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Fighting persistent regional unemployment – The Paltamo Full Employment experiment

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ABSTRACT:

This study evaluates a regional full employment initiative using the synthetic control method introduced by Abadie and Gardeazabal (2003). The aim of the Paltamo Full Employment (PFE) experiment launched in 2009 is to reverse the trend of high and persistent unemployment in contracting regions. The basic idea behind the experiment is to collect all unemployment related expenditures together and use them in employing all unemployed persons. According to our results, the PFE-experiment has managed to lower the unemployment rate in Paltamo by almost 10 percentage points in just two years time during an era of global financial crisis. The costs of this remarkable drop in unemployment were 3.4 million Euros in 2010. The results show that one fifth of this amount is covered by reduced expenditures on unemployment allowances and housing allowances.

JEL: **R23, R28, J68**

Keywords: persistent unemployment, regional experiment, synthetic control

1. Introduction

Regional disparities in unemployment are large in many countries (OECD 2005). They are also stubbornly persistent regardless of countless policy initiatives and subsidies directed to depressed regions. This is also true in Finland. Pehkonen and Tervo (1998) report the persistence of regional disparities in unemployment in Finland 1975–1993. Since then, globalisation, ageing population and selective migration from periphery to few core regions has further aggravated regional disparities. Traditionally, Finland has targeted active labour market programmes to high unemployment regions (OECD 2005, Hämäläinen, 2002), to dampen regional differences in unemployment. Regardless of this, Finland ranks only mediocre among other OECD countries. As traditional policies have failed to reduce regional disparities, there has been an on-going seek for new initiatives. In the year 2008 a decision was made to experiment one particularly radical initiative in the municipality of Paltamo.

Paltamo situates in Northern-Finland in the Kainuu region that has suffered from high unemployment for decades. The major recession in Finland in the beginning of the 1990s raised the unemployment rate up to 26 per cent. Despite the rapid recovery of Finnish economy, the unemployment rate in Paltamo remained well above 15 per cent throughout the 2000s. High and persistent unemployment together with continuing bleak forecasts for net migration and age dependency ratio for the future led to a radical local initiative in the municipality level. They designed and implemented a new form of comprehensive active labour market (ALMP) or active social policy (ASP) experiment where the aim is to abolish unemployment altogether. This is done by employing all unemployed residents by turning all the active and passive forms of unemployment benefits and other funding into salaried employment. The Paltamo Full Employment (PFE) experiment started in 2009 and it is due to finish in 2013.

As the end of experiment is looming in two years time, the interest in evaluation results is gradually piling up. The cost-effectiveness of this employment experiment has been doubted by many policy makers and authorities, and it has become rather a common view that the experiment of this magnitude would be far too expensive to be introduced at the national level. This study aims to shed some light on this issue by evaluating some of the consequences of this unique regional active labour market experiment. In particular, we explore the impacts of the employment experiment on per capita expenditures on unemployment allowances, housing allowances and social assistance. The selection of outcome variables is mainly driven by data availability. But we believe that this does not take anything away from the fact that the employment experiment should produce savings in ex-

penditures on unemployment-related benefits if its' success is to be measured in terms of cost-benefits.

The study adopts the synthetic control method first introduced by Abadie and Gardeazabal (2003). While the effects of ALMPs are usually evaluated at the individual level comparing those participating in a programme to a carefully designed control group (see e.g. Card, et.al. (2010)), this study evaluates the economic and labour market outcomes at the aggregate level employing comparative case study methods. The synthetic control method allows us to compare the development in Paltamo before and after the large-scale experiment to optimally weighted (synthetic) counterfactual constructed from other municipalities. In addition, the method allows us to assess the statistical significance of the observed differences between the treated region and the counterfactual region.

The remainder of the paper is organised as follows. In the next section will briefly describe the labour market and institutional setting in the region as well as describe the key elements of the Paltamo experiment. Sections 3 and 4 discuss the empirical framework and the data. Section 5 discusses the evaluation result and finally, section 6 provides conclusions.

2. The Finnish institutional setting and Paltamo-model

A. Background and institutional setting

Municipalities are the smallest local level administrative unit in Finland. There are altogether 336 municipalities in the country (2010). With such a large number of municipalities and small population size (5.4 million people) many municipalities are very small – a median size municipality has less than 6 000 residents. Municipalities have a right to levy a flat-rate income tax, which is the main source of funding for local services they provide. In addition, municipalities use property tax, government grants and user fees to finance the services they are responsible. The scope of public services provided by municipalities is large including for example child care, primary and secondary education, health and social services, income support together with more technical local infrastructures (housing and planning, roads). Finnish municipalities have thus a large responsibility of providing every-day services for their residents.

Labour market policy in Finland is governed at the central government level. The Ministry of Employment and the Economy is in charge of public employment services and active labour market programmes as well as regional development. Local public employment service offices provide job

search assistance, vocational guidance and career planning together with labour market training and subsidised employment both in public and private sector. Municipalities have traditionally not been involved in the policy measures targeted at unemployed persons. In 2006, the labour market support system for the long-term unemployed changed and some financial incentives were created for municipalities to provide activation for the long-term unemployed (Tuomala 2011). This was one of the incentives for Paltamo to start its comprehensive experiment to abolish unemployment.

Paltamo is a small municipality of 4000 inhabitants in Kainuu-region in northeast Finland. Kainuu has long been characterised with low employment and high unemployment rate. Selective migration has reversed the age pyramid due to young persons acquiring education elsewhere and after graduation staying in the growing regions due to lack of job opportunities in their home district. The number of unemployed persons in Paltamo was around 300 persons, when the experiment was first designed. Almost half of the unemployed persons were only eligible for means-tested labour market subsidy which is paid for those long-term unemployed and the youth without previous work experience. The other half had an unemployment insurance benefit either as an earnings related benefit or minimum benefit, indicating that they had a work-history and unemployment spell had lasted less than 500 days.

B. The essence of Paltamo Full Employment Experiment

The experiment is implemented by Paltamo Employment Association which is administrated by the municipality, the social partners and the entrepreneurs' representative. All registered unemployed persons are first directed to contact a Job Club. The Job Club is organised 10 times a year for 12 participants each time. It lasts 7–20 days and it can be seen as an orientation phase. The Job Club includes the same job search assistance services which are provided by all public employment offices to all unemployed persons, but it also includes some PFE-specific parts. The aim in the Job Club is first to clarify the aim and the functioning of the PFE-model. This is also the time when the individual activation plans start to form. In addition, the individual benefits are assessed and the corresponding wage for the subsidised employment phase is calculated. The wage is set to always exceed the benefits. The individuals are also given guidance on how the wage together with the tax deductions targeted only for employed persons create a financial incentive to work. Furthermore salaried employment always brings about rights for more intensive health care services and a pension. The benefits/allowances paid during the Job Club are ordinary unemployment benefits.

The second phase takes place in Paltamo Employment House (PEH). This is a period when individual action plans are finalised and implemented. All unemployed persons entering PEH are on the payroll. In practice this means that the unemployment insurance benefit or means-tested allowance together with possible housing allowance and/or welfare benefits are withdrawn from the unemployed person and replaced with wage income. Due to different work histories and thus differing benefit levels the gross wage range is from 918 to 2260 euros a month, average being 1078 euros a month. These amounts clearly exceed the gross minimum benefits of 551 euros a month in 2011. This is due to child and activation subsidies and previous other allowances paid while unemployed (housing allowance, welfare benefit).

Since the aim is to employ all the unemployed persons, the unemployed arrive at PEH from very different circumstances and backgrounds. There are young persons with no suitable education for the labour market nor the skills required by employers. There are also long-term unemployed with and without health problems as well as recently unemployed persons from contracting industries with long work histories. Only for some participants the target is open employment, while for others it is a individually tailored training or rehabilitation programme.

The PFE-experiment is thus very varied in its contents. Some people are given quite traditional ALMPs including intensive job search assistance, career planning, labour market training and subsidised employment. The original aim was to lease personnel to local enterprises, public sector or to third sector voluntary organisations. However, due to global financial crises the severe economic conditions has kept the leasing activities at a much lower quantities than originally planned. This means, that the majority of the unemployed are working at the Paltamo Employment House. There are also some characteristics more common to active social policy programmes visible in the activities. Individual plans include health checks, tasks assessing cognitive functioning, rehabilitation, individual coaching on learning everyday life -skills. Due to lack of labour demand in the area generally and especially now during the downturn, much of the work is organised in different workshops (arts and crafts, shop, recycling, renovation, cafe and bakery etc.) within the house.

PFE-experiment is a form of active labour market programme or active social policy with some distinct characteristics which distinguish it from other activation programmes. Summarising the model is perhaps easiest by pointing out some main differences to other existing programme types. First, the aim of the PFE-experiment is to bring unemployment rate in the municipality down to zero, which means that all unemployed persons resident in Paltamo are subject to this experiment. This is in stark contrast to other active labour market programmes, which are generally targeted at

some special sub-groups of the unemployed, e.g. long-term unemployed, youth or people with disabilities or other disadvantage, and even within these subgroups only some participate. This also brings about the fact that the programme is mandatory for all.

Second novelty of the Paltamo experiment is that it gathers all the financial resources from all possible sources available for the unemployed, and convert these benefits into wages. The third main difference to other ALMPs stems from the comprehensiveness of Paltamo experiment. Since all unemployed persons are involved in the programme the aims of the activation period vary. Finally, there are no time limits in entry or exit. Normally the activation programmes have guidelines on how long the unemployment or benefit spell lasts before the activation period starts. In addition, the duration of programmes is generally limited and known to the participants. According to a comprehensive review by Card et.al. (2010) a typical ALMP is short, typically ranging from 4 to 6 months. In the case of PFE-experiment the upper limit of participation period is apparently 5 years, since no upper limit for participation has been announced.

3. Identification strategy and statistical inference

The typical evaluation problem is that we observe what happened in Paltamo during the experiment but the hypothetical case of no experiment remains unobserved. For this one needs to find a comparison point that reflects what would have happened in Paltamo provided that no employment experiment was ever introduced. Typically in case studies one either compares the treatment unit to similar units that are chosen to resemble the treatment unit or some average measure. In particular, one might want to find a comparison unit that minimizes the differences prevailing between Paltamo and the comparison unit before the actual experiment was launched. This is the idea behind the Abadie and Gardeazabal (2003) study that explores the impacts of Basque terrorism on the evolution of Basque country. They introduce the framework in which the unknown counterfactual outcome Y_{1t}^N is written as

$$Y_{1t}^N = \delta_t + \theta_t Z_i + \lambda_t \mu_i + \varepsilon_{it}. \quad (1)$$

Equation (1) relates the outcome to business cycle factors common to all regions, δ_t , regional factors that are observable for a researcher, Z_i and unobserved factors. The unobserved factors are further divided into factors that change in time, $\lambda_t \mu_i$, and the random term ε_{it} .

Let us mark Paltamo by the number 1 among altogether $K+1$ municipalities. The purpose is to find the optimal weights w^* that add up to one and manage to equilibrate the outcomes before the experiment $t < T_0$, $\Delta C_{11} = \sum_{k=2}^{K+1} w_k^* \Delta C_{k1}$, \dots $\Delta C_{1T_0-1} = \sum_{k=2}^{K+1} w_k^* \Delta C_{kT_0-1}$, as well as the observed factors related to outcomes $Z_1 = \sum_{k=2}^{K+1} w_k^* Z_k$. Abadie et al. (2010) show that the synthetic control region that is created by the use of optimal weights manages to equilibrate a large number of pre-experiment cost changes and the observed factors affecting these changes only if the synthetic control region also equilibrates the unobserved factors related to outcomes. Provided that this holds, the weighted outcomes of chosen municipalities provide a consistent estimator for the unknown counterfactual state that would prevail provided that the experiment had never introduced in Paltamo. Accordingly, the effects of the employment experiment in Paltamo at time $t \geq T_0$, ∇_{it} , can be calculated by subtracting the weighted outcomes from the observed ones as

$$\nabla_{it} = \Delta Y_{it} - \sum_{k=2}^{K+1} w_k^* \Delta Y_{it}. \quad (2)$$

In typical evaluation settings the statistical inference is based on the asymptotic results that rely on the number of observations reaching large enough numbers. These results are of no use in the research setting such as ours in which a regional experiment is conducted in only one region and this region cannot be divided to a number of sub regions. Abadie et al. (2010) put forward that an approximate statistical inference could be based on placebo experiments conducted on all observations that are not exposed to an experiment. In the current context it requires the creation of an arbitrary employment experiment in all potential control regions, after which these placebo experiments are evaluated in the similar fashion to the real experiment. If the observed differences in Paltamo are large compared to the distribution of placebo effects in other regions, one has some ground to say that the observed differences are actually caused by the employment experiment.

4. Data

The analyses in this study are based on register based data at the level of municipalities. The data set is created by combining official registers maintained by Statistics Finland, National Institute for Health and Welfare and the Social Insurance Institution of Finland. The resulting data provides detailed information on demographics, economic structure, health, expenditures etc. Some information is available from the year 1990 onwards but for the most part the first observations are from the year of 1995 or after. As register-based data unavoidably has collection and release lags, the latest available information corresponds to the end of year 2010 and even this information is limited to only few variables. For the most part the latest data period is either 2008 or 2009 and in some cases, such as the structure of employment, data stops already in 2007. This does not seriously affect the construction of synthetic control units as the construction of optimal weights requires only pre-experiment data. However, the availability of data introduces constraints on what outcomes can be explored.

The data originally consists of 460 municipalities that existed in 1990. During the last two decades, there has been some voluntary merges between two or more municipalities. We dropped all municipalities involved in merges during the observation period as a merge causes breaks in municipal level data series and merges are likely to involve some sort of selection in which case the merging municipalities are likely to differ from non-merging municipalities. The use of a resulting new municipality is equally problematic in our case given that the merged municipalities tend to be much larger than Paltamo. The removal of merged municipalities resulted in the data set consisting of 342 municipalities. This was further reduced by removing Swedish-speaking municipalities in the coastal areas as well as booming regions in southern Finland. This sample selection rule merely drops such municipalities from the pool of potential comparison regions that are remarkably different to Paltamo. Hence, the sample selection rule has no effect on the results as none of these regions were assigned positive weights in preliminary analyses. This left us with the data set consisting of altogether 218 municipalities among which to create counterfactual outcomes.

5. Results

The evaluation of employment experiment is based on a comparison region that mimics the observed pre-experiment outcomes of Paltamo as closely as possible. Typically case studies use previous outcomes of an experiment region, outcomes of one or more similar regions or an average of several regions. The first possibility is ruled out by several worldwide economic disturbances that coincided with the start of the employment experiment. In this study, a comparison unit is created by giving larger weights to regions that are more similar to a municipality in which a regional experiment is conducted. A data driven optimization procedure selects optimal weights for altogether 218 municipalities belonging to the pool of potential comparison regions. These weights are then employed in forming the synthetic comparison unit that provides the counterfactual for Paltamo telling us what would have happened had no employment experiment ever happened. To overcome a common problem in case studies such as here arising from the fact that the comparison of two regions tells us nothing about the significance of the observed differences, we follow Abadie et. al. (2010) and introduce placebo experiments in all regions.

Figure 1 summarises the results concerning the rate of unemployment. The left hand side reports the unemployment rate of Paltamo as a connected line and the unemployment rate of synthetic Paltamo as a solid line. The right hand side corresponds to placebo experiments conducted in all municipalities that belong to the pool of potential comparison units. These solid lines give an idea of typical changes that occur in the municipal level rate of unemployment. This variation is to be contrasted with the impact of the real experiment that is marked as a connected line equalling the difference between the two lines drawn in the left hand panel. In both sides the starting year of the experiment is highlighted as a vertical line.

FIGURE 1 AROUND HERE

The synthetic control region does a good job in resembling the vast changes observed in the pre-experiment unemployment rate of Paltamo. The unemployment rate series begin in the year 1991 that is the first year of deep economic slump caused by the collapse of over-heated economy that coincided with the end of Soviet-trade. The export led recovery started in growth centres during the year 1994 but it took over two years before this recovery reached contracting regions. Figure 1 fur-

ther points out that the unemployment rate never reached the level that prevailed before 1990s. The unemployment rate stood in over 15 per cent during the year before the employment experiment.

The lines start to diverge immediately after the employment experiment started in 2009. During that year the unemployment rate of the synthetic control unit started to climb up as the first waves of the latest financial crises started to reach Finland. Compared to the economic crash of the early 1990s, the first effect of financial crises remained fairly modest. The unemployment rate of the synthetic control region started to decline already during the year 2010 but it still remained at the higher level than the one observed just before financial crises. This is in stark contrast to Paltamo where the unemployment rate fell by almost 10 percentage points in just two years. Based on the figures on the synthetic control region, the current unemployment rate in Paltamo would be some 16-17 per cent if the experiment had never introduced. Owing to the employment experiment the unemployment rate stood very close to the national average in 2010.

The right hand side of Figure 1 reports that typical variation in municipal level unemployment rates is in the order of two percentage points in one direction or another. The drop observed in Paltamo after the introduction of the employment experiment exceeds vastly the typical movements in unemployment rates. This finding points out that the employment experiment had a strong downward impact on unemployment and this effect is likely to be statistically extremely significant. Despite the fact that this is exactly what one should observe when unemployment individuals are placed in subsidised jobs, Figure 1 is important in pointing out two things. First, it provides similar information as the first stage regression in instrumental variable estimations. Based on the observed differences, it is fair to say that the experiment has caused sizeable changes and hence it provides a good starting point for the evaluation of other potential impacts that the employment experiment might have. Second, Figure 1 confirms that the experiment was carried out gradually between the years 2009 and 2010 so the first year during which the experiment is fully operational is the year 2011. Owing to lags that are always present when analyzing register-based data, this puts considerable constraints on what can be evaluated at this stage of experiment.

At the very moment, the only available information that covers the first two years of the experiment is related to expenditures in benefits. Benefits paid to individuals during their unemployment spells consist of unemployment benefits, housing allowances and, provided that these do not provide adequate standard of living, income support. The first two benefits are paid by the Social Insurance Institution of Finland or unemployment funds if a person has qualified for higher paid earnings-

related unemployment insurance. Income support, on the other hand, is provided by a municipality. For the most part unemployment related expenditures are covered by the state.

As individuals are provided subsidised jobs by the employment experiment, expenditures on unemployment related benefits are expected to reduce. The big question put forward here is, do these savings even vaguely cover the costs associated with the employment experiment. This issue is put under scrutiny in Figures 2-4 that report the comparisons of various unemployment related benefits between Paltamo and the synthetic control region. As previously these comparisons are reported in the left hand side panels, whereas the right hand side panels assess the significance of the observed differences via gaps in placebo experiment.

FIGURES 2-4 AROUND HERE

The figures point out the importance of having comparison units. An economic downturn during a period means that unemployment related expenditures would have increased in the treated region without the employment experiment. This is highlighted in all figures as an upward trend in per capita expenditures in synthetic control region. If evaluations were based on pre-experiment levels of expenditures in the treatment region, one would seriously underestimate the true impacts of the experiment. Encouragingly, the three synthetic regions that are formed separately for each of the three types of expenditures follow closely the past experiences of Paltamo. There are some larger gaps at the beginning of observation periods but these deviations seem to be within typical variations in per capita expenditures as implied by the results reported in right-hand side panels. Weights assigned to municipalities, exact specifications and statistics are reported in Tables A1-A5 in appendix. These results confirm that synthetic control regions are much more similar to Paltamo than a simple average over the municipalities in the comparison group. This is assuring given that the pool of potential comparison regions omits over 100 municipalities that have practically nothing in common with Paltamo.

The point estimates for the year 2010 imply that the employment experiment has reduced per capita expenditures on unemployment allowances by some 130 Euros and on housing allowances by over 20 Euros. These reductions are likely to be statistically significant as the observed drops are larger than any of the gaps in per capita expenditures in placebo experiments conducted in other municipalities. Interestingly, the results indicate that per capita expenditures on social assistance have in-

creased more rapidly in Paltamo than in synthetic Paltamo. This is somewhat puzzling given that social assistance is paid as a last resort and the employment experiment should have resulted in subsidized jobs in which wages exceed persons' previous unemployment related benefits. Taken at face value this finding might imply that the experiment has improved the awareness of social assistance among persons who have been entitled to it but have not applied for it for some reason or another. However, it is worth noticing that this peak in social assistance expenditures is not totally out of line with experiences in another municipalities and it might just reflect the economic downturn that happened in 2009. Furthermore, there seems to be a downward turn in the social assistance expenditures in Paltamo during the last year of observation period.

6. Concluding remarks

The full employment experiment carried out in Paltamo is a bold attempt to fight persistent and high unemployment in a contracting region. The first impressions towards the experiment have been sceptical and various representatives of state administration have announced that the experiment is much too expensive ever to become a nationwide policy. The end of the experiment is looming within two years time so there is an urgent need to get some cost-effectiveness assessments. This study is the first to report the magnitudes of some savings that the full employment experiment carries with it.

The evaluation results reported in this paper for the year 2010 reports per capita savings of 130 Euros and 20 Euros in expenditures on unemployment allowances and housing allowances, respectively. We did not find any significant changes in per capita expenditures on social assistance. The observed savings count up to 600 000 Euros that needs to be contrasted with the subsidies of 3.4 million Euros given to run the experiment in 2010. Before any judgements it has to be observed that the reported savings in benefit expenditures arise from basic security only. As there is no data available on other outcomes at the moment, it is impossible to explore the effects that the full employment experiment has on e.g. expenditures on earnings-related unemployment insurances, income taxes, state aids or displacement. So it is still early days to discuss the overall cost-benefits of ceasing persistent regional unemployment by conducting the full employment experiment. On the more positive side, this study introduces one way of carrying out this difficult task.

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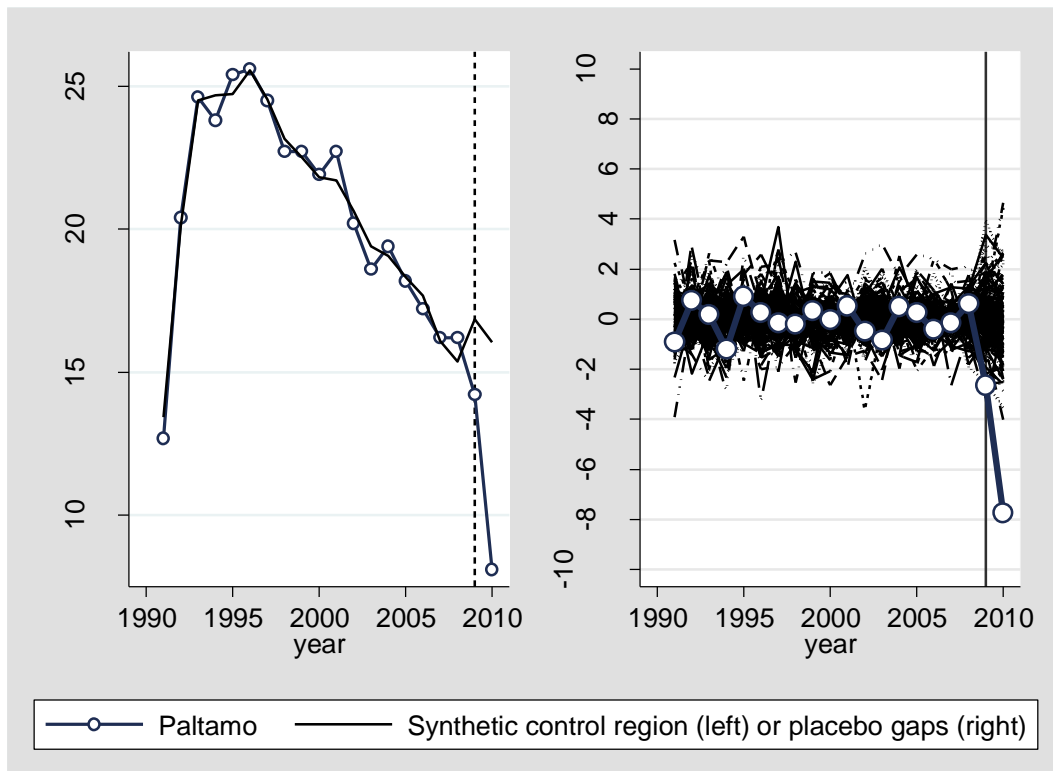
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Figure 1. Unemployment rate (left) and difference to the counterfactual in Paltamo and placebo differences in other municipalities (right)



Note: Comparison unit corresponds to a synthetic region created by using the optimal weights assessed to 218 mainland municipalities by the evaluation method.

Figure 2. Per capita expenditures on unemployment allowance (left) and difference to the counterfactual in Paltamo and placebo differences in other municipalities (right)

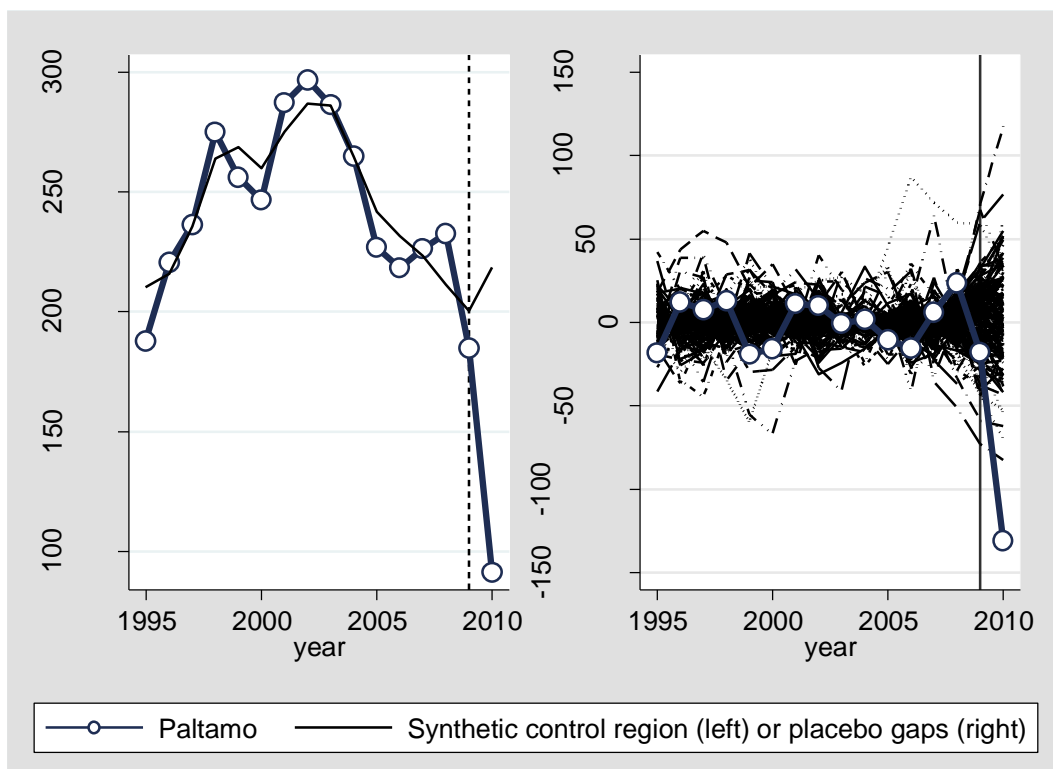


Figure 3. Per capita expenditures on housing allowance (left) and difference to the counterfactual in Paltamo and placebo differences in other municipalities (right)

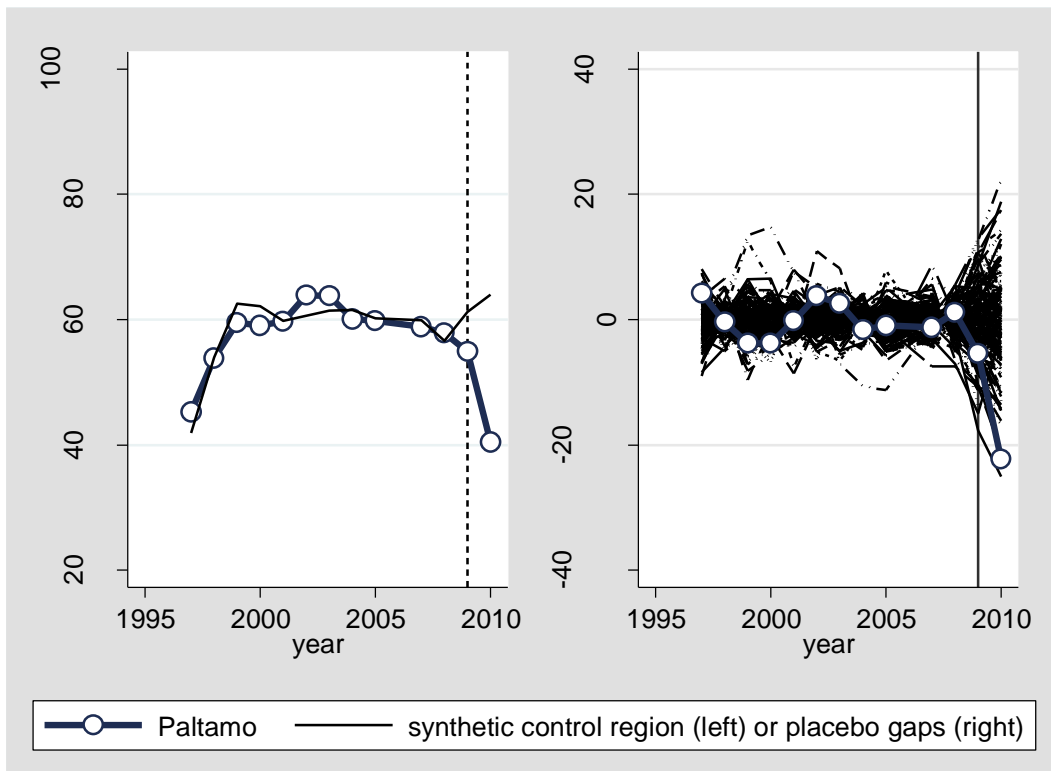
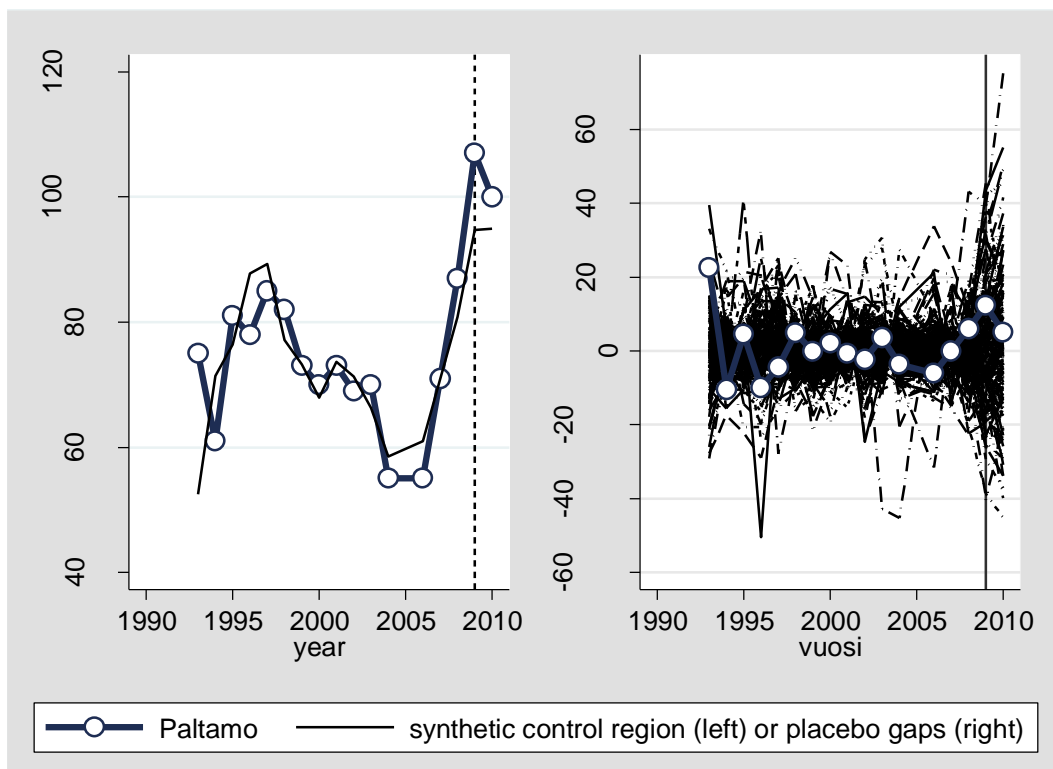


Figure 4 Per capita expenditures on social assistance (left) and difference to the counterfactual in Paltamo and placebo differences in other municipalities (right)



Appendices

Table A1. Positive municipal weights in the synthetic Paltamo (weight over 3 per cent)

Municipality	Outcome variable			
	Unemployment rate	Unemployment allowance	Housing allowance	Social assistance
Enonkoski	0.094			
Hyrnsalmi	0.097			
Kemi	0.058			
Kempele			0.071	
Liperi				0.308
Outokumpu	0.184		0.056	
Multia		0.357		
Muurame			0.068	
Nurmes		0.009		0.155
Pelkosenniemi			0.091	
Polvijärvi			0.075	0.205
Posio		0.096		
Puolanka	0.087		0.285	0.051
Rautjärvi	0.264			
Rääkkylä		0.106		
Salla	0.153		0.005	0.224
Sodankylä		0.176		
Vaala	0.06	0.224	0.288	
Total number of contributing municipalities	10	8	12	8

Notes: Table shows only those municipalities that were assigned a weight exceeding 5 per cent. Municipalities that obtained smaller weights include Hankasalmi, Heinävesi, Kangasniemi, Kiiminki, Kitee, Kolari, Lahti, Lieksa, Uurainen and Valkeakoski. All these municipalities occurred only once and none of them obtained larger weights than 3 per cent in the synthetic control region.

Table A2. Predictor means for unemployment rate

Variables	Paltamo	Synthetic	Avg. of 218 controls
<i>Unemployment rate</i>			
1991-1993	19.2	19.2	15.6
1994-1996	24.9	25.0	20.2
1997-1999	23.3	23.4	17.1
2000-2002	21.6	21.4	14.2
2003-2005	18.7	18.9	12.8
2006-2008	16.6	16.4	10.0
<i>Share of employment</i>			
Agriculture and forestry (%)	11.1	11.3	13.6
Kamara (%)	11.3	11.0	11.5
Public sector (%)	32.3	32.3	29.4
<i>Health and education</i>			
education index	221	218	239
sickness index	159	153	129

Table A3. Predictor means for per capita unemployment allowance

Variables	Paltamo	Synthetic	Avg. of 218 controls
<i>Unemployment allowance</i>			
1995-1996	204	213	205
1997-1999	256	256	197
2000-2002	276	274	192
2003	286	285	198
2004	264	265	195
2005	227	242	180
2006-2008	226	222	146
<i>Unemployment</i>			
Unemployment rate	19.0	17.1	12.4
long-term unemployment	3.6	2.7	1.7
<i>Demographics</i>			
aged 15-64 (%)	63.1	63.1	62.5
One person households (%)	36.4	37.9	35.2
<i>Health</i>			
sickness index	159	149	129
disability pension (%)	7.8	9.6	11.5
<i>Education</i>			
education index	221	221	239
basic education (%)	9.9	10.0	11.2

Table A4. Predictor means for per capita housing allowance

Variables	Paltamo	Synthetic	Avg. of 218 controls
<i>Housing allowance</i>			
mean 1997-1999	52.9	52.8	43.3
mean 2000-2002	60.9	60.9	46.5
mean 2003-2005	61.2	61.1	42.9
mean 2006-2008	58.4	58.3	40.8
<i>Unemployment</i>			
Unemployment rate	19.0	17.8	12.4
long-term unemployment	3.6	2.9	1.7
<i>Demographics</i>			
population	4197	8734	8785
aged 15-64 (%)	63.1	62.9	62.5
One person households (%)	36.4	36.8	35.2
<i>Health</i>			
sickness index	159	149	129
disability pension (%)	7.8	9.2	11.5
<i>Education</i>			
education index	221	238	239
basic education (%)	9.9	10.6	11.2

Table A5. Predictor means for per capita social assistance

Variables	Paltamo	Synthetic	Avg. of 218 controls
<i>Social assistance</i>			
mean 1993-1996	73.8	72.0	49.5
mean 1997-1999	80.0	80.0	61.4
mean 2000-2002	70.7	70.9	59.3
mean 2003-2005	62.5	62.4	58.3
mean 2006-2008	71.0	71.0	61.2
<i>Unemployment</i>			
Unemployment rate	19.0	17.7	12.4
long-term unemployment	3.6	2.6	1.7
<i>Demographics</i>			
population	4197	7574	8785
aged 15-64 (%)	63.1	63.0	62.5
One person households (%)	36.4	36.4	35.2
<i>Health</i>			
sickness index	159	143	129
disability pension (%)	7.8	10.1	11.5
<i>Education</i>			
education index	221	232	239
basic education (%)	9.8	10.2	11.2