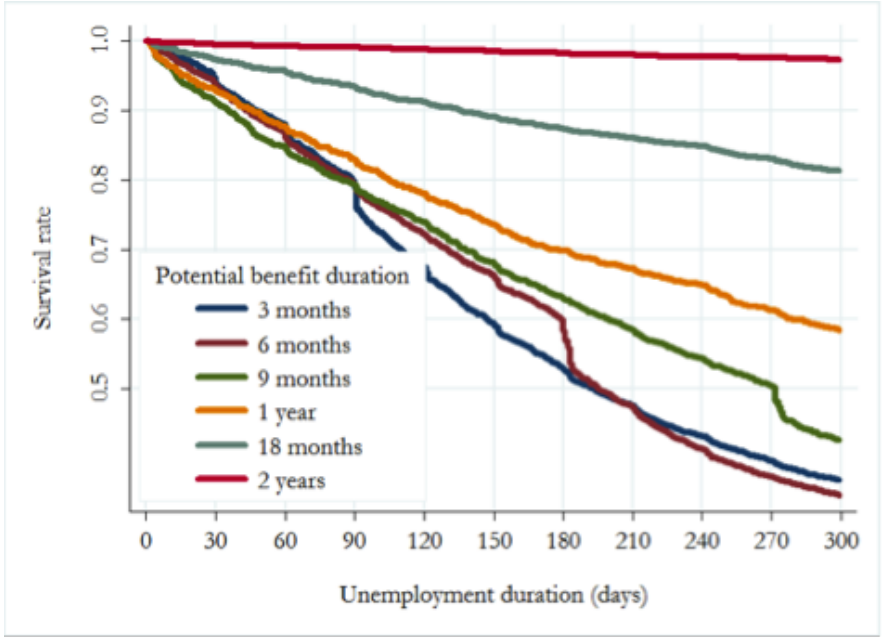
Survival functions

Comparison by potential benefit duration and law

Survival functions, new law



Survival functions, old law



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Description of model

We estimate a Cox proportional hazard model with the following specification:

$$\lambda(t \mid T, P, I, \mathbf{X}) = \lambda_0(t) \cdot e^{\alpha T + \beta P + \gamma I + \delta' \mathbf{X}}$$

where $\lambda_0(t)$ denotes the baseline hazard, T is a binary variable equal to 1 for those who became unemployed in 2011, P is a binary variable equal to 1 for those who where affected by the policy change, and I is an binary interaction variable of P and T that captures the specific effects of the policy change on the treatment group. $\mathbf{X}$ is a vector of demographic characteristics; α, β, γ and δ pertain to coefficients that are to be estimated.

Hazard ratios from Cox proportional hazard model

	Hazard ratio	Standard Error
Policy and time-varying variables (omitted group: control group under old law)		
New (generous) law	**1,081***	(0,0502)
Treatment group	**0,971**	(0,0391)
Interaction	**0,824*****	(0,0426)
Gender (Omitted group: women)		
Men	0,972	(0,0206)
Age (Omitted group: under 25 years old)		
25-29	1,022	(0,0463)
30-39	0,906**	(0,0389)
40-49	0,850***	(0,0372)
50+	0,262***	(0,0130)
Education (Omitted group: Primary school or less)		
Secondary school (technical)	1,248***	(0,0387)
Secondary school (general)	0,894***	(0,0297)
2-year tertiary	0,936	(0,0404)
4-year tertiary (or greater)	1,181***	(0,0487)
Unemployment benefit (UB) recipient? (Omitted group: unemployed persons receiving UB)		
Not receiving unemployment benefits	2,921***	(0,0191)
Number of observations	87,395	

*** p<0.01, ** p<0.05, * p<0.1

Note: Includes only data on first three months of unemployment spells (spells are censored thereafter).

Discussion

- Exploiting legislative changes enabling a quasi-experimental approach, we find that the 2011 increase in unemployment benefit generosity decreased the hazard rate for exiting unemployment
- How can we reconcile this decrease with the aggregate increase in outflows from unemployment? Possible explanations:
  - change in composition of newly unemployed
  - increased surveillance by employment services agency
  - temporary improvement in macroeconomic situation

Thank you for your attention.

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