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## The Evaluation of the Finnish Self Government Experiment

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# **The Evaluation of the Finnish Self Government Experiment**

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## **Abstract**

This paper evaluates the cost effects of a regional self government experiment. The experiment introduced a new intermediate tier of local administration that was given the responsibility to organize 60 per cent of public services. These services include e.g. basic health care, majority of social services and secondary education that are typically produced by municipalities in Finland. Follow-up reports suggest that the experiment has resulted in massive cost saving, especially in the social and health sectors. This paper puts previous findings under scrutiny by utilizing latest econometric evaluation methods developed for comparative case studies. Our findings cast serious doubts on the magnitude of cost savings.

*JEL classification: R5, H7,*

*Keywords: regional experiment, case-study, synthetic control method, intermediate government*

**March, 2011**

## **1. Introduction**

The organization of local administration is on agenda in several EU and OECD countries. Changes in the responsibilities between different tiers of local administration have already been done in Denmark and discussions along these lines are on the way in other Nordic countries. Finland differs from most other countries as there are practically only two tiers of administration: municipalities and the state. A second tier of local administration, as found in several other countries, exists but it has extremely small budgets and few responsibilities. The status quo was changed in 2003 when the Act on the Regional Self Government Experiment in Kainuu was introduced. The experiment changed radically the responsibilities between municipalities and the regional tier of administration in the Kainuu region. According to OECD (2010), the regional experiment has managed to create economies of scale and scope and to promote new routes for service delivery. Having said that, the country report also mentions that whether or not Kainuu meets efficiency objectives is still unclear. This paper aims at shedding some light on this issue.

## **2. The Finnish local government and the self-government experiment in the Kainuu region**

The regional structure of Finland consists of 326 municipalities that form 20 regions governed by regional councils ('maakunta'). The latter corresponds to the NUTS 3 level established by Eurostat. The average size of municipalities is small, half of the municipalities having less than 5000 inhabitants. This together with the fact that Finland is fairly large in area means that distances are long and population is scattered in many regions.

Unlike in other Nordic countries, Finnish local government has only a single tier. The intermediate government level with its own councils and taxing powers present e.g. in Sweden and Norway is more or less replaced by municipal co-operation. The joint authorities are voluntary except in two cases. Every municipality has to belong to a hospital district that organizes specialized health care and to a regional council that is responsible for regional development and supervision of the interest of regional players. These two compulsory institutions for regional co-operation have no rights to levy taxes so the financing of their operations rely totally on participating municipalities and the state.

The missing intermediate level of local administration means that Finnish municipalities have unusually large responsibilities to provide public services for their citizens. These include e.g. basic health care, comprehensive and upper secondary education, child day-care, elderly care, provision of income support and land use planning. Even though municipalities are self-governing entities by constitution, the central government typically sets minimum standards for the quality and the quantity of public services that the municipalities have to meet. To overcome excessive costs, municipalities have formed altogether 226 different joint authorities that are responsible for the provision of e.g. basic health care and education to all co-operating municipalities. The finance of public services is organized by the municipal income tax, property taxes, a share of corporate tax revenue, user fees and sales incomes and the grant system. On average the municipal income tax and the grant system are the most important sources of revenues with the shares of 40 and 20 per cent, respectively. Municipalities are free to set income tax rates, decide spending levels and to choose whether to borrow or not<sup>1</sup>.

The comparisons of the Finnish local government to other Nordic countries have raised questions concerning the potential benefits of the intermediate level of administration. The experiment was finally put forwards in the Act on the Regional Self Government Experiment in Kainuu that was introduced in 2003.

The experiment started in 2005 and it was meant to last until the year 2012. At the moment, however, it seems almost certain that the experiment will be continued for four years. The number of municipalities participating in the experiment was initially nine but the number was reduced to eight when a small municipality Vuolijoki merged with Kajaani (the centre of Kainuu region) in 2007. The aims of the administrative experiment were to ensure basic services and their quality for all inhabitants in Kainuu, to increase the efficiency on the service sector, to improve regional development activities, and to gain experience on the new regional level (OECD, 2010).

The Act increased the powers of the Regional Council considerably. The intermediate tier of local administration was given the responsibility to organize all health care, social services (excluding nursery) and secondary education. This is a vast change in the distribution of responsibilities given that typically only specialized health care is organized at the intermediate level. In addition, the new Regional Council was given some responsibilities that are typically in the domain of the state administration, such as EU funding, regional planning and development and industrial policies. The

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<sup>1</sup> For a throughout presentation of the public services at the local level, please see Moisio et.al. (2010).

highest decision making power is given to a central council consisting of 59 councillors who are elected by the inhabitants of the region.

During the experiment all participating municipalities act as any other municipality in Finland. They levy taxes and gain government grants as before. However, to finance the new administration and public services provided by it, participating municipalities have a pre-determined share of payments according to which they pay part of their revenues to the Kainuu Regional Council. The share of payments is not totally fixed as it has already been increased from 58.1 to 60.1 per cent in 2008. Previously municipalities produced the majority of public services by themselves. Only specialized health care was organized by the health district and also these payments were based on usage.

### 3. Identification strategy and statistical inference

The evaluation of the impact that the experiment had on the growth rate of costs requires information on the evolution of costs without any experiment. For this one needs to compare the observed cost changes in the Kainuu region to a comparison point that reflects what would have happened in Kainuu in the case of no regional administration experiments.

In previous evaluations Kainuu is compared to the average of other 19 mainland regions, i.e. an equal weight is assigned to each region<sup>2</sup>. The resulting comparison unit underestimates the cost changes in the Kainuu region in the pre-experiment period. This cast some doubts on whether the national average provides a reliable contrafactual comparison point for Kainuu provided that the experiment never happened. As there are vast differences between regions, one is likely to get a better comparison point by giving larger weight for those regions that are closer to Kainuu. More specifically, one might want to find a comparison unit that minimizes the differences prevailing between Kainuu and the comparison unit before the actual experiment was launched.

This is the idea behind the Abadie and Gardeazabal (2003) study that explore the impacts of Basque terrorism on the evolution of Basque country. They introduce the framework in which the unknown contrafactual outcome is written as

$$(1)$$

In the current context, equation (1) relates the costs changes to business cycle factors, regional factors that are observable for a researcher,  $Z_i$  and unobserved factors. The unobserved factors are divided into a factor that changes in time, and the random term .

Let us mark Kainuu by the number 1 among altogether  $K+1$  regions. The purpose is to find the optimal weights  $w^*$  that add up to one and equilibrate the cost growth rates before the experiment

, ... as well as the factors affecting cost changes  $Z_1 =$  . 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

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<sup>2</sup> Finland is divided into 20 NUTS 3 regions but one small and isolated region, the Åland Islands, is typically omitted from analyses owing to its special characteristics.

and the observed factors affecting these changes only if the synthetic control region also manages to equilibrate the unobserved factors behind cost changes. Provided that this holds, the weighted cost changes of other regions provide a consistent estimator for the unknown contrafactual state that would prevail provided that the experiment had never introduced in Kainuu. Accordingly, the impact of the administration experiment on the costs growth in the Kainuu region at time  $t \geq T_0$ , can be calculated by subtracting the weighted cost changes from the observed ones as

(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 the self-government experiment is conducted in only one region. Abadie et al. (2010) proposed that statistical inference could be based on placebo experiments conducted on all observations that are not exposed to an experiment. The idea has similarities with the permutation analysis and in the current context it requires the creation of an arbitrary administration experiment in all 18 control regions, after which these placebo experiments are evaluated in the similar fashion to the real experiment. If the observed differences in Kainuu regions 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 Kainuu regional experiment.

## 4. Data

The regional experiment resulted in considerable data problems when it comes measuring operational costs. Typically Statistics Finland collects cost information from municipalities and aggregates these figures into larger regions. After the experiment this has not been possible because there is no municipal level cost information on e.g. on health costs or costs of secondary education since these services are provided by the Kainuu region. The reason for this is that the financial transfers from municipalities to the Kainuu regional council are not separated in annual accounts. Accordingly, the usual data sources cannot provide separate cost figures for social services and health care. This is unfortunate given that social services and health care are claimed to be major sources behind the 100 mill € cost savings that the experiment is claimed to be achieved.

To overcome the data problem we asked the Kainuu regional council to produce the cost figures over the years 2005-2009 that correspond as closely as possible to the ones that can be obtained from official registers for the time period before the experiment. This data was then used in replacing the Kainuu figures in official registers created by Statistics Finland. Otherwise, data is collected from the registers maintained by Statistics Finland, National Institute for Health and Welfare and the Social Insurance Institute of Finland. Whenever necessarily, Vaala is subtracted from the figures concerning the Kainuu region. Owing to the small size of Vaala, this results only in minor changes and has no impact on the results.

The principal outcome variable is defined as being the yearly per cent changes in net social and health service costs per head. By focusing on net changes we avoid huge changes in cost measures caused by a joint authority that was set up between the municipalities of Suomussalmi and Puolanka in 2003. This resulted in the whole social and health care services of Puolanka to move to Suomussalmi that is reflected in gross costs but not in net costs. The reasons for focusing on social and health costs are twofold. First, reductions in social and health costs are mentioned as the main source for the benefits of the experiment in previous evaluations. Second, the centre of Kainuu i.e. Kajaani turned its vocational education into an independent company. This nullified the corresponding costs that were previously shown in the balance sheets of Kajaani. This shows in total costs but not in costs in social and health services. Since it is possible that changes in definitions affect the evaluation results, we put the results under scrutiny by various means that also include different cost definitions.

Figure 1 shows the changes in per head net costs in social and health services measured in nominal terms. Even though the definitions differ markedly, these figures coincide surprisingly well with the ones employed in previous evaluations, see x (xxxx). Particularly important is that our figures agree with previous ones in that the acceleration rate of social and health costs is lower in the post-experiment period than it was in pre-experiment period.

Figure 1 around here

The most striking feature in the Kainuu figures is the sudden drop in the growth rate of costs in 2005. In previous evaluations this drop has been totally credited for the Self Government Experiment. There are, however, several reasons why this interpretation is problematic. First, this drop occurs in the same period that joins two different data sets together. All differences in levels between the two cost series are reflected in the growth rate during that year. Second, the social security experiment reported e.g. in Korkeamaki and Uusitalo (2009) was expanded to the Kainuu



region in 2005 and, furthermore, municipalities and their federations became eligible for the reduction in social security payments. Even though, the subsidy is restricted to €100 000 in the period of three years, it is still reflected in the growth rate in that particular year when the experiment was started. Finally, one might expect that reductions in growth rates in the same magnitude as in the year 2005 would be observed also in other years if it was totally caused by the experiment. For these reasons, we put less weight in our evaluation to the first year of experiment,

Turning next to the average figures of other regions, there are couple of spikes that arise from wage agreements. The first spike is observed in 2001 when the wage agreement induced a three per cent wage increase in the municipal sector. This coincided with additional services that the state gave to the municipal sector. Together these two factors resulted in almost six per cent increase in wage costs in the municipal sector. Even higher spike in costs growth occurred in 2008. This followed from the parliamentary election that was held in the previous year. It was said in several election debates that the wages of nurses has to increase considerably. This resulted in industrial actions and strikes in the next wage negotiations in the public sector. The resulting wage increases were far higher than previously as is evident from figure 1. It is surprising that the 2008 wage increases do not show up in the figures provided by the Kainuu regional council. On the other hand, there is no downward spike in the Kainuu figures so the last two years more or less cancel each other out.

Figure 1 also reveals the fundamental problem present in previous evaluations of the Kainuu administrative experiment. During the period 2000-2004 social and health service costs have grown some two percentage points faster in Kainuu than on average in other regions. Based on this observation it is hard to imagine why the average growth of other regions should tell us something about the experience of the Kainuu region during the period 2005-2009 provided that no experiment had ever taken place.

## **5. Results**

Evaluation results become more reliable if the costs have risen similarly in a comparison unit and in the Kainuu region during the pre-experiment period. As discussed above typical comparisons based on averages can be improved by giving larger weights to regions that are closer to the experiment region. This is done in Figure 2 that shows the observed growth in costs in the Kainuu region as a bold line and the cost growth in a synthetic control region as a dashed line.

Figure 2 around here

The synthetic control wipes away the two percentage point differences in growth rates that prevailed when using regional averages as a comparison unit. At the first look it seems that the experiment might have some impact on the growth rates in social and health costs. The line representing the synthetic control region separates from the Kainuu line soon after the introduction of the self-government experiment in 2005. But even this first look differs from previous evaluations according to which yearly cost growth rates in Kainuu have been below the comparison unit figures throughout the experiment period.

The comparison of two regions with each other does not make it possible to assess the significance of the observed differences. Following Abadie et al. (2010) we introduce placebo experiments in all regions and base our inference on the comparisons of estimated differences in the actual experiment region and elsewhere. This results in Figure 3 in which the actual evaluation result concerning the self-government experiment is shown in **Bold** and the other lines correspond to placebo effects observed in other regions even without any experiments.

Figure 3 around here

The changes in the Kainuu region during the experiment can be considered as exceptional if there are no placebo differences of the same magnitude in other region. Figure 3 shows that typical changes in yearly growth rates in social and health costs are within the magnitude of two percentage points in one direction or another. The only observation that clearly differs from this is a reduction of almost 4 percentage points in cost growth that happened in the Kainuu region during the first year of the experiment. To recall, all of this impact cannot be counted as following from the experiment. There are two other changes that reach the magnitude of two percentage points in the years 2008 and 2009. As discussed above, large increases in municipal wages caused an upsurge in social and health service costs in 2008. For some reason, Kainuu managed to avoid this increase that resulted in a two percentage point smaller costs growth in 2008. However, this was totally offset during the following year when the cost growth in the Kainuu region exceeded that of the synthetic control by the same two percentage points. Unlike previous evaluations, these findings strongly suggest that the self-government experiment did not affect the growth in social and health service costs during the period of 2006-2009.

The results are based on the synthetic control region that resembles the Kainuu region during the pre-experiment period. Table 1 shows the weights that the method assessed to different regions. The

synthetic control region is formed by four regions, viz. Päijät-Häme, Pohjois-Savo, Keski-Pohjanmaa and Lappi. Other 14 regions are given zero weights.

Table 1 around here

Table 2 shows that the synthetic control region provides a more suitable comparison point to Kainuu than the average of other regions. Among these predictors, there are several factors that are employed in the state grant system that allocates a part of state finance to municipalities. These factors are mainly employed in explaining the prevailing differences in cost levels. This is highlighted in Table 2, several predictors being assigned small weights. This finding is not surprising given that there is not that much variation in most of these predictors from a one year to another that tend to disappear when exploring yearly changes. Four pre-experiment factors that are given the largest weights are previous cost growths, education and the share of Swedish speaking population. Even though other predictors are not found to be important in explaining changes in costs, almost all of them are still also much closer to pre-experiment values in Kainuu than average figures.

Table 2 around here

Previous results are based on the specification which minimizes the pre-experiment differences between the Kainuu region and the synthetic control during the period of 2000-2004. However, the Act on the self-government experiment was published already in the beginning of the year 2003. Accordingly, municipalities had information on the experiment when they planned the 2004 financial year. It is not totally out of the question that the Act changed the behaviour already before the actual experiment started. This is easy to incorporate into analyses by defining the pre-experiment period as 2000-2003. Appendix figure A1 shows that the only difference concerns the year 2004 when the social and health service costs grew by some two percentage points more in the Kainuu region compared to the synthetic control region. It is interesting to notice that cost growth predictors are more similar between Kainuu and the synthetic control when ending the pre-experiment period in 2003 instead of 2004.

Appendices A2 and A3 report the results of two other sensitivity analyses. In Figure A2 only pre-experiment changes in costs are employed when equalising the pre-experiment differences between Kainuu and the synthetic control. Figure 3 shows the results when cost growth predictors include the average cost growth during 2000-2004 and household taxable income. Changes in cost growth predictors affect only the ability of the resulting synthetic control region to mimic the pre-

experiment cost growth rates. The conclusions concerning the effects of the self-government experiment remain practically unaltered. There is no evidence that the experiment has managed to reduce the cost growth in social and health services. The unreported sensitivity checks show that this holds also when total costs are under consideration<sup>3</sup>.

## 6. Conclusions

To be written...

## References

Hämäläinen, K. and Moisio, A. (2011), Kainuun hallintokokeilun kustannusvaikutukset, forthcoming, VATT.

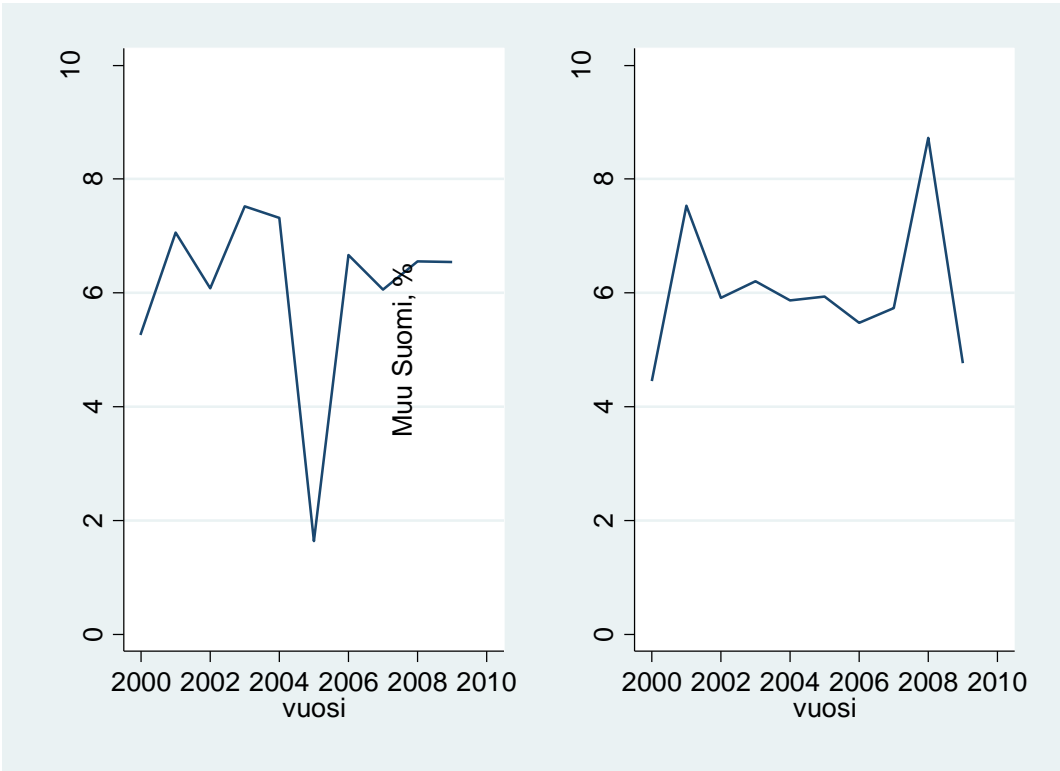
Korkeamäki, O. and Uusitalo, R. (2009), Employment and wage effects of a payroll tax cut – Evidence from a regional tax exemption experiment, *International Tax and Public Finance*, 16(6), 753-772.

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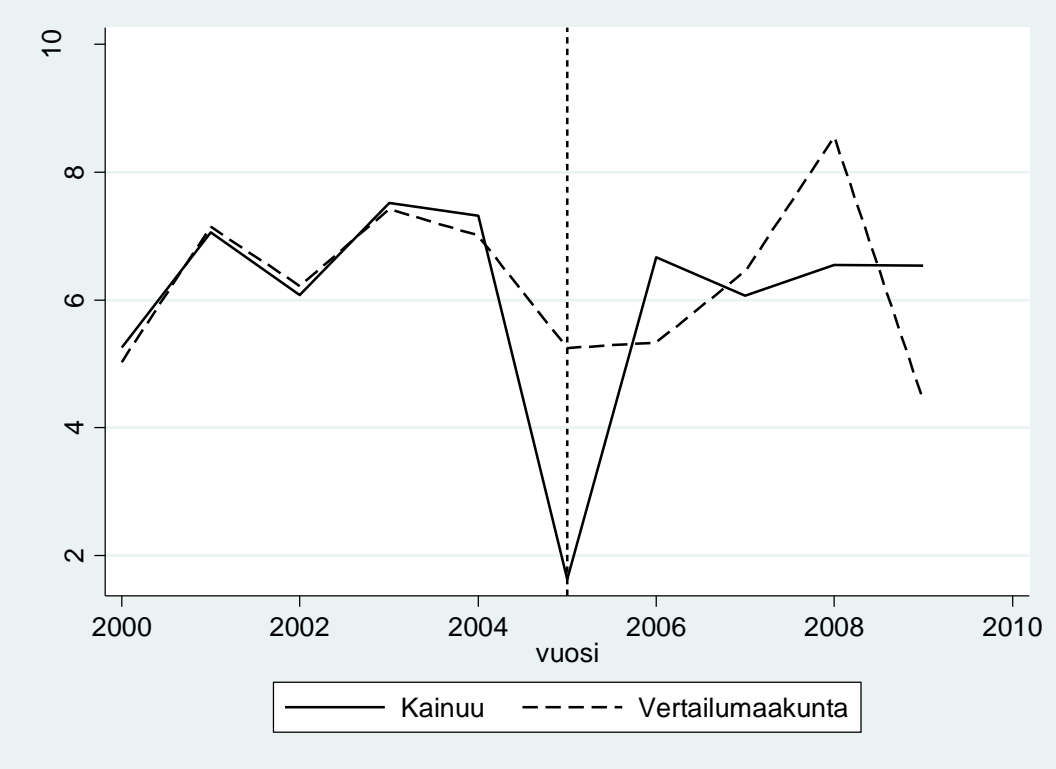
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<sup>3</sup> These results are available from the authors on request. The results are reported in Finnish in Hämäläinen and Moisio (2011).

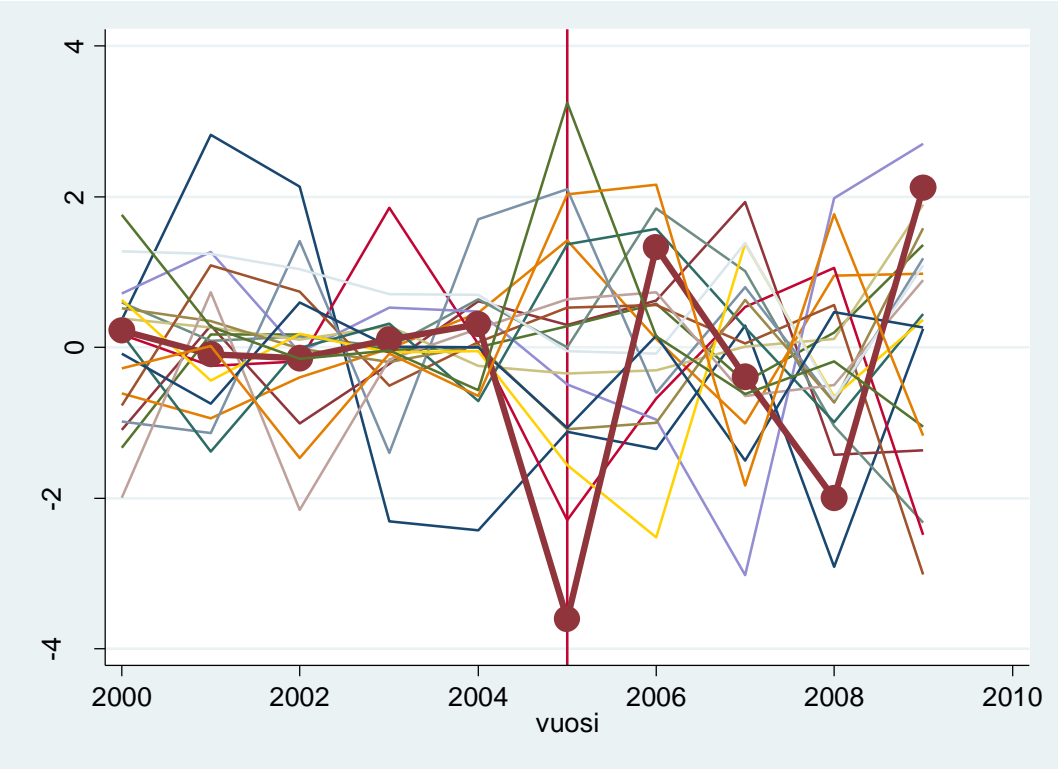
**Figure 1:** Yearly changes in net costs in social and health services, Kainuu and the average of other mainland regions



**Figure 2:** Yearly changes in net costs in social and health services, Kainuu vs. the synthetic control region



**Figure 3:** The actual effect in the Kainuu region (Bold) and placebo effects in 18 other regions



**Table 1:** Region weights in the synthetic control region

Region	Weight
Uusimaa	0
Itä-Uusimaa	0
Varsinais-Suomi	0
Satakunta	0
Kanta-Häme	0
Pirkanmaa	0
Päijät-Häme	0.35
Kymenlaakso	0
Etelä-Karjala	0
Etelä-Savo	0
Pohjois-Savo	0.21
Pohjois-Karjala	0
Keski-Suomi	0
Etelä-Pohjanmaa	0
Pohjanmaa	0
Keski-Pohjanmaa	0.23
Pohjois-Pohjanmaa	0
Lappi	0.22



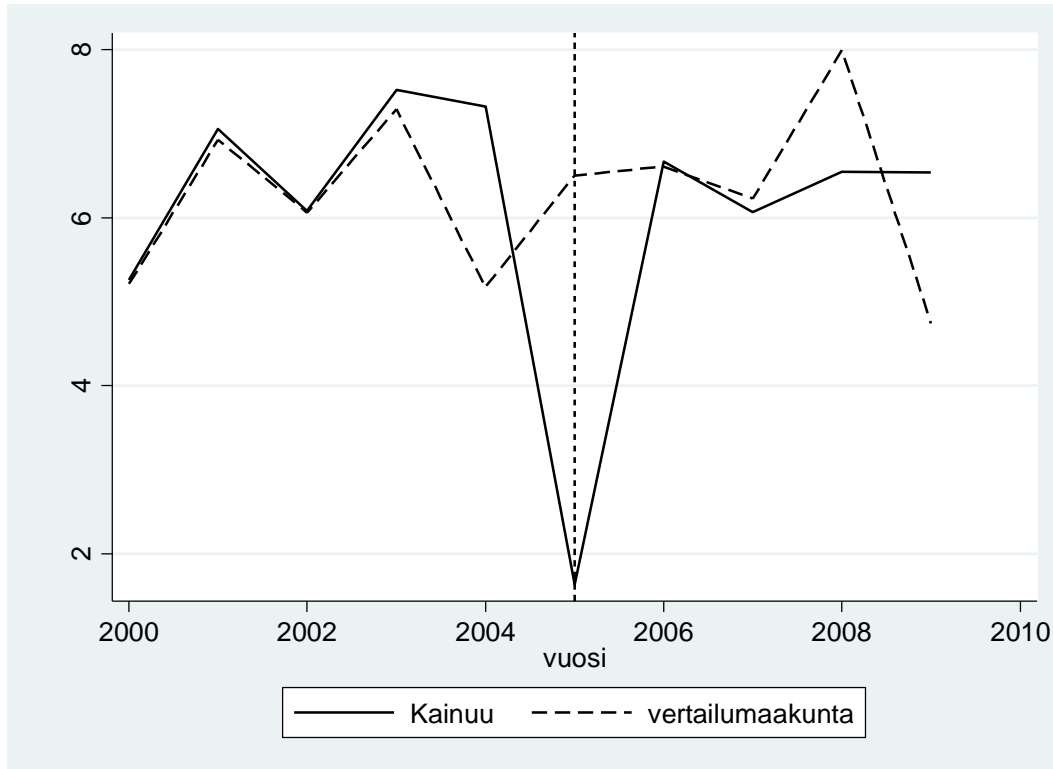
**Table 2:** The means of cost growth predictors

	Kainuu	Synthetic control region	Finland excl. Kainuu	Weight
cost growth in 2003	7.5	7.4	6.2	21.9
cost growth in 2004	7.3	7.0	5.9	24.8
education indicator	247	258	270	14.5
share of under 7 years of age (%)	6.8	7.5	7.6	0.0
share of over 75 years of age (%)	7.5	7.2	7.5	1.8
unemployment rate (%)	20.2	14.8	12.9	3.5
share of long-term unemployed (%)	20.2	26.0	26.1	0.0
sickness indicator	128	109	107	0.0
share of one person households (%)	36.2	36.9	37.3	2.5
taxable income/person (€)	9646	10476	11132	0.2
share of Swedish speaking (%)	0.1	2.5	6.3	30.5

Notes: (i) The figures correspond to the average of period 2000-2004 if not otherwise stated; (ii) the last column shows the weight that the predictor gets in the synthetic control unit.

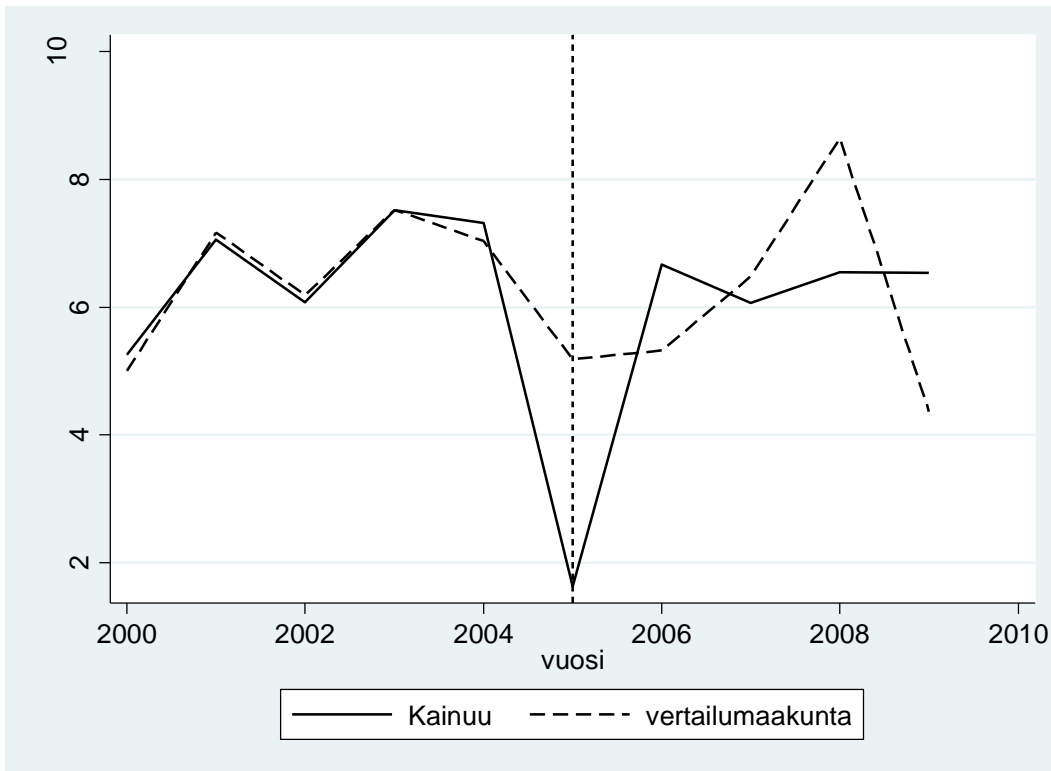
## Appendix

**Figure A1:** Yearly changes in net costs in social and health services, Kainuu vs. the synthetic control region, the pre-experiment period defined as 2000-2003



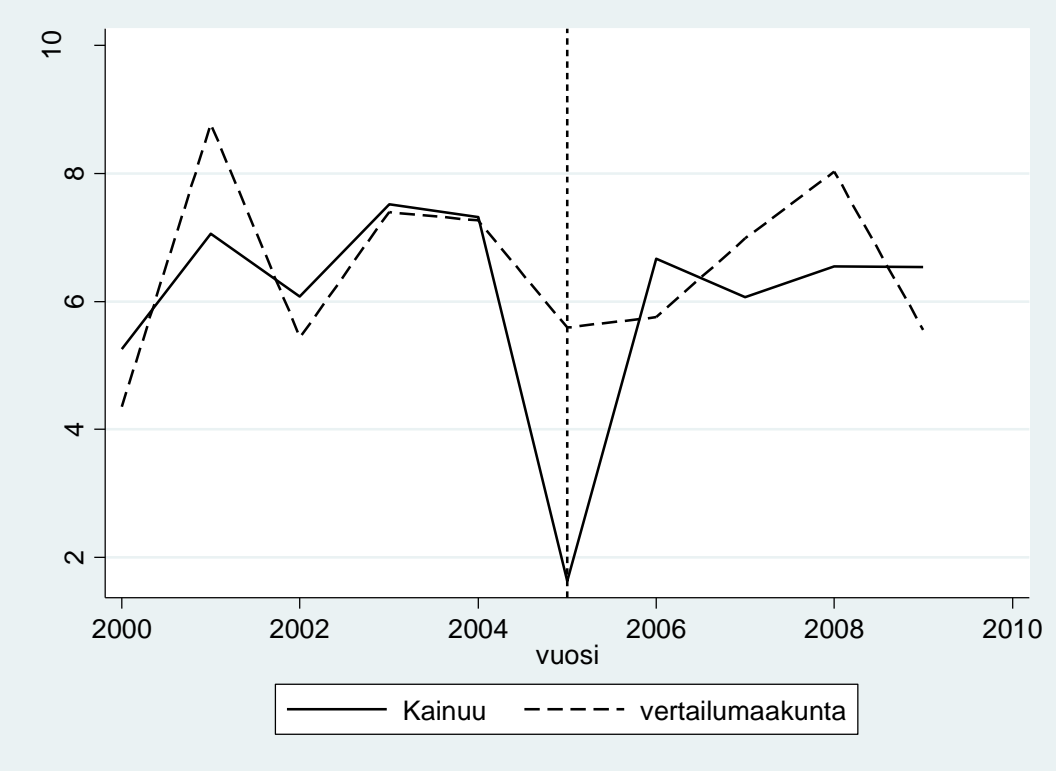
Notes: (i) Cost growth predictors are the same as in Table 2. (ii) The means of predictors are (Kainuu – the synthetic Kainuu) cost change in 2002 (6.1 - 6.1), cost change in 2003 (7.5 - 7.3), education (247 - 258), share of under 7 years of age (6.8 - 7.2), share of over 75 years of age (7.5 - 7.5), unemployment rate (20.2 - 17.4), share of long-term unemployed (20.2 - 23.8), sickness indicator (128 - 120), share of one person households (36.2 - 37.4), taxable income (9646 - 9740), share of Swedish speaking population (0.1 - 0.1)

**Figure A2:** Yearly changes in net costs in social and health services, Kainuu vs. the synthetic control region, Growth predictors defined as past cost changes



Notes: (i) The means of growth predictors (Kainuu – the synthetic Kainuu): cost change in 2000 (5.3 - 5.1), cost change in 2001 (7.1 - 7.2), cost change in 2002 (6.1 - 6.2), cost change in 2003 (7.5 - 7.3), cost change in 2004 (7.3 - 7.0).

**Figure A3:** Yearly changes in net costs in social and health services, Kainuu vs. the synthetic control region, Growth predictors defined as the average of previous costs changes and taxable income



Notes: (i) The means of growth predictors (Kainuu – the synthetic Kainuu): The average of previous cost changes (6.65 - 6.65), taxable income (9646 - 9731)