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MSc
Economics

Prolonged job training programs
A research note *

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December 23, 2018

Abstract

The aim of this paper is to suggest and discuss possible research designs in order to evaluate the effects of allowing public employment agencies to offer prolonged job training programs to those in risk of long-term unemployment. This policy was tested in two Danish municipalities from 2014-2015.

A difference-in-differences design has potential to evaluate these experiments but has inbuild weaknesses due to selection into treatment and potential different pre-treatment trends between municipalities.

Keywords Job training programs • Employment services • Difference-in-differences • Selection-bias

*I am thankful to Daniel Albalate del Sol for his teaching of the course Analysis & Evaluation of Public Policies. All errors remain my own.

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1 Introduction

In Denmark there is strict regulation concerning all areas of public employment services. One such is that any job training program is not allowed to last for longer than 4 weeks in order to prevent companies from potentially taking advantage of unemployed persons as free labor while only postponing the actual job searching process. While there might be some validity to this concern in general, there could be potential benefits in prolonged job training programs for those who are long-term unemployed or at risk of becoming long-term unemployment.

Experiments in two Danish municipalities tested this hypothesis during the period 2014-2015. In section 2 I outline the experimental design and the theory behind is as well as the available data. In section 3 a Difference-in-Differences design is suggested and possible sources of bias and solutions to these are discussed before concluding in section 4.

2 Background

2.1 A "free municipality" experiment

As a part of round 1 of the Danish "free municipality" program two municipalities were exempted from the 4 weeks limit on the length of job training programs throughout 2014 and 2015. The motivation was to test the hypothesis that unemployed who are long-term unemployed or assessed to be in the risk of becoming long-term employed will get into lasting employment sooner through prolonged job training programs.

The means of the program was to give more agency back to, well, the agency. By reducing restrictions the public employment agencies gained increased flexibility to design individual job training programs substantiated through individual assessment.

There were a few differences in the design of the experiment between the two municipalities. The Municipality of Fredericia were able to offer up job training programs for up to 26 weeks but only in growth-companies with further potential of creating new jobs and growth.[1] In the Municipality of Odense job training were offered for up to 13 weeks.[2] Not only were public companies also included in the scope but they were the only ones that had to meet certain criteria besides from the individual employment agent's assessment of relevance and job potential.

In common for the two municipalities is that the intended target group are only those in long-term unemployed or those who are assessed as being at risk of long-term unemployment. Being long-term unemployed is a national definition according to not having

[1] Fredericia as a Free Municipality 2012-2015: Summarizing report to the city council (in Danish).
[2] Municipality of Odense: Evaluation of the Employment and Social Department's free municipality experiment (in Danish).

performed any working hours in an ordinary job within the past 12 months. On the contrary, the latter criteria is entirely up to individual assessment, however, the outlined strategies for that assessment differed a bit in wording though they arguably might not in practice. In Frederica special attention was to be payed to those who were above 50 years old or those with a long university degree who had been unemployed for at least 13 weeks. In Odense the main reasonings were focused around recently having finished a qualifying education; those looking to change towards a different trade; or having no labor market experience.

2.2 Anticipated effects of prolonged job training programs

The theory that motivates the experiment is that loosening time restriction on job training programs [policy] would lead to individually designed job training programs that are prolonged only when individuals are likely to benefit from it [activity]. The prolonged programs should secure sufficient time to obtain qualifications and use them [initial outcome] letting the unemployed more credibly be able to document obtained qualifications in general and especially show the to the company in which they are in training [intermediate outcome] leading to sooner getting into ordinary employment or education [long-term outcome].

If the final effect is rejected each step of the theory should be investigated to find out where the assumption or implementation is off track.

2.3 National and municipal level databases

The experiment is only relevant for those who had been assured in order to receive the improved unemployment benefits named "dagpenge", a security scheme requiring a certain amount of performed working hours in an ordinary job within the past two years as well as paying membership to a an security unit, a so called "a-kasse". That is, prolonged job training programs were already available for those not eligible for "dagpenge" as this group is generally regarded to have a more loose connection to the job market.

Employment agencies in all municipalities has as a mandatory part of their procedure to assess the job readiness of unemployed. If placed in match-group 1 an individual is regarded job ready as opposed to match-group 2 as those ready to receive training or group 3 as in those who are temporarily passive. Only match-group 1 has been targeted by the experiment.

The official evaluation was carried out for each municipality separately using the municipal database following the individuals of the program to compare the average length of unemployment among the treated compliers (those accomplishing more than 4 weeks of job training) to the average length of unemployment in the total group of assured job ready unemployed in the municipality based on aggregated level data from

jobindsats.dk where a series of refinements can be added for group selection. The discussion of evaluation design will in this paper revolve around this source of aggregated data. However, a more in-depth analysis could be performed using the weekly observations in the database for unemployment benefit receivers, "DREAM". Moreover, this can be merged with background variables from other administrative registries for micro econometric analysis.

When the experiments started in 2014 Odense was the 4th most populace municipality in Denmark with 195,900 inhabitants and with 50,400 Fredericia was the 36th most populace of all 98 Danish municipalities.[3] For Odense the statistics used for the official evaluation is showed in table 1

Table 1: Total and treated group in the Municipality of Odense

Group / measure	2013	2014	2015
Total: Assured job-ready unemployed			
Observations	14,359	12,483	12,447
Share of full-time unemployed wrt. population	3.7%	2.9%	2,8%
Average length of unemployment (weeks)	17.1	16.7	15.8
Treated: Completing more than 4 weeks of job training			
Observations	0	5,455	4,861
Average length of unemployment (weeks)	N/A	19.9	19.3

Source: Jobindsats.dk and municipal database for Odense.

3 Empirical strategy

The official evaluation of the program was positive though the argument is only constructed by three elements: 1) only based on the results shown in table 1 it is regarded a positive results that the average length of unemployment for those taking the prolonged job training program is only a little above the total group that also includes those at little to no risk of becoming long-term unemployed. 2) interviews with involved companies showed very positive feedback. 3) "the criteria for the scheme benefits those changing trade, newly unemployed and those assessed to be in risk of long-term unemployment".

The same evaluation was carried out by the same consultancy agency for both municipalities separately and no comparison to the trends in other municipalities were taken into account. Nonetheless the National Union of Municipalities as well the Ministry of Social and Internal Affairs adopted the conclusion and recommendation to continue the scheme in the municipalities and work towards implementing a similar policy through national reform as well.[4] However, in the 2nd round of Free Municipality Experiments a different consultancy bureau is in charge of the monitoring and evaluation and there is improved focus on experiment design such that effect measurement is possible.[5]

[3] Statistics Denmark: Total inhabitants at 1st of January.
[4] Main report: Final evaluation of the free municipality scheme (in Danish).
[5] Evaluation of Free Municipality Experiments 2016-2020 (in Danish).

3.1 Aggregate level difference-in-differences

The within-municipality comparison between treated and untreated job-ready unemployed in table 1 does not surprisingly show that those who have attended a more than 4 weeks job training program does *not* get into lasting employment sooner. This should be expected to be due to selection bias, as the employment agencies suggest the special program to those most likely to become or stay as long-term unemployed.

Instead we could regard the whole group of job-ready unemployed within each municipality as treated by having the conditional option of prolonged job-training. Thus, we can use difference-in-differences design to compare the development of employment among the treated as opposed to the remaining 96 untreated municipalities (not including the other municipality with a similar but slightly different experiment). This would allow us compare the effects of each of the two different implementations of the experiment. Also the two municipalities could be pooled together and compared to the remaining municipalities.

If tested and found that there is indeed not similar pre-treatment period trends in long-term unemployment for each of the two treated and the group of untreated municipalities a solution could be to include a series of municipality level controls. This would though imply actual difference-in-differences estimation using econometrics and not just comparison of different aggregates. As only two municipalities are in the control group the standard error of the treatment dummy is likely to be so big that the estimate is insignificant. An alternative is to use synthetic control methods to for each of the two treated municipalities build a synthetic counter-factual municipality with similar pre-level trends and characteristics from the remaining 96 municipalities.

3.2 Micro level IV regression

Using micro data the data access and cleaning would be a lot more time consuming without necessarily improving the validity. That is, as treatment is based on individual assessment, standard Regression in Discontinuity Design (RDD) cannot be used. Though, we could use IV-regression and fuzzy RDD to identify the likelihood of treatment based on background characteristics and thus compare how soon individuals get into lasting employment compared to individuals with similar characteristics in non-treated municipalities. Here we would not only be able to use municipal level controls but also rich individual controls.

4 Conclusion

The Danish "free municipalities" is a very interesting opportunity for accessing whether it would be efficient to loosen the regulation about the length of job training programs. Though experimental design Allowing two municipalities to loosen the restriction to 13 and 26 week respectively is probably the best feasible way to investigate whether there

are decreasing or increasing returns to the length of the program. The experimental design is suboptimal for unbiased effect assessment as the optimal design would be to randomly draw unemployed to be eligible for different types of treatment within all municipalities. However, this is highly unrealistic due to the costly implementation and questionable moral aspect in individuals randomly being much worse off than a next door fellow citizen.

However difference-in-differences design could allow for an approximate estimate, possibly using municipal level controls if pre treatment period trends are too different. Furthermore IV based fuzzy Regressions in Discontinuity Design could be used for an extensive evaluation using micro data from combining administrative registries.