Politics and Preferences

Explanations to Policy outcomes in Swedish Municipalities

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Abstract

The overall aim of this thesis is to better understand how politics and preferences influence policy outcomes. The thesis consists of two papers that examine two different policy outcomes in Swedish municipalities.

Paper I analyzes the effect of income and education on the environmental policy performance of Swedish local governments. In estimating the effects of income and education we will also examine how they interact with political participation. To examine this I use panel data based on an environmental ranking of Swedish municipalities made every year between 1993 and 2001. The empirical results show that there is a positive relationship between income and the environmental policy performance. This relationship is however captured by controlling for the education level, which has a positive relationship with the environmental policy performance. Controlling for municipal fixed effects and relevant control variables does not change this result. Furthermore we find that political participation has significant interaction effects with both income and education.

Paper II develops a regression discontinuity (RD) design to estimate the causal effect of political party power on the placement of refugee immigrants in Swedish municipalities. That Swedish municipalities have a proportional election system puts forward specific challenges for using a RD design, which this paper will provide solutions to. The identification strategy is based on the idea that a specific party getting one more seat or not in the municipal council can be considered as good as random if the party is close to a seat change. Even though this paper only looks at Swedish data the method could be applied to other countries with proportional election systems. The results of the paper show that the political party power has a large effect on the placement of refugee immigrants in Swedish municipalities.

Keywords: Environmental Policy, Environmental Kuznets Curve, Regression Discontinuity Design, Education, Immigration

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Dedication

To everybody who has helped me.

Nya Svenskar Gamla Svenskar Gamla Fördommar Nya Fördommar Papperspåse På mitt huvud

Tomas Öberg

Contents

List of Publications

This thesis is based on the work contained in the following papers, referred to by Roman numerals in the text:

I Folke, Olle (2008) Environmental Policy Performance of Swedish Local Governments: Is it the Mind or the Money? (manuscript)

II Folke, Olle (2008). The Effect of Political Parties on the Placement of Refugee Immigrants in Swedish Municipalities. (manuscript)

1 Introduction

The overall aim of this thesis is to better understand how politics and preferences influence policy outcomes. The two papers will try to answer two different, but related, questions. Paper I will examine relationship between the education level and income level of the population and the environmental policy performance by Swedish Municipalities between 1993 and 2001.This means that I examine how the characteristics of the population affect policy outcomes. How the characteristics affect the policy outcome will naturally be dependent on how the characteristics influence the preferences of the populations and how those preferences are transferred into public policy. Because of this the paper will also attempt to explain how the characteristics of the population affect how preferences are transferred into public policy. Paper II examines the causal effect of political party power on the placement of refugee immigrants between 1986 and 2006. This means that I will examine how public policy is affected by the political parties independent of the preferences of the population. From a methodological perspective these questions are quite different, which means that they also will different types of results. In Paper I it is only possible to observe a relationship between the outcome and the characteristics of the population while the second paper estimates a causal relationship between political party power and the policy outcome.

The thesis will be laid out as follows. An overview of the empirical methods used will be given in section 2. Section 3 will give background information on Swedish municipalities, their political system and discuss why Swedish municipalities are suitable for empirical quantitative studies. The two papers included in the thesis are summarized in section 4. Section 5 discusses and concludes.

2 Empirical Framework

A central issue within empirical economic (econometric) studies is that of endogeneity, which also is central in the two papers of this thesis. The formal definition of endogeneity is that the explanatory variable is correlated with the disturbance, or error term, in the estimations (Wooldridge, 2002). A less formal definition is that the effect of the explanatory variable on the outcome variable we observe in an empirical estimation is not caused by the explanatory variables. There are three general sources of endogeneity in econometrics, omitted variables, measurement error and simultaneity. The problem with omitted variables, which will be discussed in detail below, is caused by that we can not control for all relevant variables. Measurement errors will cause endogeneity if the errors are correlated with the explanatory variables. Endogeneity will arise from simultaneity if the explanatory variables are in part determined by the outcome variable.

The two papers of the thesis will be centered on the omitted variable problem, which is why this problem is explained in detail. In general we want to estimate the effect of an explanatory variable, *A*, on the outcome variable, *B*. It might however be the case that a variable, *C*, affects, affects both *A* and *B*. If we directly examine the relationship between *A* and *B* we would also pick up the effect of *C*, giving us a biased (or untrue) estimate for the effect of *A* on *B*. How can the omitted problem be solved? Two general types of solutions can be found in econometric literature. The first and most obvious is to simply include and control for *C* in the estimation. By doing this we are able to say that the relationship we observe between *A* and *B* is not caused by *C*. We might however not be able to observe *C*, or there might be a variable *D*, which affects both *A* and *B*, which we are not aware of. This means that we would have to take another approach to solve the omitted variable problem. If we could find a random variation of *A*, we get a consistent estimate of the effect of *A* on *B* without having to include

any control variables. This is because a random variable is not correlated with any predetermined characteristics. By finding a random variation we would also, per definition, solve the problems with measurement error and simultaneity. Paper I will take approach of including control variables, while Paper II will make use of a random variation. It would naturally be preferable to always use a random variation in the explanatory variable, but in most cases it is not possible to find a random variation.

To give an example of the omitted variable problem, relevant to the thesis, we could say that we want to estimate the effect of political power of the Conservative Party on the tax rate of Swedish municipalities. If we look at the relationship between seat share for the Conservative Party and tax rate we would find a strong negative relationship. Would this mean that a larger seat share would lead to a lower tax rate? The obvious answer to this question is no. There are probably variables that affect both the tax rate and the seat share of the Conservative Party, which means that the seat share of the Conservative Party is an endogenous variable. In municipalities with a high income level per capita there is a larger tax base and the municipality would thus need a lower tax rate for a given level of expenses. Hence there is a negative relationship between the income level and the tax rate. There also have a strong positive relationship between the income level and votes for the Conservative Party since individuals with a high income level tend to vote for the Conservative Party. The strong negative relationship between the seat share of the Conservative Party and the tax rate could thus be explained by the income level in the municipality. The two types of solutions to this would be to either control for all variables that could both affect the tax rate and the seat share of the Conservative Party, or to find a random (exogenous) variation in the seat share of the Conservative Party. The latter is also what is done in paper 2.

3 Swedish Municipalities

3.1 Background Information

There are 290 municipalities in Sweden. They differ widely both in area, from 9 to 19 447 square kilometers, and population, from 2 558 to 780 817 inhabitants. The municipalities have large freedoms in organizing their activities as they see fit. One of the most important rights is the right to levy income taxes, which range from 17.57 % to 23. 57 %, and account for roughly two thirds of the municipal incomes. Education and the care of elderly and disabled account for close to two thirds of the costs. The municipalities are governed by the municipality boards. Elections to the municipal boards are held every fourth year together with the national and regional elections. The seven main national parties also dominate municipal politics, but many municipal councils also have representatives from local parties.

3.2 Political System

The Swedish municipalities have, just like Sweden at the national level, a proportional election system. Elections to the municipal councils are held every fourth year together with the national and regional elections. Before 1994 the elections were held every third year. In the councils there are subcommittees responsible for different policy areas such as education and city planning. The municipalities have a "quasi parliamentary" system where the heads of the subcommittees are appointed by a governing majority, which is the equivalency of the government at the national level.

The seven main national parties also dominate municipal politics, but many municipal councils also have representatives from local parties. The

division between the right wing and left wing block is not as clear at the municipal level as at the national level. The members of the governing councils are elected from multimember electoral districts. Most commonly the municipalities are made up on one electoral district. When the municipality has more than one district the representatives are elected from each district separately. The number of seats per district ranges from 15 to 49. The number of electoral districts and how they are drawn is decided by the municipality councils a year prior to the elections.

3.3 Swedish Municipalities as an empirical testing ground

Both papers in this thesis make use of data from Swedish municipalities. There are many advantages with using Swedish municipalities for empirical quantitative studies. The first, and most obvious, advantage is that it allows for using many observations since there are 290 municipalities. Furthermore Statistics Sweden collects and provides an excellent set of data for Swedish Municipalities for a large number of variables, usually covering long time periods. That the data covers long time periods implies that we can use panel data. Using panel data means data we can make use of better and more reliable empirical methods than if we are restricted to using cross-sectional data. The large number of variables we have available makes it possible to include several control variables in estimations. Since all municipalities have the same institutional framework it is also easy to compare outcomes between municipalities.

There are naturally some problems associated with using data from Swedish municipalities. Even though the studies on Swedish municipalities might have large internal validity they might have low external validity. Many features and characteristics of Swedish municipalities are unique to them. This implies that the results we get for the Swedish municipalities might not be applicable to other political entities. This is naturally true for the results of this thesis, especially for Paper II that examines the effects of parties that are unique to Sweden. Many political entities do however share their political system with Swedish municipalities which means that the methods developed in Paper II can be applied to them.

4 Summary of Papers

The thesis consists of two papers, of which a short summary will be given below.

4.1 Paper I: Environmental Policy Performance of Swedish Local Governments: Is it the Mind or the Money?

At the centre of debate concerning sustainable development lays the issue of the relationship between income and pollution. Will we be able to have continuous economic growth without deterioration of the environment? Is there a trade-off between economic growth and environmental quality? Previous studies have usually focused on examining the existence of the so-called Environmental Kuznets Curve (EKC), which hypothesizes an inverted U-shaped relationship between income and pollution. Within the EKC literature it is often suggested that EKC can partly be explained by a positive relationship between income and better environmental policy performance. This paper examines if there actually is such a relationship for Swedish municipalities and, if there is one, if it can be explained by a higher education level instead of income. Panel data from a survey based environmental policy ranking of all Swedish municipalities made all years between 1993 and 2001 is used for the empirical estimations.

Previous studies of the relationship between income level and environmental policy include De Bruyn (1997), Dasgupta et al (2001) and Bimonte (2002). These studies all find a positive relationship between income level and stricter environmental policies. There are no studies that have explicitly looked at the relationship between education and environmental policy. Within the EKC literature there are however papers that have examined the relationship between education and pollution. Both Torras & Boyce (1998) and Bond & Farzin (2006) find that the demand for

environmental quality increases with education. Common to previous studies of the relationship between income and environmental policy is the use of cross-country data.

The most important contributions of this paper are that it is the first to use within country data to estimate the relationship between income and environmental policy and that it also includes education variables in the empirical estimations. The first set of results is in line with previous studies and supports that there is a positive relationship between income and environmental policy performance. However, including education in the empirical estimations shows that the positive relationship between income and environmental policy performance is caused by education, which has a positive relationship with the environmental policy performance. The latter result holds both for including fixed municipal effects and relevant control variables in the estimations. Furthermore the results show that there are significant interaction effects for political participation with both income and education.

4.2 Paper II: The Effect of Political Parties on the Placement of Refugee Immigrants in Swedish Municipalities

This paper develops a regression discontinuity (RD) design to estimate the causal effect of the political parties on the placement of refugee immigrants in Swedish municipalities. The placement of refugee immigrants in individual municipalities is a widely debated subject in Sweden, both at the national and the local level. The debate at the national level is centered on how to even out the distribution of refugee immigrants between municipalities and how the concentration of refugee immigrants in ethnic enclaves affects the integration process. At the local level the debate is focused around what capacity the municipality has to take care of newly arrived immigrants and what obligations the municipality has to receive new refugee immigrants. In some municipalities the issue of how many refugee immigrants the municipality should receive has led to the formation of single issue parties in some municipalities. The effect of political parties on the placement of refugee immigrants is an important question to answer out of two perspectives. If political parties affect the placement of refugee immigrants we can with certainty say that other issues than the welfare and integration of the refugee immigrants affect where they are placed. We can also examine if and how national party identities affect the behavior of local representatives.

Measuring the causal effect of political parties on policy outcomes is challenging. The distribution of political power is affected both by unobservable and observable variables that affect both the inflow of refugee immigrants and how people vote in a municipality. It is thus not possible to identify causal effects by simply looking at the seat share of a party. Even though it is possible to control for all observable variables there could still be unobservable variables that can not be controlled for. It is thus necessary to find an exogenous variation in seat shares of the parties to identify the effect of political parties.

By using a RD design it is possible to isolate a random, and thus exogenous component, in the seat distribution. The basic idea behind RD design is to estimate treatment effects by assuming that the assignment to a treatment is determined at least partly by the value of an observed covariate lying on either side of a fixed threshold is random within a small interval of the covariate (Imbens, G.W. & Lemieux, T, 2008). In this case the threshold will be getting a seat, while the observed covariate is the vote share. If a party is close enough to receiving or loosing a seat the event of getting the seat is as good as random. This means that we can estimate the effect of an increased seat share by comparing the inflow in refugee immigrants between observations when a particular party has been close to either receiving or loosing a seat. The Swedish municipalities have a multi-party proportional elections system, which puts forward specific challenges for using a RD design to identify the causal effect of political parties on policy outcomes. Treating the Swedish municipalities as majoritarian election systems Petterson-Lidbom (2008) estimates political party effects on policy outcomes such as the income tax rate and unemployment using a strategy a RD design. The basic idea behind the identification strategy is that municipalities where elections are very close between the two main political party blocks are similar in all aspects except political block winning the election. The idea that Swedish political system can be treated as majoritarian is for example supported by Alesina et al. (1997) who argue that the strong left-right division in Swedish politics essentially makes Sweden bipartisan. Petterson-Lidbom (2008) finds that political parties affect policy outcomes. Treating Swedish municipalities as majoritarian election systems is however problematic, which is discussed in detail in the paper.

The main contribution of this paper is to develop a RD design specifically for proportional election system. Even though this paper only looks at Swedish data the methods developed could be applied to other countries with proportional election systems. The paper is also the first to examine

how parties affect the placement of refugee immigrants in Swedish municipalities

The results of the paper show that the political parties do affect the placement of refugee immigrants. I find, as one would expect, the largest effect when I examine the effect of a seat change between two specific parties. There are statistically significant effects of seats moving both within and between the traditional political blocks indicating that individual parties can affect policy outcomes.

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