

Social Insurance, Firms, and Workers' Sickness Absences

Evidence from Austrian Social Security Data using a
Regression Discontinuity Design

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2nd Annual Meeting of the DRC Consortium

Washington, D.C.,

October 30 and 31, 2014

Our research

Q: Do we observe **fewer or shorter** sickness absences in firms where absences **costs** are greater than in firms with lower costs?

M: Quasi-experimental evaluation (RDD) with Austrian social security data for 1998 and 1999

R: Sickness absences **do not differ** in firms* with and without a 30%-deductible

(* firms close to the threshold)

Background

Sickness absences are associated with a greater probability of receiving disability benefit (OECD 2010)

Since the 1990s: increased importance of “integration measures” for sickness and disability policies, also aimed at employers

Little evidence on how firms react to monetary incentives (Westergaard-Nielsen and Pertold 2012; Fevang, Markussen and Roed 2011)

Changing Firms' Incentives

Experience-rating:

- Finland: no effect on DI (Kyörrä and Tuomala, 2013)
- Netherlands: not clear as confounded with other changes (Koning, 2009)

Other mechanisms:

- Legal obligations
- Deductibles (Co-payments)

Institutional Background

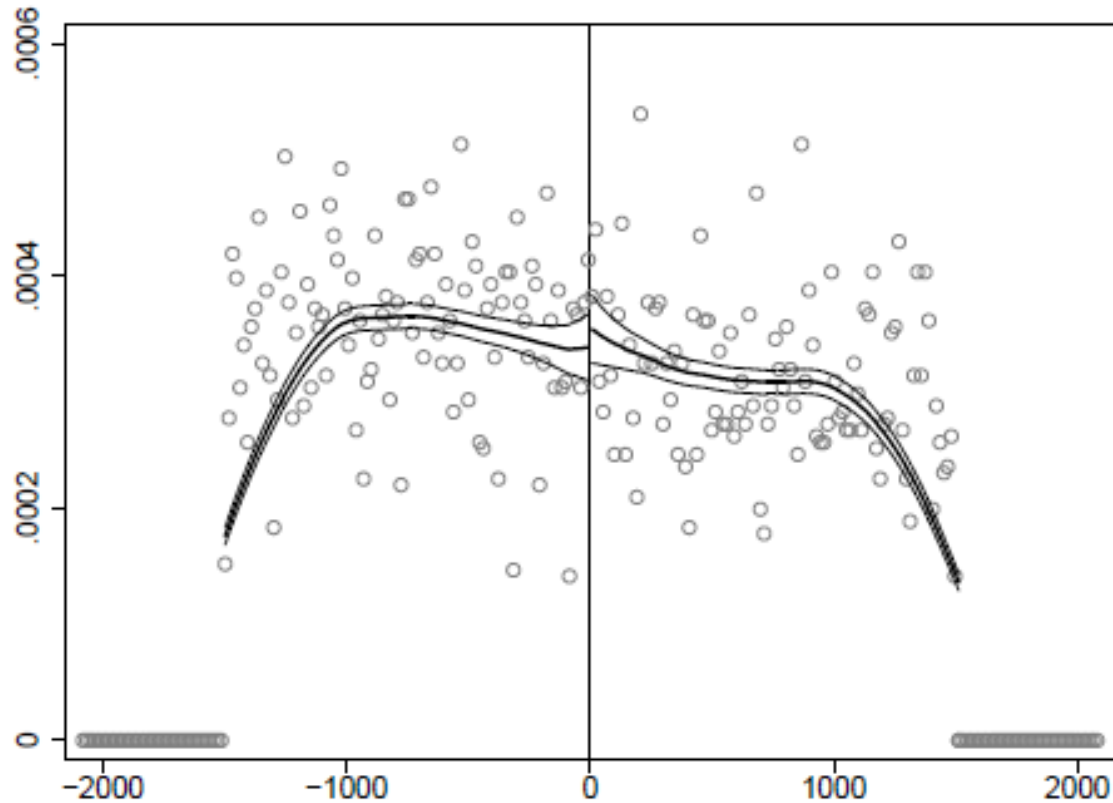
Continued wage payment for all sick workers, 4 to 12 weeks (depending on tenure)

Firms were insured against wage costs

An administrative threshold (based on wage bill in $t-2$) defined whether a firm had to pay a deductible (30%) or not

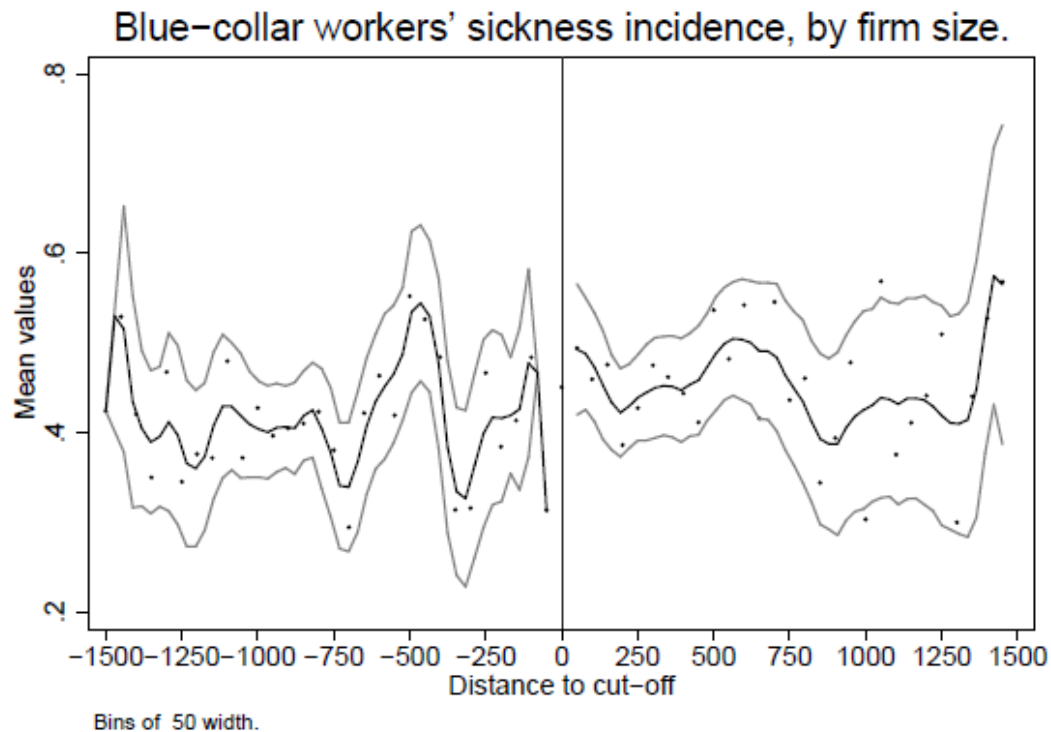
The quasi-experimental situation around the threshold provides causal evidence on the effect of the deductible on sickness absences for firms in this range (LATE)

Sorting?



Note: Density of firms in the [interval -1,500 and +1,500 around the threshold](#). The threshold was €18,313.56 in 1998 and €18,575.16 in 1999. Local polynomial regressions using a triangle kernel for each side of the cut-off (Kovak and McCrary, 2008).

Estimated effect on sickness incidences



Note: Each dot indicates the estimated treatment effect on the number of sickness spells in a firm [within €1,500 of the thresholds](#). The grey lines indicate the 95 percent confidence intervals. Spells are all sickness absences of blue-collar workers in a firm in a month, weighted by the blue-collar workers' wage shares. Only spells are considered during which firms continued to pay their absent workers, without imposing an upper limit on the duration of a spell.

Key results

We **fail to reject** the H0 of no effect:

	Interval around the threshold					
	+/- 1500		+/- 1000		+/- 500	
	τ	(SE)	τ	(SE)	τ	(SE)
<i>Spells</i>						
Optimal bandwidth	0.489	(0.395)	0.444	(0.384)	0.423	(0.381)
Optimal bandwidth/2	2.182	(1.622)	1.568	(1.382)	1.349	(1.263)
Optimal bandwidth*2	0.470*	(0.263)	0.510**	(0.253)	0.528	(0.249)
<i>Days</i>						
Optimal bandwidth	4.877*	(2.522)	4.869*	(2.517)	4.865*	(2.515)
Optimal bandwidth/2	2.485	(3.323)	2.532	(3.311)	2.556	(3.304)
Optimal bandwidth*2	4.431**	(1.929)	4.433**	(1.917)	4.434**	(1.911)
N	12,424		8,335		4,174	

Note: τ indicates the estimated difference in the sickness indicator due to the change in treatment. Standard errors in parentheses. The optimal bandwidths are calculated according to Imbens (2012). The kernel is a triangle kernel.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Discussion of Results

- Medical certification?
Probably not: Böheim and Leoni (2011)
- Deductible too moderate to induce management responses?
Probably: Size matters (Chiappori et al., 1998)
- Deductible cheaper than alternative strategies?
Possibly: Sick pay reciprocated by higher effort (Duersch et al., 2012)

Austria's system: similar to other countries (Germany!)

BUT: We have to be careful when projecting our findings to other countries, particularly the US

In the US

Different institutional setting:

- lower benefit coverage, and
- lower absenteeism

	2006	2007	2008	2009	2010	2011	2012
<i>Austria</i>							
Absence rate	2.3	2.4	2.4	2.6	2.7	2.8	2.7
Lost worktime rate	2.8	3.1	2.9	2.9	3.5	3.2	3.4
<i>US</i>							
Absence rate	2.3	2.2	2.2	2.3	2.2	2.2	2.1
Lost worktime rate	1.2	1.2	1.2	1.1	1.2	1.1	1.0

Note: Data for workers aged 16 years+. Data for USA: CPS, BLS calculations; data for Austria: AKE, WIFO calculations.

Potential Implications

- US firms **more** cost-sensitive?
 - Experience rating or similar incentives (Autor, 2011) might have stronger effects than in Austria?
- Differential **treatment of small and large** firms
 - Results suggest that firms did not remain small due to the preferential treatment

Additional slides

Details of Austria's System

- **Mandatory** Social Security System
- **Continued wage** payment: by law, for all sick workers, duration varies between 4 and 12 weeks and depends on tenure
- Until 2001, firms received a **refund** of wages paid to sick blue-collar workers:
 - **Small firms**: 100% refund
 - **Large firms**: 70% refund (=30% deductible)
 - Size determined by wage bill in $t-2$

Choice of Bandwidth

