IFAU
Institute for Evaluation of Labour Market and Education Policy

Early interventions and disability insurance: Experience from a field experiment

Field experiments in policy evaluation

October 18 - 19, 2012

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Introduction

- Growing number of individuals on disability benefits (DB) in many OECD countries.

- Sweden is no exception; we had the second highest share of DB recipients among OECD countries in 2007 (OECD, 2009).

Disappointing results with different measures to increase the exits from the DB (cf. Autor and Duggan 2006).

→ Reduce the inflow to DB.

Introduction

More rigorous eligibility criteria emphasizing medical rather than vocational factors is most likely not politically sustainable.

Autor and Duggan (2005) suggest reducing economic incentives and Autor and Duggan (2010) suggest (i) increasing employer responsibility and (ii) *early interventions* at the *work place.*

Introduction

The idea of early interventions is also prevailing in Sweden. However most often the *early interventions are* **not** given at the workplace but offered by the Swedish Social Insurance Agency (SIA).

Here we study the effect of early interventions among individual taking use of the sickness benefits (SB).

RCT conducted by IFAU in collaboration with SIA.

Introduction

The treated (T) were given priority to interventions during a 6 weeks period whereas the control (C) group were not.

This implies that probability of getting an intervention is higher in T (prioritized) group, compared to C.

Enables us to estimate the effect of interventions for individuals who *take use* of intervention if having the opportunity *early* but *would not* if having the opportunity *LATE!*

Introduction

We estimate the effects on the occurrence of

i) Sickness benefits (SB)
ii) Unemployment
iii) Disability benefits (DB)

15 month after the experiment (LATE) and at each months up to 15 months (ITT) by taking use of detailed administrative registers. No missing obs.

Introduction

We find that early interventions – in contrast to what might be expected – increase the flow to DB by around 20%

In addition we find an increased probability to be on SB early on in a sickness absence spell

Both effects are stronger for individuals with low incentives to work and/or worse health.

Outline

1. Swedish Social Insurance
2. The experiment
3. Empirical modeling and results
4. Interpreting the result and theory
5. “Testing” theory
6. Conclusion

Swedish Institution

All workers (employed and unemployed) are covered by a public SI and DI. Most are also covered by UI.

SI and DI closely connected. Governed by the same agency, SIA, and you, basically, need a sickness absence history to qualify for DB

SI

The employer pays SB during the first 14 days (1:st day uncompensated) thereafter SIA is responsible for payments. If unemployed SIA responsible from day 2.

RR = 80% up to a cap of euro 2,500/month. Collective agreements above the cap for the first year of the sick spell

SI

Monitoring

A medical certificate is required after 7 days of absence in which the GP suggests, among others, the length and extent of the sick leave that is needed.

The SIA finally determines the right to sick leave. The request for SB is rejected in 1.5% of the inflow.

When necessary, the caseworkers (CW) are obligated to refer the individual to assessment meetings (SASSAM and AM) where the right to benefits and the need for rehabilitation measures is assessed.

DI

- An individual is entitled to DB if the working ability is reduced by at least 25% for at least 1 year.
- The individual can (1) apply and (2) the CW can *initiate* a shift from SB to DB.
- RR 64 % up to a ceiling. Collectively insurances top up the compensation, however less generous than in the SI

DI

- Monitoring
- The granting of DB starts with that the SIA CW prepares a portfolio with the necessary documentation together with a recommendation of what the outcome should be.
- Based on this and the assessment of a specialist, a “decision maker” at SIA finally makes the decision.

UI

- To receive *any* compensation, the unemployed must be at least 20 years of age and fulfill, i) *the basic conditions*, and ii) *the work condition* (employed 6 out of the last 12 months preceding unemployment)
- To be eligible for the *income related compensation* you also need to have been a member of an UI fund for at least 12 months the 1:st day of unemployment.

UI

- After an initial 7-day waiting period, the benefits is limited to 300 days (an additional 300-days can be obtained).
- RR = 80% (day 1-200) and 70% (day 201 - 300) up to the cap of approx euro 2,040/month. Agreement-based insurance schemes could top up. Less generous and more heterogeneous than in SI and DI.

Summary: generosity SI > DI > UI

The experiment(s)

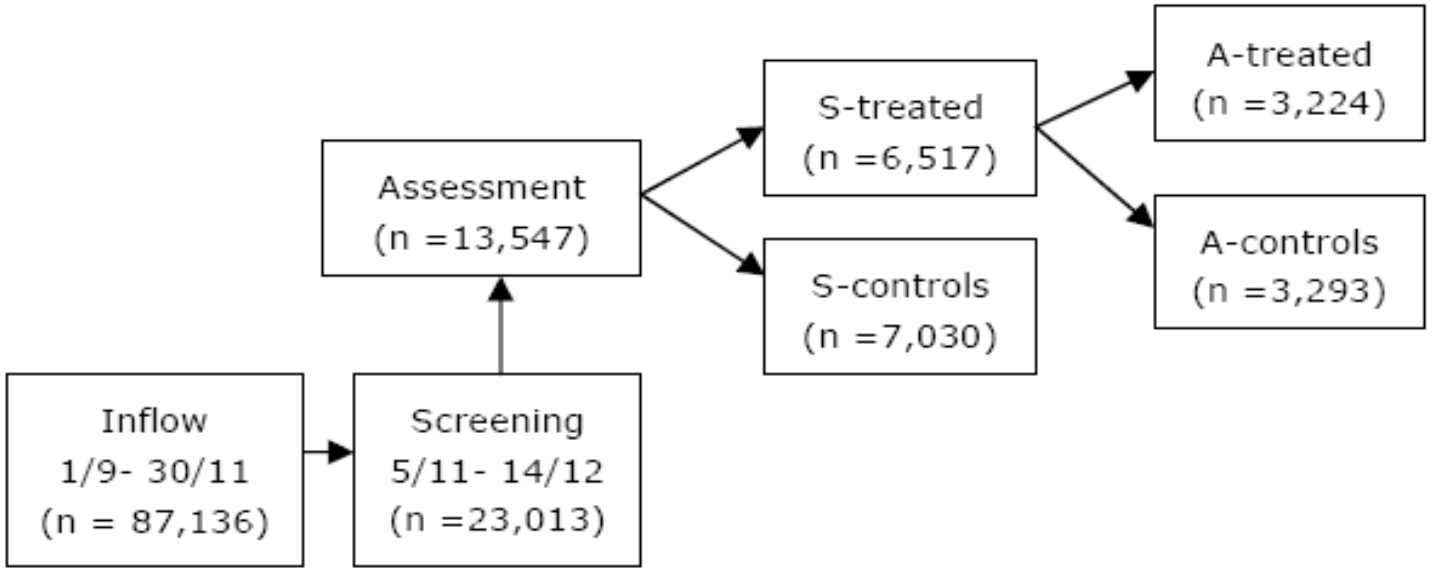

Figure 1. The experiment. S-treated (SASSAM) (born even date) and A-treated (AM) (born even date and even month)

Table 1 Descriptive statistics for the experimental population (all spells initiated 1 September - 30 November 2007), averages.

	S-treated	S-control	t-test	A-treated	A-control	t-test
Women	0.60	0.58	2.66	0.61	0.60	0.95
Age	44.3	44.7	-2.23	44.3	44.2	0.35
	(0.14)	(0.14)		(0.20)	(0.20)	
Compulsory	0.19	0.19	-1.04	0.18	0.19	-1.06
Upper secondary	0.52	0.53	-0.78	0.53	0.52	0.87
University	0.29	0.28	1.70	0.29	0.29	0.03
Sick-leave history (days)[a]	228 (4.26)	217 (4.03)	2.01	233 (6.18)	224 (5.87)	1.00
Unemployment history (days)[b]	493 (9.01)	493 (8.67)	0.01	492 (12.76)	495 (12.72)	-0.19
Disability benefit history (days)[c]	0.53 (0.01)	0.53 (0.01)	1.17	0.54 (0.01)	0.52 (0.01)	1.78
Unemployed	0.12	0.11	0.27	0.11	0.12	-0.31
SASSAM[d]	0.44	0.28	20.33	0.45	0.43	1.58
AM[d]	0.27	0.23	5.62	0.29	0.25	3.89
Share		0.481	1.12		0.495	0.09
N	6,517	7,030		3,224	3,293	

Empirical modeling and results…

1. We start by using the experiment as an instrument an estimate the effect of SASSAM and AM 15 month after the assignment using 2SLS
2. Then we *estimate ITT effects* on the odds of being (i) on SB, (ii) unemployed, and (iiii) receiving DB, at the end of month 1,2,3,…,15, after the experiment (i.e. Dec. 2007 – Feb. 2009).

All results here are when we control for covariates (X). (Same results without X.)

Empirical modeling and results (LATE)

Table 2. Effects on the sickness benefits (SB), unemployment (U) and disability benefits (DB) after 15 months, in February 2009.

		SB	U	DB
	(1)	(2)	(3)	(4)
Sassam				
First step (effect on treatment)	0.164***	-	-	-
	(0.008)			
Reduced form or ITT	-	0.002	-0.001	0.008**
		(0.007)	(0.001)	(0.004)
LATE	-	0.013	-0.003	0.051**
		(0.044)	(0.035)	(0.022)
AM				
First step (effect on treatment)	0.044***	-	-	-
	(0.011)			
Reduced form or ITT	-	-0.010	-0.010	0.003
		(0.011)	(0.008)	(0.005)
LATE	-	-0.238	-0.217	0.059
		(0.259)	(0.197)	(0.121)

Empirical results logit

No statistically significant effects from being given priority to AM (see table 4)

However statistically significant effects from being given priority to SASSAM on:

i) SB (+)

ii) DB (+)

.

Results

Table 3. Effects (odds ratio) of being prioritized to *SASSAM* on *sickness-absence* and prevalence for T and C

	Sickness absence (A)			
	Effect		Prevalence	
	Odds rat	*St.err*	*Control*	*Treated*
Dec -07	1.031	(0.047)	0.827	0.834
Jan -08	1.066	(0.038)*	0.686	0.702
Feb -08	1.098	(0.036)***	0.604	0.628
Mar -08	1.061	(0.035)*	0.534	0.552
Apr -08	1.016	(0.035)	0.491	0.498
May -08	1.044	(0.035)	0.439	0.452
Jun -08	1.060	(0.036)	0.387	0.403
Jul -08	1.036	(0.037)	0.348	0.358
Aug -08	1.040	(0.037)	0.332	0.344
Sep -08	1.013	(0.038)	0.321	0.327
Oct -08	1.018	(0.038)	0.307	0.313
Nov -08	1.040	(0.038)	0.290	0.301
Dec -08	1.024	(0.039)	0.272	0.280
Jan -09	1.034	(0.040)	0.249	0.257
Feb -09	1.013	(0.041)	0.240	0.246

Results

Table 3. Effects (odds ratio) of being prioritized to *SASSAM* on receiving *disability benefit* and prevalence for T and C

	Disability benefit (C)			
	Estimate		Prevalence	
	Odds ratio	*St. err*	*Control*	*Treated*
Dec -07	--	--	0.000	0.001
Jan -08	0.628	(0.545)	0.001	0.001
Feb -08	0.904	(0.383)	0.002	0.002
Mar -08	0.974	(0.301)	0.003	0.004
Apr -08	1.229	(0.229)	0.005	0.007
May -08	1.130	(0.187)	0.008	0.010
Jun -08	1.196	(0.139)	0.015	0.018
Jul -08	1.232	(0.105)**	0.027	0.033
Aug -08	1.217	(0.102)*	0.029	0.035
Sep -08	1.238	(0.099)**	0.031	0.037
Oct -08	1.214	(0.096)**	0.033	0.040
Nov -08	1.188	(0.092)*	0.037	0.043
Dec -08	1.205	(0.090)**	0.039	0.046
Jan -09	1.180	(0.087)*	0.042	0.048
Feb -09	1.222	(0.085)**	0.044	0.052

How should we understand the results?

- No strong support for positive or negative effects from vocational rehabilitation programs in the empirical literature.
  - Active measures could however give the sick absent individual an identity as being ill, which could prolong sickness absence (Parsons, 1978)
- Evidence of ”threat effects” from monitoring in SB.
  - This would however work in the other direction (i.e. reduction of SB and DB)
    - Unfortunately we lack the date receiving the call to SASSAM.

How should we understand the results?

The results are however in lines with the findings from an evaluation (RCT) of the Job Retention and Rehabilitation Pilot (JRRP) (cf. Farrell, Nice, Lewis and Sainsbury (2006)).

People with mental health conditions (1/3 of the sample) had a lower rate of return to work than those who did not use the service.

How should we understand the results?

Taylor and Lewis (2008) present 3 explanations for the unexpected result.

The JRPP

1. focused too much on returning to the old employer,
2. encouraged individuals in waiting for a more complete health recovery and
3. discouraged own initiatives.

How should we understand the results?

1 year after the experiment only 14% (T = 1) and 12% (T=0) had received rehabilitation. → Hard to believe that the results found here is driven by any of these factors.

However factors (ii) and (iii) are both related to changed incentives or moral hazard problem with the return to job strategy. We believe this could be relevant in our setting.

→ Theory and empirical test

Theoretical framework

1. Three states: *Work*, *SB* and *DB* all initially in *SB* (*Work* and *DB* assumed to be absorbing).
2. Individuals are heterogeneous w.r.t. (un)health *h* and/or wage
3. If an individual don't want to work, (s)he prefers *SB* to *DB*
4. *h* not observed by CW but θ are potentially observed.
5. CW decision of *SB* and *DB* are based on θ. Higher θ increase the hazard to *DB* and reduces the outflow to *Work*.

Predictions from the model

As a response to the early intervention, individuals

- with low incentives to return to work (low income or bad health) signal worse health which will create a looking in effect in sickness benefits and later on increase the outflow to DB.
- with higher incentives to work (high income and/or good health) the effects of the increased screening increase the outflow to work.

Predictions (cont)

- Most unemployed have economic incentives to take use of *SB*. It is also highly likely that the unemployed individuals have worse health than employed individuals. This allow us to test the theory.

Effects for unemployed and employed

	Sickness absence (A)			
	Employed		Unemployed	
	Odds	*St.err*	*Odds*	*St.err*
Dec -07	1.020	(0.053)	1.151	(0.138)
Jan -08	1.038	(0.042)	1.193	(0.115)
Feb -08	1.084	(0.040)**	1.142	(0.110)
Mar -08	1.023	(0.039)	1.370	(0.108)***
Apr -08	0.992	(0.039)	1.203	(0.108)*
May -08	1.015	(0.039)	1.267	(0.108)**
Jun -08	1.039	(0.040)	1.246	(0.108)**
Jul -08	1.012	(0.041)	1.188	(0.109)
Aug -08	1.019	(0.041)	1.217	(0.109)*
Sep -08	0.982	(0.042)	1.208	(0.111)*
Oct -08	0.987	(0.042)	1.270	(0.111)**
Nov -08	1.023	(0.043)	1.171	(0.112)
Dec -08	1.011	(0.044)	1.184	(0.113)
Jan -09	1.027	(0.045)	1.162	(0.114)
Feb -09	1.009	(0.046)	1.103	(0.115)

	Disability benefit (C)		
Employed		Unemployed	
Odds	*St.err*	*Odds*	*St.err*
11.043	(1.781)	-	-
3.752	(1.091)	-	-
2.634	(0.577)	0.351	(1.112)
1.503	(0.421)	0.611	(0.703)
1.470	(0.297)	1.223	(0.465)
1.294	(0.229)	1.076	(0.393)
1.291	(0.170)	1.568	(0.292)
1.223	(0.123)*	1.765	(0.236)**
1.224	(0.120)*	1.686	(0.228)**
1.267	(0.116)**	1.562	(0.219)**
1.232	(0.112)*	1.502	(0.215)*
1.207	(0.108)*	1.500	(0.208)*
1.244	(0.105)**	1.406	(0.201)*
1.197	(0.102)*	1.390	(0.198)*
1.253	(0.099)**	1.412	(0.193)*

Concluding remarks

- We find evidence of locking-in effects in SB and an around 20% increase in the inflow into DB from being given an intervention early.
- The effects are much larger for the unemployed.

Concluding remarks

If interest is in reducing the inflow to the DB for individuals with work capacity then the screening and monitoring of eligibility for DB should be taken in isolation from the process of assessing individuals' needs of rehabilitation.

The suggestion by Autor & Duggan of increasing employer responsibility and early intervention at the work place together with an independent screening by e.g. the SIA of eligibility of DB could be useful measures in reducing the inflow to DB, at least so in Sweden.