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Do equalization payments affect subnational borrowing? Evidence from regression discontinuity

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ABSTRACT

According to the fiscal federalism literature, subcentral budget constraints become softer when local governments are more dependent on revenues over which they have no discretion. As a consequence of 'transfer dependency', subcentral governments can expect to be bailed out by the central government and therefore tend to accumulate higher levels of debt. We test this conjecture with data from Austrian municipalities. In fiscal terms, Austria is a highly centralized federation in which tax autonomy at the municipal level is rather weak. Our identification strategy is based on a discontinuity caused by the unique regulation of population weights in the tax-sharing agreement between central government and the municipalities. Our results indicate that, in line with theoretical expectations, municipalities with higher revenue dependency are responsible for higher net borrowing per capita. The size of the additional borrowing effect equals to about 5% of average municipal debt. We also find that almost one half of the observed discontinuity works through an investment channel.

1. Introduction

Carefully designed fiscal decentralization can contribute to the effectiveness of the public sector and eventually to an increase in welfare. The traditional fiscal decentralization theorem (Tiebout, 1956; Oates, 1972) points to the conclusion that the local provision of public goods is better suited to satisfying the needs of local communities. Public choice identifies the role of decentralization in taming the 'Leviathan' government (Brennan and Buchanan, 1980), which would otherwise inefficiently overexpand at taxpayers' expense (see also Feld, 1997).

However, tax competition could lead to a race to the bottom regarding tax rates (see Zodrow and Mieszkowski, 1986; Wilson and Wildasin, 2004) and an underprovision of public goods. Competition for mobile citizen-taxpayers could increase efficiency in the local provision of public goods, but could also lead to an unwanted sorting of individuals who differ in terms of income. Such a self-selection process could lead to substantial differences in income distributions among communities (Schaltegger et al., 2011). Critics also point out that ill-designed fiscal decentralization can produce 'soft budget constraints', which not only preclude the efficient allocation of public money, but may exaggerate the problem of overexpanding government. Soft budget constraints are facilitated if subnational governments largely depend on transfers from the central government, as it lowers the local cost of borrowing.

In the present paper, we take a closer look at this result and empirically analyze whether the dependence of municipalities on transfers from central government results in higher levels of borrowing at the municipal level.

Our identification strategy exploits the population threshold discontinuity present in the Austrian tax-sharing agreement

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between the central government and the municipalities. The allocation of tax revenues is a function of the population, with a cutoff point at the level of 10,000 inhabitants. At the threshold of 10,000, per capita transfers from the pool of joint revenues to a municipality increase by roughly 15%. We explore this quasi-experimental setup by applying a regression discontinuity (RD) design. Using data for the time period 2001–2014, our results indicate that municipalities with higher revenue dependency are responsible for higher net borrowing per capita. Additionally, we show that only about half of the additional borrowing is spent on investment.

Some recent papers exploring the fiscal behavior of subcentral governments have also drawn on such institutional settings to employ an RD design (e.g., Egger and Koethenbuerger, 2010; Pettersson-Lidbom, 2012; Grembi et al., 2016). The method has also been criticized, with the relevant literature showing that an RD design using population thresholds should be interpreted carefully. Yet, our results seem to be robust, as they include several political, socioeconomic and geographic factors. Moreover, our tests show that the frequently mentioned major challenges of manipulation and sorting (Eggers et al., 2015) are most likely not an issue here.

This paper is structured as follows. The next section provides a brief literature review, while Section 3 presents an overview of the Austrian institutional setting and the main hypothesis. Section 4 presents the data used and the empirical strategy, after which Section 5 presents the results of the investigation. Section 6 concludes the paper.

2. Previous literature and predictions

The question of whether intergovernmental transfers and vertical fiscal gaps in federations affect subnational fiscal performance has been intensively analyzed in the economic and political science literature. The link between vertical fiscal gaps and debt has been theoretically established by, among others, Goodspeed (2002) and Rodden (2006). Meanwhile, Rodden (2006) argues that grants make subcentral governments expect central assistance if they fall into fiscal difficulty. Given that the central government already funds substantial portions of subcentral budgets, local governments will find it politically difficult to resist pleas for bailouts in order to avert bankruptcy. The more that subcentral governments depend on the central government for fiscal support, the more creditors and voters will assume that the subcentral governments are simply administrative arms of the center and that the latter is responsible for the fiscal condition of its subordinates. As such, local governments will be more likely to run up large debts in the first place: the familiar phenomenon of moral hazard (Sorens, 2016).

Empirical evidence points to increasing subnational deficits and debts associated with vertical fiscal gaps. Rodden (2002, 2006) finds that vertical fiscal imbalance reduces subcentral government and total net surplus, if combined with subnational borrowing autonomy. De Mello (2000) finds a nonlinear effect of grants (excluding shared revenue) on the budget surplus: the deficit increases along with grants when expenditure decentralization is high, and decreases when it is low. Similarly, Eyraud and Lusinyan (2011) find that grants, excluding shared revenue, raise the deficit when combined with borrowing autonomy. The counterevidence comes from Baskaran (2010), who finds that vertical fiscal imbalance is associated with lower debts. Foremny (2014) presents evidence that a higher share of subcentral entities' own tax resources reduces incentives to run deficits, due to lower bailout expectations. A high level of autonomy over tax instruments is key to preventing large deficits at the subnational level.

As for other fiscal variables, a large body of literature analyzes whether vertical fiscal gaps are associated with higher, and potentially inefficient, subcentral expenditure. Inefficient fiscal performance, as a result of grant financing, has been recognized by both political economy and public finance scholars. Whereas political economy points to the claim by Brennan and Buchanan (1980) that the more dependent subcentral governments are on grants and shared revenue, the less they compete with each other for geographically mobile citizens, and the more they can extract from citizens for their own benefit, public finance scholars also recognize the dangers of vertical fiscal gaps, which create common fiscal problems and, in turn, negative externalities on other jurisdictions.

In light of these observations, the evidence points to a dependence on the size of local governments and grant/transfer dependence. A large number of empirical studies also concludes that dependence on grants is associated with higher government spending. Cross-country evidence (see, e.g, Jin and Zou, 2002; Cassette and Paty, 2010; Ashworth et al., 2013; Prohl and Schneider, 2009) suggests that grants raise general and subnational spending. Intra-country studies, meanwhile, arrive at mixed conclusions. Dahlberg et al. (2008), using a strong identification strategy based on discontinuity in grants allocation, find that equalization grants increase general spending roughly one for one. Similarly, Volden (1999) finds that grants increase US social benefit payments, whereas cuts in grants do not decrease them. On the other hand, Gordon (2004) finds evidence that block grants boost spending, but only in the short term.

The effects of vertical fiscal imbalance on government spending have been analyzed by, e.g., Fiva (2006) and Rodden (2003), both of whom conclude that vertical fiscal imbalance is associated with higher general spending. Rodden (2003) also proposes that subnational spending increases alongside vertical fiscal imbalance.

An important challenge for these empirical investigations is endogeneity. Several papers in this field of research apply RD designs to mitigate the effects of reverse causality. The notion of RD is to get closer to a quasi-experimental setting. Using a population threshold RD approach, one can compare sets of municipalities that have implemented different policies, but are comparable in other important respects. For example, Egger and Koethenbuerger, 2010 exploit population size discontinuities in the law of the German state of Bavaria, which regulates the local council size of municipalities, in order to identify a causal impact on municipal spending. Pettersson-Lidbom (2012) also estimates the causal effect of council size on government spending for local jurisdictions in Sweden and Finland with a population size-based RD design.

Yet, employing population thresholds in order to identify causal effects has certain pitfalls, most notably, confounded treatment, as well as manipulation and sorting issues (see the discussion in Eggers et al., 2015). Confounded treatment is related to the problem that, at a certain population threshold, more than one policy or set of institutional arrangements can change. If other factors create