

Pre-analysis plan – Reducing filing costs of social benefits: Experimental evidence on employment responses

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Abstract

This experiment studies the effects of bureaucracy costs of social benefits on employment and part-time work. Together with the Social Insurance Institution (SII) of Finland, we set up a field experiment to analyze these effects. The introduction of the income register simplified the benefit application process when working part-time and claiming the adjusted unemployment benefits. Part-time workers no longer need to document their current earnings in the benefit application. We randomize unemployed individuals to use the new simplified benefit application before its nationwide implementation. The target group of the experiment is approximately 50,000 individuals of which 50% is randomized into the treatment and control groups. We will estimate the employment effects of this experiment using register data.

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1 Introduction

Rather little is known about the effects of various bureaucracy costs related to application and reporting requirements of social benefits on employment and part-time work. In this project, we execute a field experiment jointly with the Social Insurance Institution (SII) of Finland to study these issues. We randomize individuals who received unemployment benefits to face less bureaucracy in reporting their earnings and other information. Therefore, this experiment lowered the bureaucracy costs of participating in the job market. The treatment was implemented by the SII and it carried out before the nationwide implementation of a new Incomes Register built by the Finnish Tax Administration. The new Incomes Register made the monthly-level earnings readily available for the SII in administering social benefits.

2 Intervention

The target population of the intervention covers approximately 50,000 unemployed individuals who received unemployment benefits from the SII in November 2018. From this population, the randomly selected individuals in the treatment group (approximately 25,000 individuals) first received an email on January 9th 2019 and later also a letter, advising that they no longer need to report their earnings from part-time employment to the SII when applying for adjusted unemployment benefits, as the SII would receive this information directly from the new Incomes Register from the beginning of 2019 onward. The randomly selected control group did not receive any such additional information. The Income Register was implemented nationwide for all social security benefits from March 2019 onward.

3 Outcomes

Our primary outcome is labor income measured by the sum earnings during the experiment (from 1st January 2019 to 31th March 2019). This outcome variable is based on bimonthly earnings register data. In case we do not obtain permission to use earnings register data in this study, we define an alternative primary outcome. The alternative primary outcome is the use of adjusted unemployment benefits which is defined as 0 for those individuals who do not received adjusted unemployment benefits and 1 for those who receive adjusted benefits during the experiment.

The sum of earnings measures the total labor productivity and it provides a con-

tinuous measure of employment. It captures the changes in the hours worked and the transitions from unemployment and partial employment to full-time employment. The alternative primary outcome is informative only on transitions from unemployment to partial employment but does not capture transitions to full-time employment. Thus, the limitation of this outcome is that it takes value 0 for individuals who receive full-time unemployment benefits and who exit the unemployment benefits regardless of the exit state.

The secondary outcomes measure income and benefit use of the individuals. The list of secondary outcomes:

1. Taxable income during the experiment (measured by the observed earnings and social benefits in the analysis data).
2. The use of unemployment benefits during the experiment.
3. The use of other social benefits during the experiment.

4 Experimental design

The target population was defined by the SII based on the recommendations of our research group. The target population includes those who have received SII unemployment benefits in November 2018. Older recipients of labor market support were excluded due to their low propensity to use the adjusted unemployment benefits. The target population was defined based on their benefit use in November using the following criteria:

- All recipients of the unemployment allowance
- The recipients of labor market support between 20 to 39 years of age
- Resident in mainland Finland (excludes Ahvenanmaa islands)
- Exclude recipients of income assistance
- Exclude those who have not applied benefits using SII web services or who have not provided an e-mail address to the SII

Using these criteria, the target population consisted of around 50,000 individuals. Simple random sampling was used to sample 50% of the target population as a treatment group. The remaining 50% of the target population is used as a control group. The SII conducted randomization on December 13th 2018.

We analyzed the sample size prior to the experiment with the following parameters for the sample population: significance level of 5%, power of rejecting null hypothesis of 80% and effect size of 1 percentage point increase in receiving adjusted unemployment benefits in the SII data – as we did not have data available for our primary outcomes such as monthly earnings. The average share of individual receiving this benefit in the data was 0.145 with standard deviation of 0.352 in November 2017 – data period that was available for us when completing the power calculations. With these sample statistics and decisions, our power calculations indicated that we need to have a sample size of 19,447 per group.

5 Balance

The initial sample characteristics provided by the SII are very well balanced in terms of the number of observations in the control and treatment groups, see Table 1 below. The most right column reports the p-values by treatment status and characteristics. This shows that the randomization was executed successfully.

When we obtain the analysis data, our plan is to implement following balance tests for group averages of treatment and control means using the data from the time of the randomization November 2018. We will examine: the monthly amount of adjusted unemployment benefits, a dummy of whether or not an individual receives adjusted unemployment benefits, employment status (employed/unemployed), monthly earnings (if available), annual earnings, labor market history, the monthly amount of labor market subsidy, the monthly amount of housing allowance and other individual-level benefits received.

6 Econometric analysis

We estimate the following models for all outcomes using OLS:

$$Y_i = \alpha + \delta Tr_i + \varepsilon_i$$

$$Y_i = \alpha + X_i' \beta + \delta Tr_i + \varepsilon_i,$$

where Y_i is the outcome variable, Tr_i is the treatment indicator, X_i is a vector of observed characteristics, and ε_i is the error term. In cases where the outcome variable

Table 1: Balance statistics. Background characteristics for the analysis groups.

		Treatment		Control		All	
		Share	%	Share	%	No. obs.	p-value
		(%)	of	(%)	of		
			all		all		
Regions	Southern	50,1	0,123	49,9	0,123	6,162	0.317
	Eastern	50,1	0,106	49,9	0,106	5,287	
	Western	49,9	0,365	50,1	0,367	18,217	
	Northern	49,9	0,145	50,1	0,146	7,246	
	Capital	50,2	0,259	49,8	0,257	12,851	
	Unknown	50,9	0,001	49,1	0,001	55	
Language	Swedish	48,6	0,023	51,4	0,024	1,170	0.515
	Finnish	50,0	0,977	50,0	0,976	48,648	
Marital status	Single	49,9	0,755	50,1	0,757	37,656	0.699
	Married	50,2	0,245	49,8	0,243	12,162	
Benefit type	LM support	50,2	0,720	49,8	0,714	35,706	0.740
	Basic allowance	49,5	0,280	50,5	0,286	14,112	
Age	17–29	49,9	0,481	50,1	0,482	23,995	0.565
	30–39	50,2	0,433	49,8	0,429	21,478	
	40–	49,3	0,086	50,7	0,089	4,345	
Gender	Male	50,1	0,481	49,9	0,480	23,925	0.975
	Female	49,9	0,519	50,1	0,520	25,893	
Total						49,818	

Note: The differences between the analysis groups are tested using χ^2 -test. LM support is the labour market support.

is binary, we use heteroscedasticity robust standard errors. Our coefficient of interest is δ . Our preferred specification is the model without any control variables. The control variables introduced in the secondary model are: age, gender, language, family type, region of residence, income and earnings in 2018, unemployment benefits in 2018, housing allowance in 2018. Continuous control variables are categorized when included in the model.

7 Data

The evaluation of the experiment will be based on administrative register data. Our main source of data is from the income register developed and administered by the Finnish Tax Administration, including individual- and bimonthly-level information on earnings. However, at the time of writing this document, it is still unclear whether or not we can use these data in this study. If not, our main data will be the data from the SII including all recipients of unemployment benefits for the randomized treatment and control groups.

We have requested access to following datasets from the SII for the target population for the period January 2016 – April 2019:

- Payments of SII unemployment benefits
- Unemployment benefit applications and decisions
- Payments of housing allowance
- Housing allowance applications and decisions
- Payments of SII income assistance, sickness benefits and student benefits
- Contacts to SII customer service and applications received by the SII
- Basic demographics of benefit recipients
- Annual tax records and the records of the new income tax register

As of June 28th 2019, we have received a permit to use these data except for the income register. The datasets have not yet been delivered by the SII.

8 Timeline

- Date of starting the project: June 25, 2018.

- SII's final decision to run the experiment: November 11, 2018.
- Date of completing power calculations: November 20, 2018.
- Date of completing the randomization: December 13, 2018.
- Date of sending out the emails and letters: emails January 9, 2019, for letters, the date is to be confirmed by the SII.
- Date of receiving the data: the current estimate for the first data delivery is early June, 2019 (June 28th 2019 we have not yet received the data from the SII).