

Unemployment - Empirical Evidence

- Unemployment insurance and the duration of unemployment
 - generosity of benefits
 - duration of benefits
 - sanctions
- Unemployment insurance and reemployment wages
- The time use of the unemployed.
- Search in other contexts

The UI system

- Many countries have some form of unemployment insurance.
- Goal of the program: to *insure* individuals against bad labor market outcomes:
 - provide a replacement for lost wages during unemployment spell.
 - help people find jobs for which they are well matched.
- Typical parameters of the system:
 - eligibility requirements: must have worked at least n weeks out of the past N calendar weeks, and had high enough earnings.
 - *replacement rate*: fraction of previous wage that is paid (with caps above and below)
 - duration of UI benefits: 26 weeks in the US in good times, automatically extended during bad times (today: 99 weeks).

- What is the effect of the UI system on the duration of unemployment?
- Theory predicts:
 - more generous benefits lead to longer durations
 - longer duration of benefits leads to longer durations
 - more generous/longer benefits lead to better job quality (higher wages, longer duration).
- Extensive empirical literature on this, but difficult to get good variation in the key parameters:
 - Because benefits are capped above and below, replacement rate is higher for low-skill workers
 - Duration of benefits is usually the same for everyone (unless in a recession).
- Two approaches:
 - Differences in differences
 - Regression discontinuity: exploit differences in rules for people just above/below some threshold (age, weeks worked, etc.)

Lalive, van Ours and Zweimüller (Review of Economic Studies, 2005)

- DD study using large reforms in the Austrian UI system in 1990.
- 4 different treatment groups depending on age, previous work experience, and wages:
 - extended duration
 - more generous benefits
 - extended duration + more generous benefits
 - No change.

TABLE 2

Eligibility (e) for change to the relative rate (RR) and for change to potential benefit duration (PBD)

		Age			
		Younger than 40 years		40 years and older	
		Work experience		Work experience	
		Low	High	Low	High
Monthly income	≤ 12,610 AS	eRR	eRR	eRR	ePBD–RR
	> 12,610 AS	Control	Control	Control	ePBD

Notes: Work experience “low” refers to less than 6 out of previous 10 years and less than 9 out of previous 15 years work experience. Work experience “high” refers to worked more than 6 out of previous 10 and worked more than 9 out of previous 15 years. RR, replacement rate; PBD, potential benefits duration; ePBD, eligible for increase in potential benefit duration; eRR, eligible for increase in benefit RR; ePBD–RR, eligible for both.

TABLE 3

The changes to unemployment insurance in August 1989

	Before August 1989	After August 1989	Change (after-before)	Diff-in-diff (change compared to "control")
ePBD group				
PBD (weeks)	29.5	42.5	13.0	13.5
RR (%)	40.0	40.9	0.9	-0.3
N	48,294	51,110		
eRR group				
PBD (weeks)	25.1	24.6	-0.5	0.0
RR (%)	41.4	47.3	5.9	4.6
N	17,160	15,310		
ePBD-RR group				
PBD (weeks)	29.0	42.6	13.6	14.1
RR (%)	41.3	47.0	5.7	4.4
N	11,992	9182		
Control group				
PBD (weeks)	27.4	26.9	-0.5	—
RR (%)	40.2	41.5	1.3	—
N	33,815	38,958		
Total				
PBD (weeks)	28.1	34.8	6.7	—
RR (%)	40.4	42.5	2.0	—
N	111,261	114,560		

Notes: Diff-in-diff, difference-in-difference; PBD, potential benefits duration; RR, replacement rate; ePBD, eligible for increase in potential benefit duration; eRR, eligible for increase in benefit RR; ePBD-RR, eligible for both.

Source: Own calculations, based on Austrian Social Security Data.

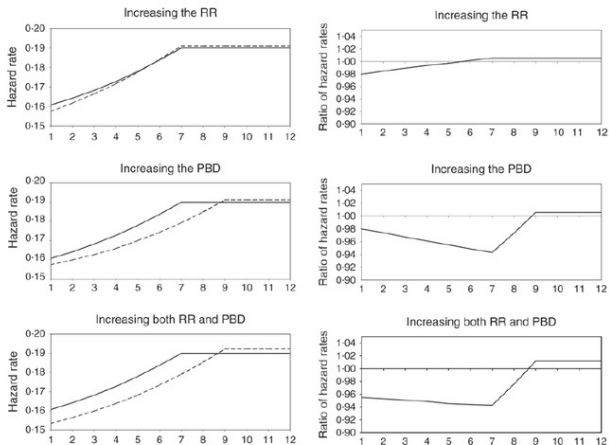


FIGURE 1

Change to replacement rate (RR) and potential benefits duration (PBD) and the unemployment exit hazard

TABLE 4

Average unemployment duration in first 104 weeks (measured in weeks)

	Before August 1989	After August 1989	Change (after–before)	Diff-in-diff (change compared to “control”)
ePBD group	16.25 (0.08) 48,294	18.67 (0.09) 51,110	2.42 (0.12)	1.13 (0.18)
eRR group	17.79 (0.12) 17,160	20.03 (0.16) 15,310	2.24 (0.20)	0.96 (0.24)
ePBD–RR group	19.01 (0.17) 11,992	23.55 (0.24) 9182	4.53 (0.20)	3.25 (0.24)
Control group	15.24 (0.08) 33,815	16.52 (0.09) 38,958	1.29 (0.13)	—

Notes: Standard errors in parentheses. Diff-in-diff, difference-in-difference; RR, replacement rate; PBD, potential benefits duration; ePBD, eligible for increase in potential benefit duration; eRR, eligible for increase in benefit RR; ePBD–RR, eligible for both.

Source: Own calculations, based on Austrian Social Security Data.

Results:

- Both benefit generosity and the duration of benefits have a large positive effect on the duration of unemployment.
- 10% increase in the replacement rate $\rightarrow$ 5% increase in duration
- 13 weeks increase in potential duration of benefits $\rightarrow$ 1 – 3 weeks increase in actual duration.

Card, Chetty and Weber (QJE 2008)

- Use discontinuities in severance pay and eligibility for extended UI benefits (also using Austrian data) and study:
 - the effects on duration
 - the effects on subsequent job quality.
- Key features:
 - workers with more than 36 months of tenure with employer are entitled to large severance payment
 - workers who have worked at least 36 months in past 5 years are eligible to extended UI benefits.
- Findings:
 - large effects on duration
 - no effects on subsequent job quality.

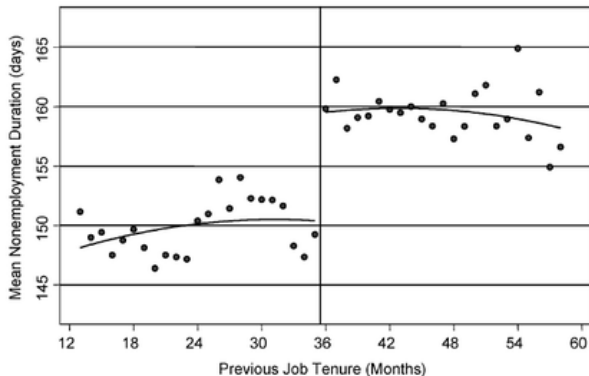


FIGURE V
Effect of Severance Pay on Nonemployment Durations

Note. This figure plots average nonemployment durations (time to next job) in each tenure-month category. Observations with nonemployment durations of more than two years are excluded. The vertical line denotes the cutoff for severance pay eligibility.

Eligibility for severance pay lengthens duration of unemployment.

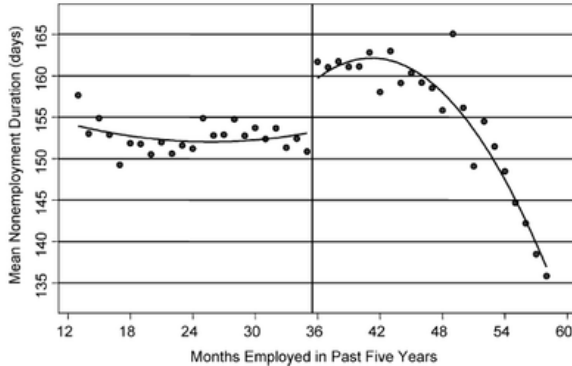


FIGURE VIIIa
Effect of Benefit Extension on Nonemployment Durations

Extending benefit duration lengthens duration of unemployment.

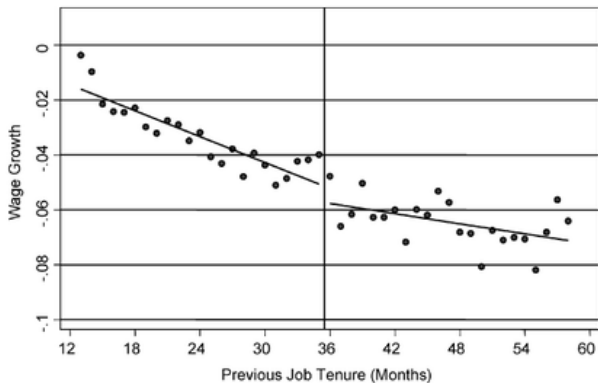


FIGURE Xa
Effect of Severance Pay on Subsequent Wages

Severance pay has no effect on subsequent wages.

Why no effect on subsequent job quality?

- In the basic model of job search, everything is driven by the reservation wage.
- Job offer arrival rate is exogenous.
- But perhaps there isn't that much variation in the distribution of potential wages.
- Instead, job offer arrival rate is probably endogenous.
 - People can decide how much time to spend in job search activities

Krueger and Müller (2011)

- What do the unemployed do with their time?
- How much time do they spend on job-search activities?
- Answer: not much...

Table 1b
Descriptive statistics ATUS 2003–2007, by labor force status (weekdays only).

	# of respondents	% of total	Average job search, in min per weekday	Participation in job search	Average job search (participants), in min per weekday
By labor force status					
Employed	21,291	76.4%	0.7	0.7%	99.7
Unemployed	1,076	3.9%	41.1	24.1%	170.8
Not in labor force	5,495	19.7%	1.1	0.7%	159.8
By type of employed (% of employed)					
Working in CPS	20,141	94.6%	0.6	0.6%	106.0
Unemployed in CPS	395	1.9%	3.7	3.0%	123.3
Not in labor force in CPS	755	3.5%	0.8	1.9%	40.8
By type of unemployed (% of unemployed)					
Jobloser	488	45.4%	56.2	33.6%	167.0
On temporary layoff w/ recall expectation	171	15.9%	16.7	8.9%	188.9
Jobleaver	25	2.3%	69.6	33.7%	206.4
Re- or new entrant	392	36.4%	30.5	17.8%	171.3
By UI eligibility status (% of unemployed)					
UI ineligible	473	44.0%	33.2	19.6%	169.5
UI eligible	603	56.0%	47.9	27.9%	171.5
By type of "not in labor force" (% of not in labor force)					
Working in CPS	572	10.4%	3.5	2.4%	143.6
Unemployed in CPS	159	2.9%	5.6	4.1%	136.6
Not in labor force in CPS	4,764	86.7%	0.7	0.4%	181.4

Notes: Averages and participation rates are computed with survey weights. The estimates are based on weekdays only. Universe: Civilian, non-institutional population, aged 20–65.

Unemployed spend about 40 minutes/day in job search activities.

Table 3
Tobit model regressions.

Dependent variable: time allocated to job search, in min per day	Mean (Std)	Full sample (1)	Subsample (2): eligible w/o recall expectation and unempl. dur. < 26	Subsample (3): ineligible
Mean of dependent variable		32.1	49.1	25.4
Adjustment factor for marginal effects		0.153	0.256	0.115
Log(maximum weekly benefit amount)	5.89 (0.220)	24.344 (46.807)	—156.8 (78.173)**	117.917 (110.082)
Fitted log(hourly wage)	2.60 (0.329)	548.212 (205.572)***	652.484 (315.049)**	801.735 (334.230)**
Std(residual of wage equation) — by state	0.49 (0.023)	—12.808 (572.653)	38.0496 (648.979)	—456.146 (709.477)
On temporary layoff w/ recall expectation (1)	0.15	—239.506 (38.298)***		(2)
Jobleaver	0.03	10.194 (58.054)		98.642 (88.601)
Re- or new entrant	0.38	—80.834 (24.674)***		12.685 (47.770)
Age	36.75	—24.237 (15.895)	—25.049 (23.579)	—44.41 (20.642)**
Age^2		0.245 (0.173)	0.271 (0.259)	0.421 (0.216)*
Some college or associate degree (3)	0.29	—53.855 (53.329)	—77.851 (88.886)	—119.538 (82.067)
College degree (BA, MA or PhD)	0.16	—241.132 (113.629)**	—269.902 (188.471)	—437.329 (189.517)**
Female	0.51	87.409 (57.036)	201.337 (95.916)**	75.857 (77.953)
Female * partner	0.28	—66.344 (42.073)	—88.332 (52.342)*	—34.636 (73.483)
Female * children	0.30	—38.338 (59.715)	—111.368 (81.905)	30.277 (69.874)
Partner	0.50	—4.038 (37.283)	0.006 (46.859)	—14.787 (66.825)
Children	0.49	12.663 (40.987)	120.419 (52.645)**	—93.485 (60.902)
Weekend	0.28	—218.167 (20.653)***	—223.945 (25.780)***	—175.855 (31.905)***
Constant		—1062.408 (332.084)***	—530.797 (503.571)	—1590.845 (574.960)***
Sigma		264.087 (15.127)***	230.892 (11.709)***	261.18 (26.881)***
Year and month dummies		x	x	x
Observations		2171	671	1000
Pseudo R-squared		0.04	0.04	0.06

Robust standard errors in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

(1) The base group consists of job losers. (2) We exclude the dummy for temporary layoff w/ expectation of recall for this regression, because there are only 27 of them in the sample of ineligible (part-time workers in states were part-time workers are not eligible for UI) and they all have zero search on the diary day. (3) The base group consists of those with a high school degree or less.

Notes: Regressions are weighted using survey weights. Errors are clustered at state-level. Universe: Unemployed, aged 20–65.

Column 2 reports the results for the subsample of eligible without an expectation of recall to their previous employer and with a duration of unemployment of 26 weeks or less. Column 3 reports the results for the subsample of ineligible. See the notes in Table 2 for details about the estimated regression equation.

Benefit level lowers search intensity among UI eligible (excluding expected to be recalled), not others.

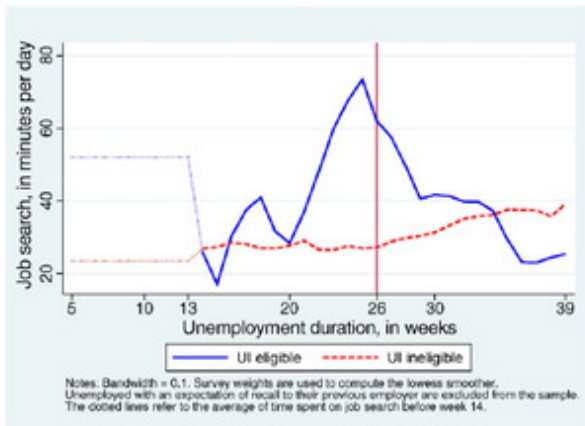


Fig. 3. Lowess: job search by unemployment duration.