

The Effect of Family Insurance on Early Career Outcomes

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Summary I - Research Question

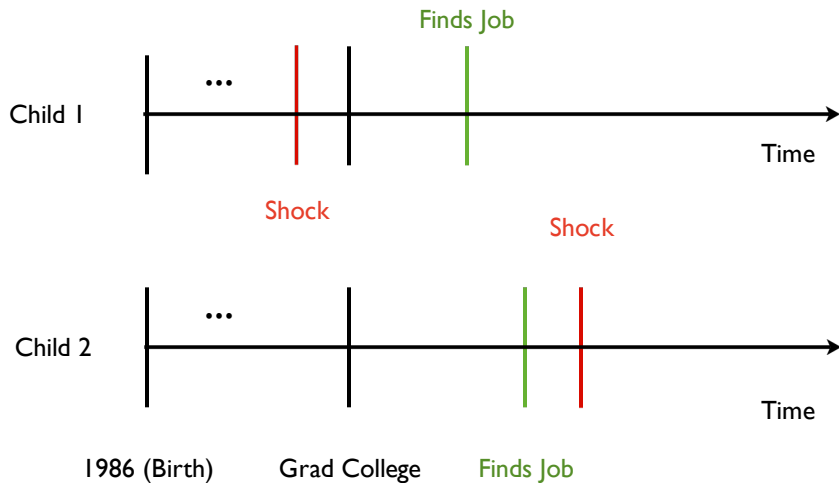
What is the effect of family support on early career labor market outcomes?

- Outcomes of interest:
 - ▶ Job finding rate
 - ▶ Quality of first job
 - ▶ Long term impact

Summary - Empirical Strategy

- Source of variation: major parental income shock around entry
- Three shocks: death, long term sickness(> 1 year), job displacement
- Main identification challenge: unobserved heterogeneity between parents suffering from a shock and other parents
- Today's solution: Timing based-identification
 - ▶ Compare parents with a shock (shortly) before entry to parents with a shock (shortly) after entry
 - ▶ Identifying assumption : conditional on a small set of controls (TBD), the timing of shocks provides a quasi-random source of variation

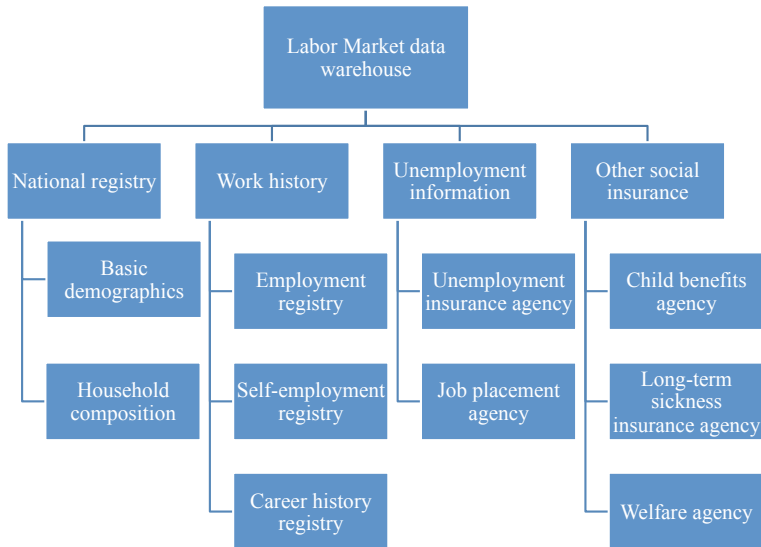
Empirical strategy - Thought Experiment



Why Do We Care ?

- Family insurance matters at the beginning of career: McGarry (2012), Kaplan (2012), Kramarz and Skans (2007)
- Transmission of parental shocks to kids: Oreopoulos et al. (2008), Page et al. (2007), Gertler and al. (2004), **Hilgers** (2012)
- Importance of mismatch in the labor market: Lise, Meghir and Robin (2013), Acemoglu (1999), Van Ours and Vodopivec (2008),...
- Long term effect of early career shocks: Khan (2009), Oreopoulos et al. (2006), Oyer (2008)

Data : Belgian Social Security System



Data : Extract from the Belgian Social Security System

- $\approx 90,000$ entrants from the universe of entrants from Q2-2004 to Q4-2009:
 - ▶ $\approx 16,000$ sick
 - ▶ $\approx 15,000$ job loss
 - ▶ $\approx 4,000$ death (1,500 “at work”)
- Children:
 - ▶ Yearly demographics and quarterly career history
 - ▶ Child benefits, employment, self-employment, unemployment, welfare, education
- Parents:
 - ▶ Yearly (since 1990) and quarterly (since 1998) employment history
 - ▶ Yearly demographics, quarterly sickness and pension history since 1998

Identifying Entry in the Labor Force

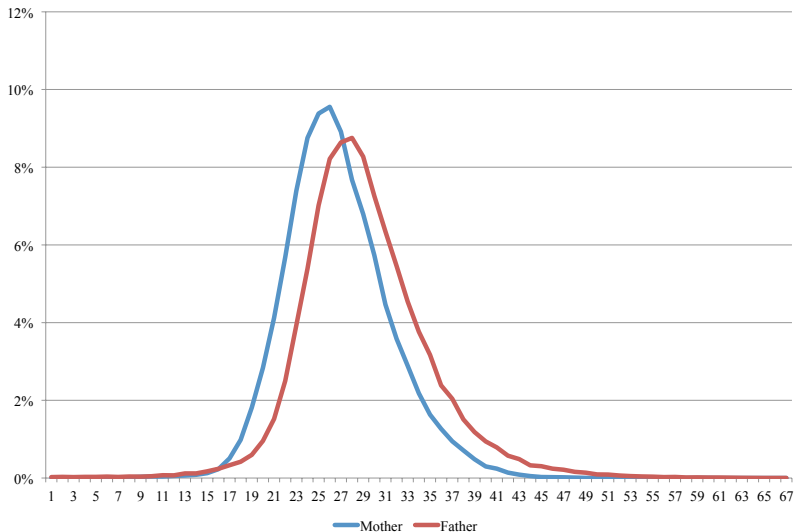
- Before 18 : unconditional right to child benefits
- After 18 when studying: child benefits paid
- After study:
 - ▶ Waiting period: no unemployment benefits for 9 month
 - ▶ After 9 month, eligible for flat UI benefits
 - ▶ Child benefits paid during that time
 - ▶ IF registered with job placement agency
 - ▶ Find a job = lose benefits

▶ More details

Sample selection

- STEP 1. Identify entrants:
 - ① Currently: quarter of loss of child benefits
 - ② In future version: earliest of 1. or registration with job placement agency
- STEP 2. Identify parents: head or co-head of household 2 years before entry date
- STEP 3. Identify parental shocks:
 - ▶ Losing stable (3 years) job and not observed retired or sick around job loss date
 - ▶ Receiving long term (more than 1 year) sickness insurance for at least one day and not sick for 3 years before
 - ▶ Dying...

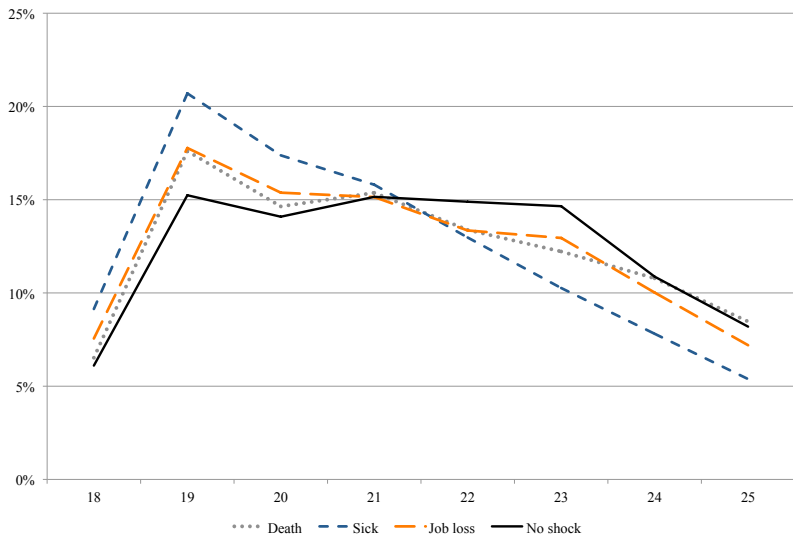
Distribution of Parental Age at Birth



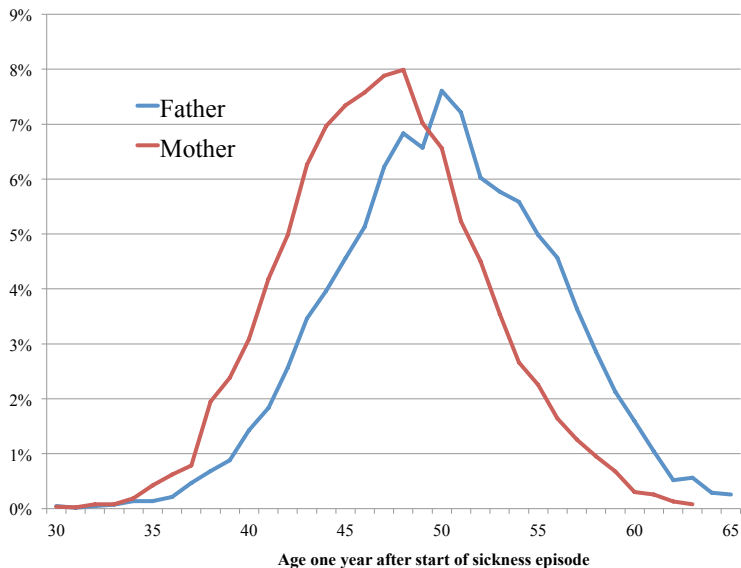
Summary Statistics

	No shock	Sickness shock		Job Loss	Death	
		At work			At work	
Child						
Female (%)	0.492 (0.500)	0.492 (0.500)	0.491 (0.500)	0.494 (0.500)	0.483 (0.500)	0.476 (0.500)
Age at entry (%)	21.512 (2.066)	20.948 (2.016)	21.069 (1.997)	21.274 (2.081)	21.396 (2.117)	21.409 (2.047)
Belgian (%)	0.969 (0.174)	0.962 (0.191)	0.969 (0.173)	0.961 (0.194)	0.963 (0.189)	0.984 (0.127)
Years of education	12.714 (2.656)	11.930 (2.544)	12.264 (2.428)	12.323 (2.580)	12.079 (2.713)	12.490 (2.605)
Higher education	0.338 (0.473)	0.206 (0.404)	0.239 (0.426)	0.263 (0.440)	0.241 (0.428)	0.286 (0.452)
Family						
Single parent family (%)	0.252 (0.434)	0.210 (0.407)	0.143 (0.350)	0.145 (0.352)	0.180 (0.384)	0.136 (0.343)
Father age at birth	23.201 (12.866)	23.536 (11.924)	25.339 (10.217)	25.590 (10.446)	29.453 (12.824)	27.303 (9.139)
Mother age at birth	25.633 (7.255)	25.073 (6.558)	25.288 (6.268)	25.419 (6.669)	26.860 (9.276)	25.519 (7.891)
Father suffers from shock (%)		0.445 (0.497)	0.481 (0.500)	0.538 (0.499)	0.668 (0.471)	0.677 (0.468)
# of kids	57,202	16,183	9,376	15,261	3,969	1,593
# of parents	99,969	28,967	17,414	28,316	7,225	2,969

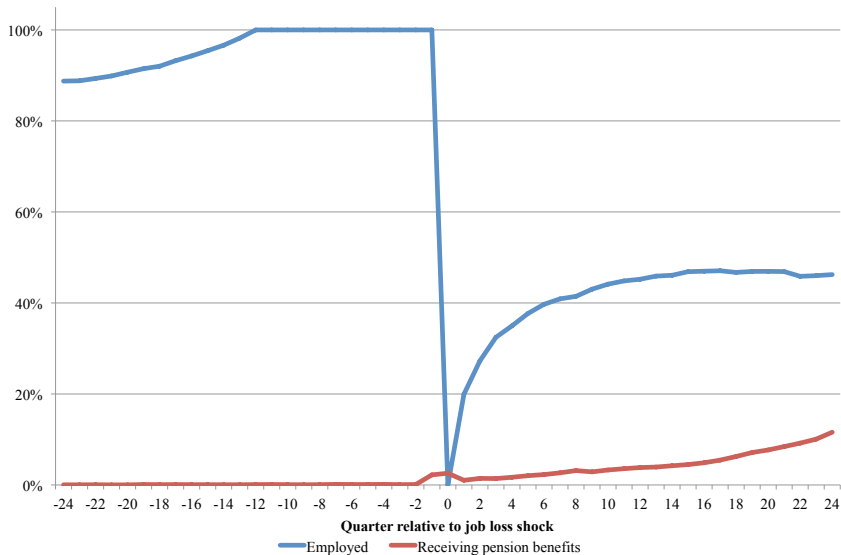
Child Age at Entry



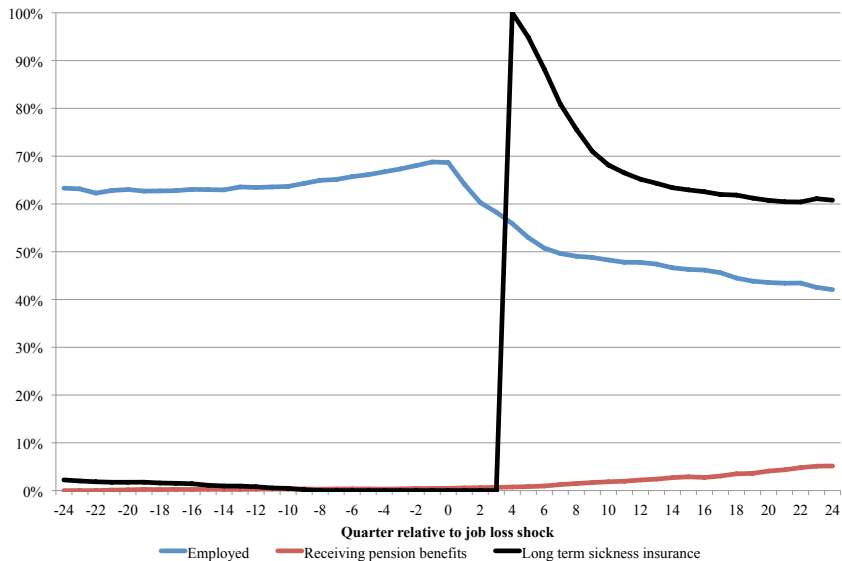
Distribution of Age at Shock: Sickness Shock



Effect of Job Loss Shock over Time



Effect of Sickness Shock over Time



Shocks - How much insurance?

- Death

- ▶ If surviving spouse : pension benefits if less than 22,000 EUR of annual income
- ▶ Increased child benefits : 350 EUR

- Job loss:

- ▶ Notice period:
 - ★ Blue collar : max 112 days for more than 20 years of tenure
 - ★ White collar: 3 month per 5 years of tenure
- ▶ Unemployment benefits between 1,422 EUR and 1 090EUR for head and min. 826 EUR for non-heads
- ▶ Increased child benefits after 6 month (50 EUR max)

- Sickness:

- ▶ 65% (head) to 40% (non-head) replacement rate
- ▶ Increased child benefits after 6 month (100 EUR max)

Empirical Strategy - Identifying Assumption

- If both accidents had happened at the same time, both children would have had, on average, similar labor market outcomes.
- Any difference in initial labor market outcomes is due to the first child's change in behavior as a result of the timing of the accident.
- Timing of the shock is uncorrelated with unobserved heterogeneity.

Empirical Strategy - Covariates

- Child age at entry:
 - ▶ Children entering the labor market earlier will, all else equal, experience more shocks after entry.
- Parental age at birth and family composition.
- Current labor market conditions.

▶ More details

Challenges to Identification

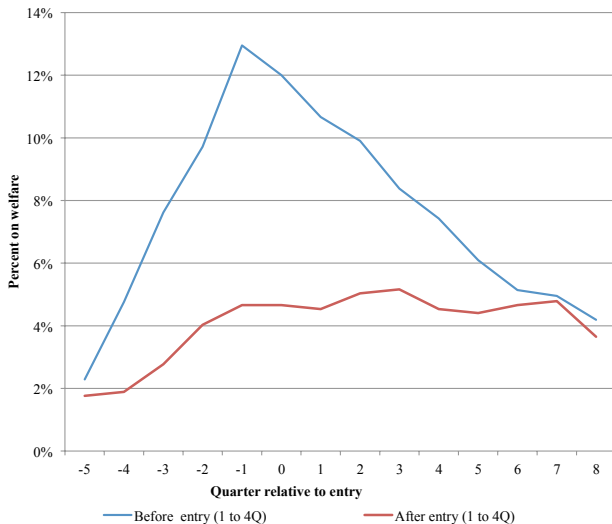
- Endogenous entry.
 - ▶ Test for it!
 - ▶ Test for robustness of results on sub-sample of most likely unaffected entrants
- Anticipation.
 - ▶ Robustness on sub-sample of likely unanticipated shocks:
 - ★ Death at work
 - ★ Unpredictable health shocks
 - ▶ Test for robustness on more distant shocks

Identifying Assumption - Balance Test

		Sickness shock			Job loss shock			Death shock		
		Before	After	Difference	Before	After	Difference	Before	After	Difference
Child										
	Female (%)	0.499 (0.500)	0.492 (0.500)	0.007 (0.013)	0.500 (0.500)	0.498 (0.500)	0.002 (0.014)	0.459 (0.499)	0.496 (0.500)	-0.037* (0.022)
	Age at entry (%)	20.911 (2.001)	20.965 (2.032)	-0.054 (0.054)	21.243 (2.067)	21.394 (2.097)	-0.152** (0.057)	21.409 (2.186)	21.418 (2.089)	-0.009 (0.094)
	Belgian (%)	0.963 (0.189)	0.963 (0.188)	-0.001 (0.005)	0.957 (0.203)	0.957 (0.203)	-0.000 (0.006)	0.963 (0.188)	0.960 (0.196)	0.004 (0.008)
	Years of education	11.993 (2.540)	11.841 (2.576)	0.152* (0.082)	12.297 (2.641)	12.397 (2.625)	-0.099 (0.090)	12.148 (2.736)	12.154 (2.725)	-0.005 (0.144)
	Higher education (%)	0.212 (0.409)	0.204 (0.403)	0.008 (0.013)	0.274 (0.446)	0.281 (0.450)	-0.007 (0.015)	0.262 (0.440)	0.249 (0.433)	0.013 (0.023)
Family										
	Single parent family (%)	0.217 (0.412)	0.210 (0.407)	0.007 (0.011)	0.154 (0.361)	0.144 (0.351)	0.010 (0.010)	0.185 (0.389)	0.168 (0.374)	0.018 (0.017)
	Father age at birth	28.589 (5.269)	28.172 (5.182)	0.417** (0.154)	28.769 (5.606)	28.883 (5.500)	-0.114 (0.162)	33.411 (8.113)	33.210 (8.038)	0.200 (0.375)
	Mother age at birth	26.003 (4.484)	25.848 (4.338)	0.156 (0.120)	26.252 (4.701)	26.399 (4.678)	-0.148 (0.131)	29.198 (5.904)	28.752 (5.844)	0.445* (0.266)
	Father suffers from shock (%)	0.431 (0.495)	0.452 (0.498)	-0.022 (0.013)	0.529 (0.499)	0.530 (0.499)	-0.000 (0.014)	0.626 (0.484)	0.676 (0.468)	-0.050** (0.021)

Note. The sample for each shock is composed of individuals getting a shock in the 4 quarters before entry or the 4 quarters after entry. The "before" ("after") columns present the average of each variable for individuals suffering from the shock before (after) entry. The "difference" column reports the coefficient on a dummy for "before" shocks in a regression including both types. Standard deviations (errors) are presented in parenthesis for averages (differences).

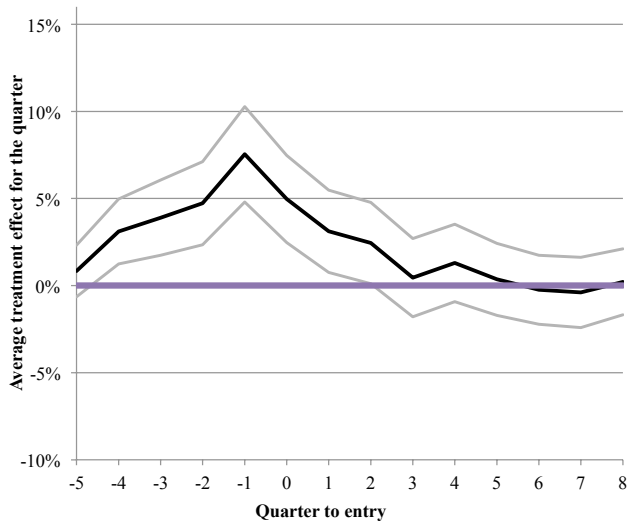
Shocks Matter: Welfare after Death Shock



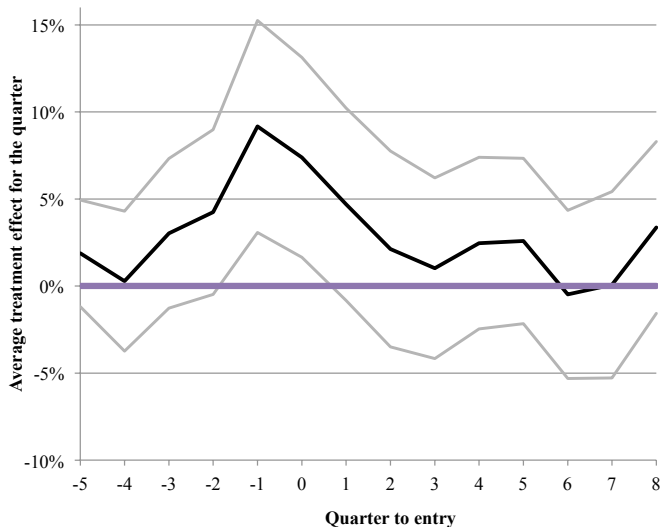
Empirical Strategy - Implementation

- Estimating sample:
 - ▶ Entrants whose parents experience shock around entry
 - ▶ Entrants whose parents experience no shock around entry
- Regress a given market outcome Y_{i,t_e} for individual i who enters the labor market at time t_e on:
 - ▶ Dummy for suffering from the shock before entry (treatment effect)
 - ▶ Dummy for suffering from a shock before or after entry (ctl for unobserved heterogeneity)
 - ▶ Dummies for time of entry and age at entry (for each sex)
 - ▶ Parental age at birth
 - ▶ Type of household
 - ▶ Dummies for the time (quarter-year) of shock

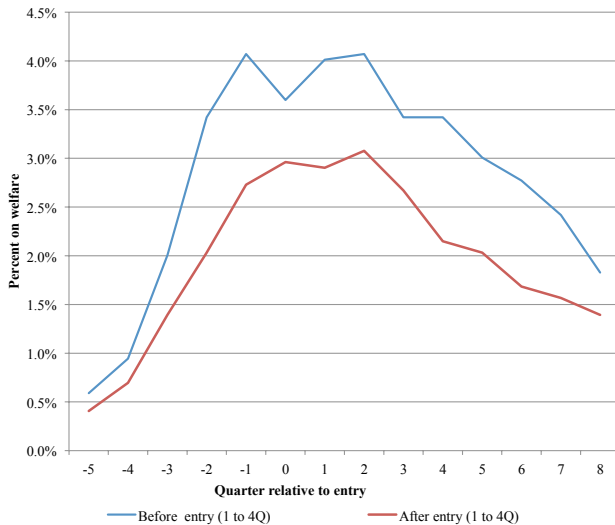
Welfare after Death Shock : Timing Estimator - Main Controls



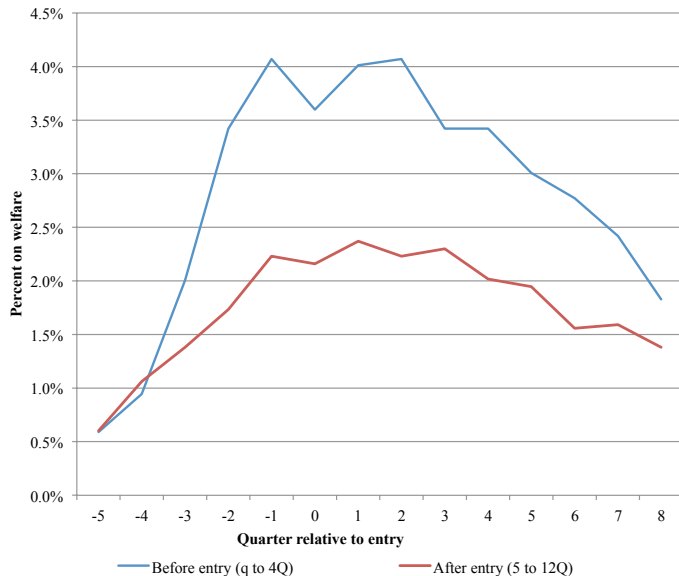
Welfare after Death Shock : Timing Estimator - Add Shock Date



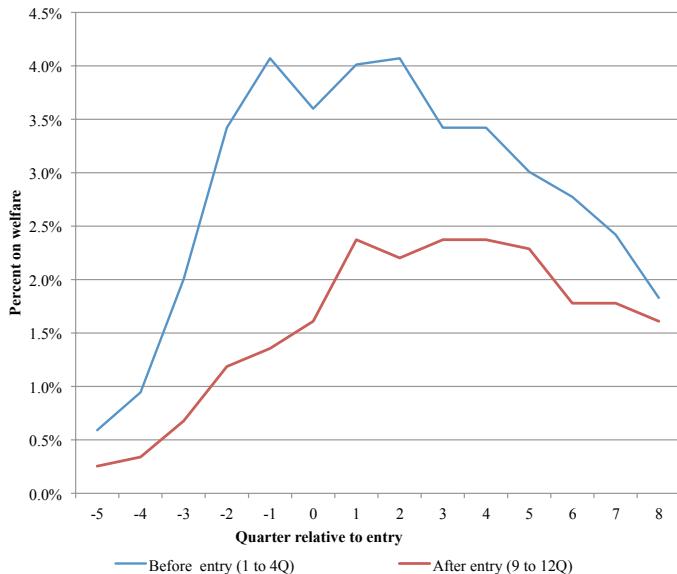
Shocks Matter: Welfare after Job Loss



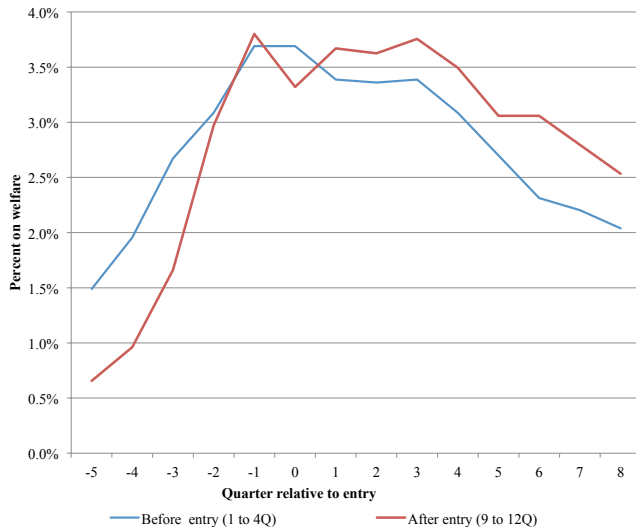
Shocks Matter: Welfare after Job Loss



Shocks Matter: Welfare after job Loss



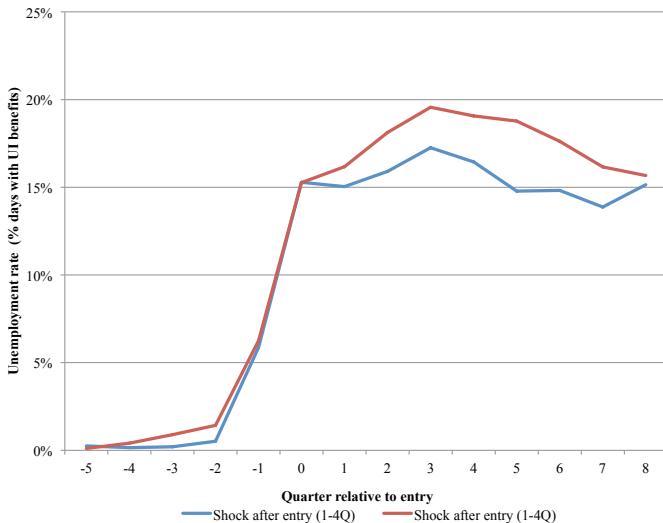
Shocks Matter: Welfare after sickness



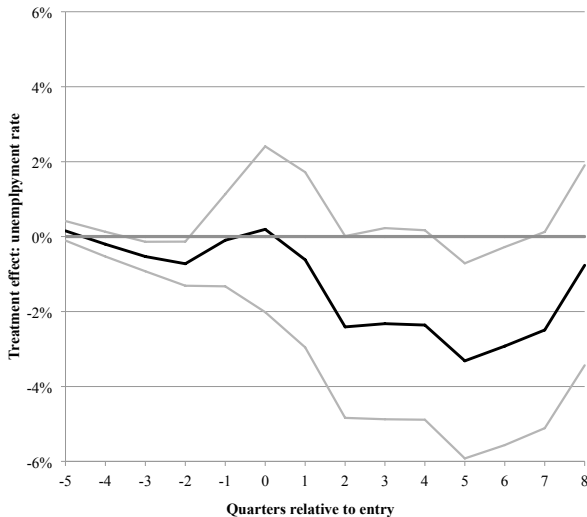
Labor Market outcomes

- Unemployment rate (% days of quarter receiving UI benefits)
- Total labor income for the quarter

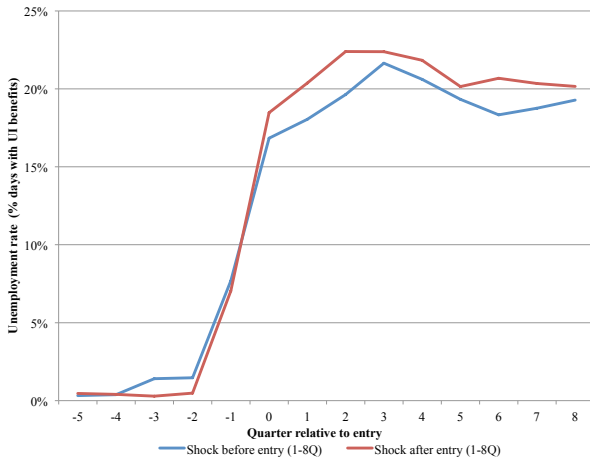
Unemployment rate: Full Time Job Loss - Averages



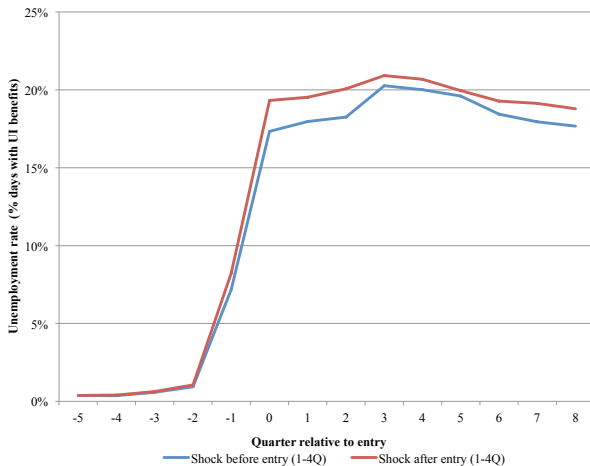
Unemployment rate: Full Time Job Loss - Treatment Effect



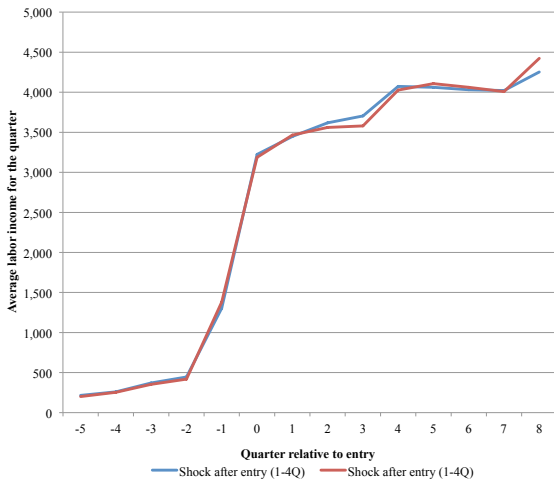
Unemployment rate: Death - Averages



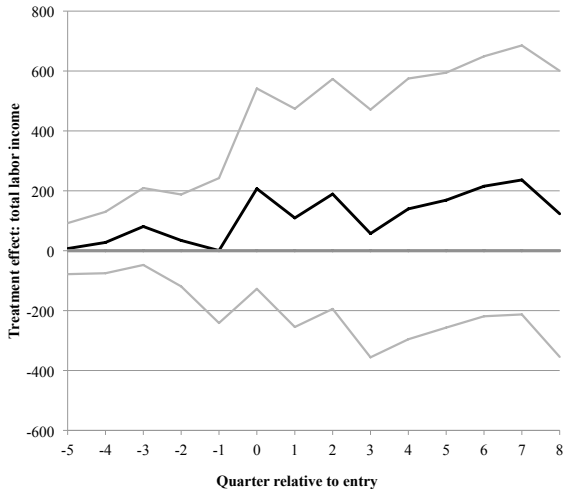
Unemployment rate: Sick- Averages



Quarterly labor income: Full Time Job Loss - Averages



Quarterly labor income: Full Time Job Loss - Treatment Effect



The way forward

- Fix the data!
- Estimate effect on date of entry
- Heterogeneity of treatment effect.
- Long(er) term outcomes
- Other ideas are welcome!

Back up slide

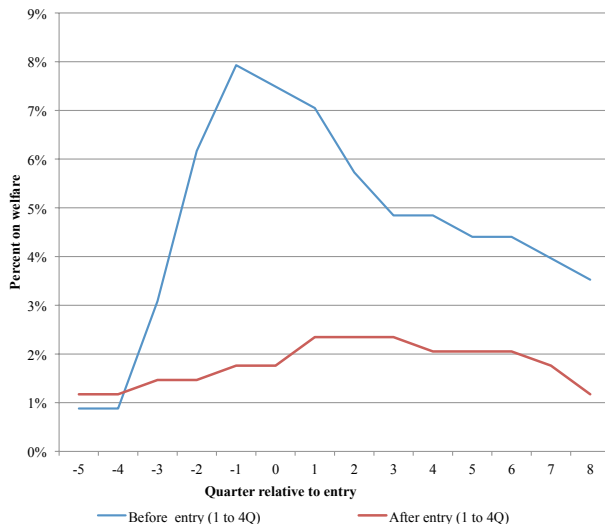
Institutional Set-up : Details

- Before 18 years old:
 - ▶ Compulsory schooling
 - ▶ Unconditional right to child benefits: 1st child = 90EUR, 2d child=167EUR, 3d child=250EUR
- After 18:
 - ▶ Child benefits paid while following full time study (incl. summer) until 25yo if less then 240h worked per quarter
 - ▶ When stop studying and look for work:
 - ★ Waiting period: No unemployment benefits for 9 month (6 if stops before 18yo)
 - ★ But child benefits paid during that time
 - ★ After 9 (6) month, eligible for flat UI benefits at minimum rates : 417EUR if lives with parents
 - ★ Condition for child benefits during 9 month: register with job placement agency
 - ▶ When finds a job during waiting period: child benefits payment stop for each month with more than 520EUR a month

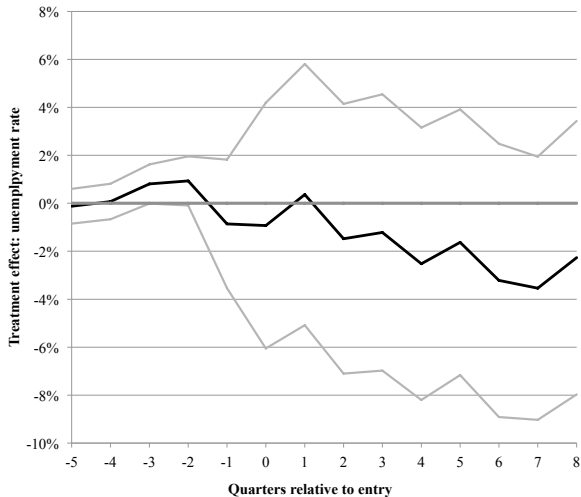
Empirical Strategy - Covariates

- Child age at entry:
 - ▶ Children entering the labor market earlier will, all else equal, experience more shocks after entry
 - ▶ Negative bias on labor market outcomes
- Parental age at birth and family:
 - ▶ Parental age distribution of shocks not uniform and not equal across sex
 - ▶ Children born from older parents will, on average, experience shocks at different times
 - ▶ Children born in single families with parent of a given sex will, on average, experience shocks at different times
- Current labor market conditions:
 - ▶ Unobserved heterogeneity of parents subject to shock over the business cycles
 - ▶ Limited time window: right censoring of recent shocks

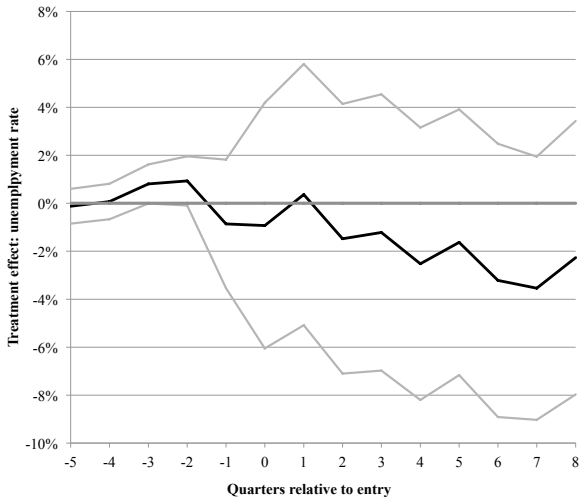
Shocks Matter: Welfare after Death Shock (Parent at Work)



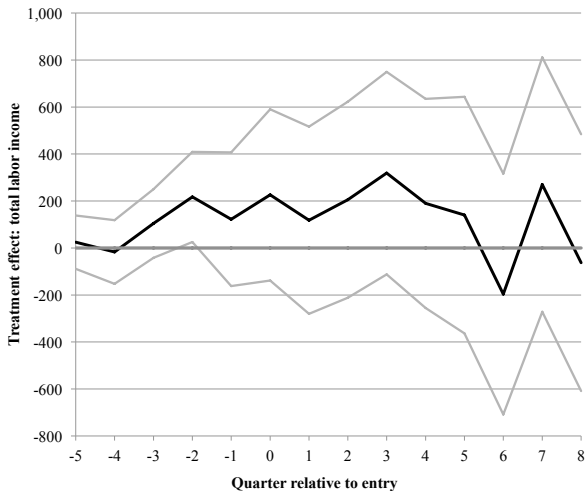
Unemployment rate: Death - Treatment Effect



Unemployment rate: Sick - Treatment Effect



Quarterly labor income: Death - Treatment Effect



Quarterly labor income: Sickness - Treatment Effect

