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More for everyone: The effect of local interests on spending on infrastructure

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ABSTRACT

A central question in political economy is whether decision-making in representative democracies is biased towards local public investments or other types of policies which have locally concentrated benefits. The model by Weingast et al. (1981) predicts that a legislature with members from different areas will spend more in total on local public goods when the geographic constituency of each member is small. I test this prediction using panel data on the 18 Norwegian regional councils, exploiting that the geographic allocation of regional council seats varies considerably over time. Consistent with the theory, I find robust evidence that investments in regional public roads are lower when many council members come from the more populated areas in the region. This gives a more direct test of the prediction by Weingast et al. (1981) than existing empirical evidence, which concerns the relationship between public spending and legislature size. I find similar but less robust results for the maintenance of existing roads.

1. Introduction

Can elected politicians' concern for their home districts lead to inefficient use of public funds? Many public policies mainly benefit those living in a particular area or region, while the costs are shared among all taxpayers. As a result, such policies could be favored over other policies which would give higher total benefits, but which do not benefit any geographic area in particular.

This idea is explored in the model by Weingast et al. (1981), in which a body of elected representatives decides on the level of public goods allocated to each district. Each representative fully takes into account the benefits of spending in his or her own district, but only partly takes into account the opportunity cost. This leads to excessive total spending on local public goods at the expense of other purposes (or private consumption). If such forces are present in democratic decision-making, it could have strong implications for the design of political institutions and the allocation of responsibilities across different levels of government.

To properly test whether geographic fragmentation in the legislature causes higher aggregate spending on local public goods, one needs (1) decision-making bodies which incorporate conflicting geographic interests, (2) data on spending on policies with locally concentrated benefits and (3) a measure of legislature composition which captures the incentives of decision-makers to

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favor such policies. Of the existing empirical studies, most consider aggregate public spending and how this depends on *legislature size* (Gilligan and Matsusaka, 1995; Bradbury and Crain, 2001; Baqir, 2002; MacDonald, 2008; Egger and Koethenburger, 2010; Pettersson-Lidbom, 2012), which does not necessarily reflect to what extent narrow geographic interests (or other special interests) are represented in the decision-making. Some find that larger legislatures are associated with higher public spending, but the findings are mixed.

I look at policy decisions made by the elected councils in the 18 Norwegian regional governments, which cover large and geographically diverse areas. One of their main responsibilities is allocating funds to construction and maintenance of roads in different parts of the region. Regional council members are elected in at at-large proportional elections, which gives considerable variation over time in the shares of seats occupied by members from different areas of the region. To test the prediction that a lower relative population gives a stronger incentive to exploit the common pool (Saarimaa and Tukiainen, 2015), I look at how spending depends on the allocation of seats between areas (municipalities) with small and large population shares.

I find strong evidence that when seats in the regional council are more concentrated among representatives from the most populated municipalities, there are lower total investments in regional roads. The effect on maintenance of existing roads is less robust, but goes in the same direction. This is consistent with the hypothesis that elected representatives from more populated areas to a greater extent take into account the opportunity cost of spending on local public goods. There are no corresponding negative effects on spending in other sectors of the regional government.

The estimated effect of geographic seat concentration is statistically significant using approaches to statistical inference recommended for panel data analysis with a moderate number of clusters (Cameron et al., 2008; Hansen, 2007). Estimation with region fixed effects and a rich set of electoral control variables mitigates the concern for omitted-variable bias. The results are also robust to including spending on roads in the previous election period as a covariate.

The universalism assumption in the model by Weingast et al. (1981) implies that each representative completely free-rides on the other districts. This extreme assumption has been criticized, and the implications for aggregate spending are less clear-cut in models of non-cooperative legislative bargaining (Baron and Ferejohn, 1989; Persson and Tabellini, 2000, p. 165). Saarimaa and Tukiainen (2015) find evidence of free-riding behavior in the temporary setting when municipalities have decided to merge but have not yet carried out the merger. My findings suggest that some kind of free-riding is also present in permanent democratic institutions, possibly because decision-makers or voters are more aware of the benefits of local policies than their costs.[1]

I discuss the relevant literature in more detail in Section 2. In Section 3, I describe the institutional setting of Norwegian regional politics and present the data. I then explain the empirical framework and present the results in Section 4. Section 5 concludes.

2. Related literature

Weingast et al. (1981) analyze a model in which a legislature consisting of representatives from equally-sized districts allocates funding to local public projects in each district. Projects are funded by a common tax pool, leading to a common-pool problem: Each representative fully enjoys the benefits of a project in his or her district, but only party takes into account the cost. If representatives autonomously decide on spending in their own districts ('universalism'), this leads to overspending on local public projects at the expense of private consumption. The efficiency loss increases in the number of districts because the opportunity cost (tax share) of each district decreases. This is sometimes referred to as 'the law on 1/n'.

The relationship between legislative structure and aggregate public spending has been tested in several empirical studies, using legislature size (i.e. the number of seats) as the key explanatory variable. Baqir (2002) and MacDonald (2008) investigate whether a higher number of seats in U.S. municipal councils is associated with larger local governments. While Baqir (2002) finds a positive relationship when using cross-sectional variation, MacDonald (2008) shows that the estimated effect is smaller and not statistically significant when controlling for municipality fixed effects.

Pettersson-Lidbom (2012) analyzes spending by local governments in Sweden and Finland. He exploits that the number of seats changes discontinuously with the number of eligible voters (Sweden) or the size of the local population (Finland) and uses this to identify the causal effect of legislature size on spending. Pettersson-Lidbom (2012) finds some evidence that the effects on overall expenditures and public employment are in fact negative, and argues that this could be because a stronger local council is able to restrict the attempts by bureaucrats to increase the number of positions. Egger and Koethenburger (2010), on the other hand, find a positive effect on public spending and property taxes when applying a similar empirical strategy to data on Bavarian municipalities.[2]

Other scholars have studied higher levels of government. Gilligan and Matsusaka (1995) find a positive effect of legislature size on spending for upper U.S. state houses. Bradbury and Crain (2001) find a corresponding effect for lower chambers (and partly also for upper chambers) in a cross-country study of national legislatures.[3]

To what extent the number of seats is mapped with geographic representation depends on the electoral system. As pointed out by Saarimaa and Tukiainen (2015), the model by Weingast et al. (1981) considers the simple case of equally sized single-

[1] Peltzman (1976) considers a model where those who bear the cost of a policy do not necessarily oppose it.

[2] Eggers et al. (2015) critically review the use of population thresholds in empirical applications. They find that there is often more than one policy changing at the threshold, and also that municipalities with population size close to a threshold sort strategically to one side of the threshold.

[3] Another branch of the literature concerns fragmentation of the *cabinet*, for instance the number of ministers or parties in a coalition government (Perotti and Kontopoulos, 2002; Schaltegger and Feld, 2009; Baskaran, 2013).