Journal of Public Economics 123 (2015) 78–91

Contents lists available at ScienceDirect

Journal of Public Economics

journal homepage: www.elsevier.com/locate/jpube

Intergovernmental grants as signals and the alignment effect: Theory and evidence

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ARTICLE INFO

Article history:
Received 17 December 2012
Received in revised form 5 November 2014
Accepted 18 November 2014
Available online 10 December 2014

JEL classification:
H2
H77
H87
D7

Keywords:
Fiscal federalism
Political competition
Accountability
Flypaper effect

ABSTRACT

This paper provides a simple political agency model to explain the effect of political alignment between different tiers of government on intergovernmental grants and election outcomes. Key features of the model are: (i) rational voters interpret public good provision as a signal of incumbent competence, and (ii) realistically, grants are unobservable to voters. In this setting, the national government will use the grant as an instrument to manipulate the public good signal for the benefit of aligned local incumbents and challengers. Then, aligned municipalities receive more grants, with this effect being stronger before elections, and the probability that the aligned local incumbent is re-elected is higher. These predictions are tested using a regression discontinuity design on a new data-set on Italian municipalities. At a second empirical stage, the national grant to municipalities is instrumented with an alignment indicator, allowing estimation of a flypaper effect for Italian municipalities.

1. Introduction

This paper makes two contributions. First, it presents a new theory of discretionary inter-governmental grants, based on a principal–agent model of multi-level government with political parties. In this theory, grants are *signals*, rather than *bribes*, as in standard political economy theory of grants (Cox and McCubbins, 1986; Dixit and Londregan, 1995, 1998). Specifically, a higher grant raises local public good provision, and the latter signals a higher local incumbent ability to the electorate. Assuming that central government cares about the electoral fortunes of politically aligned incumbents, this provides an incentive for the center to donate to districts with aligned incumbents.[1] By doing so, the center boosts the signal for the aligned incumbents, thus increasing their probability of re-election. For non-aligned districts, the effect works in reverse; a lower grant weakens the quality signal for the non-aligned incumbent, thus boosting the electoral chances of the challenger. This theory extends recent studies of the effects of grants on the behavior of rent-seeking politicians, notably Brollo et al. (2013), by introducing an upper level of government and endogenizing the choice of grant.

Second, we develop and test a number of empirical predictions of our theory. The first prediction is of course, an alignment effect in grants. The second, which is new, is that a higher grant increases the probability of incumbent re-election, so that there is an alignment effect on incumbency advantage. Third, we predict that the alignment effect is stronger in election years than in non-election years. We also predict that conditional on grants, (i) local spending and taxes are independent of alignment, and (ii) there is a flypaper effect i.e. a one dollar increase in the grants has a bigger positive effect on local government spending than does an equivalent rise in private income. These last two predictions suggest that the flypaper effect can be identified by instrumenting grants by the alignment status of the local government.

We then take these predictions to an original data-set on Italian mayoral elections and public finance for the period 1998–2010.[2] Italy

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[1] This result is not new; Arulampalam et al. (2009) have the same finding in a distributive politics model where a national government can "buy" support from swing voters for aligned local incumbents. What is new is that our result is established in a micro-founded political agency model, where the mechanism at work can be identified.

[2] Data of Italian mayoral elections are taken for the period 1998–2008, therefore for the last two years we included in the sample only municipalities that did not have elections.

http://dx.doi.org/10.1016/j.jpubeco.2014.11.007
0047-2727/

is a good laboratory to test our hypotheses, as in Italy, grants from central government to municipalities have a large discretionary element, unlike most other OECD countries.[3] Our dataset includes almost 500 municipalities between 1998 and 2010, who depend on largely discretionary grants from central governments to fund around 30% of their expenditure. Moreover in the period covered by our dataset, the incumbent party at the central level has changed three times (in 2001, 2006 and 2008), and each year local elections were held in a number of municipalities. This gives us the variation in alignment that is needed to test our theory.

We use a regression discontinuity design to identify the alignment effects on grants and incumbent advantage.[4] Specifically, we compare municipalities where the elected mayor is *just* aligned with central governments with ones where the mayor is *just* unaligned, where "just aligned" means that the mayor won the election with a small margin and that the mayor and the central government belong to the same party. Using this design, we find highly significant alignment effects that are robust across a number of different specifications, for both grants and incumbency. If a municipality is politically aligned with the party in power at the central level, it will be rewarded with on average, 40% more grants than unaligned municipalities. The probability that the aligned incumbent mayor (or his coalition) is re-elected in the election is, on average, 30% higher than in non-aligned ones. Moreover, this alignment effect is stronger in the run-up to municipal elections than afterwards, in line with the theory.

The first empirical results tell us that alignment is potentially an appropriate instrument to use in testing the effect of the grant on local expenditure and tax revenues. So, we test the effect of alignment on these variables,[5] instrumenting the grant by an alignment dummy and also the margin of alignment. The IV estimates indicate the presence of a flypaper effect. First, public spending increases by about 0.4 Euros per capita for each Euro increase in grants. On the other hand, a Euro increase in private income has a negligible effect on public spending. So, the overall flypaper effect is around 0.4, in line with the results surveyed in Inman (2008).

The paper is organized as follows. The next section discusses the related literature. Section 3 introduces the theoretical framework, and Section 4 presents the main theoretical results. Section 5 presents some background information on Italy, data description and the econometric strategy. Section 6 discusses the main empirical results on transfers and incumbents and Section 8 is devoted to the flypaper effect. Section 9 concludes.

2. Related literature

Our work speaks to at least four related literatures. First, on the theoretical side, our paper develops a new political economy theory of intergovernmental transfers based on a principal–agent model of multi-level government. This extends the existing literature in two ways. First, there is now a huge literature on political agency (summarized in for example, Persson and Tabellini, 2002; Besley, 2007), which stresses the role of elections in screening and monitoring politicians. However, this literature focuses on one level of government, and has hardly considered intergovernmental grants. One exception is Brollo et al. (2013), which shows how higher grants from central governments can have negative effects on the behavior of lower-level governments in that the higher the transfer, the greater the rent taken by the lower-level incumbent, and when entry of incumbents is endogenized, the less good is incumbent quality. However, in that paper, grants are treated as exogenous.[6] Our theoretical contribution is to endogenize the grant in a setting very similar to Brollo et al. (2013). So, this paper is the first, to our knowledge, to study intergovernmental grants in an agency framework.

Our approach is also in contrast to a "distributive politics" theory of intergovernmental grants due originally to Lindbeck and Weibull (1987), Dixit and Londregan (1995), and extended to a fiscal federalism setting more recently by Dixit and Londregan (1998) and Arulampalam et al. (2009).[7] This literature takes a Downsian view; parties can precommit to intergovernmental transfers prior to the election, and these transfers are observable by voters, both strong assumptions. In Dixit and Londregan (1998), national parties choose intergovernmental transfers to maximize their vote share in the national election, taking into account any redistribution of these funds amongst voter groups by state governments. They find that the transfer from the center to a given state will be higher, the greater the average "clout" of voting groups in that state, where "clout" depends on the relative number of "swing" voters in that group, and how cheap those votes are to buy (the weight that voters in the group put on consumption relative to ideology).

Arulampalam et al. (2009) modify the Dixit–Londregan set-up to allow transfers from the national government to impact *directly* on voters' incomes, and assume that national governments do not contest an election, but rather design grants to maximize the vote share of the aligned local candidates. Moreover, they assume that if the local and national incumbents are *not* aligned, the "goodwill" or utility increment generated by the grant is shared between the local incumbent and challenger (the latter being by definition, aligned with the national incumbent, as there are only two parties). Specifically, it is assumed that the local incumbent gets a share θ of the goodwill, and local challenger $1 - \theta$. The qualitative predictions of the theory depend crucially whether this share is greater than one half. This θ is simply taken as exogenous in their theory, and indeed cannot be meaningfully endogenized in their model. One contribution of our theoretical model is that it effectively endogenizes θ; see Section 4 below for more discussion.

On the empirical side, there are several related literatures. First, there is the literature on political alignment effects on intergovernmental grants. There are a number of papers that establish, for various countries, that political alignment with the center generates higher levels of discretionary grant to the local government, for example, Levitt and Snyder (1995) and Larcinese et al. (2006) for the US, Solé-Ollé and Sorribas-Navarro (2008) for Spain, Arulampalam et al. (2009) for India, Case (2001) for Albania, Rodden and Wilkinson (2004) for India, Brollo and Nannicini (2012) for Brazil, and Migueis (2013) for Portugal. In particular, our theoretical finding that alignment effects are stronger in election years is consistent with Brollo and Nannicini (2012).

Second, there is a large literature on incumbency advantage. In particular, several recent papers use a regression discontinuity design in order to estimate the advantage of incumbency in elections, relying on the fact that when the electoral race is very tight, the identity of the winning party is likely to be determined by pure chance. The main contributions include Lee (2001, 2008), Lee et al. (2004) and Ferreira

[3] Formula grants are extensively adopted, for example, in: Australia (82% of total grants to local government), Austria (98%), Denmark (97%), Portugal (85%), France (95%), and United Kingdom. Discretionary ones are highly employed, for example, in Australia (at state level 90%), Czech Republic (88%), and Turkey (100%). Data are our calculations from OECD Revenue Statistics, 2005 edition.

[4] The advantage of this design is that it overcomes a fundamental identification problem—the potential correlation between fiscal choices and the ideological characteristics of its voters—to identify the alignment effect on tax setting, grant allocation and public spending. A similar approach, in the context of grant allocation only, has been used in independent works by Brollo and Nannicini (2012) and Migueis (2013).

[5] In the online Appendix we propose two alternative exercise, where the dependent variable is in turn (i) municipality expenditure net of (national and regional) grants, which corresponds to the sum of local taxes and fees, (ii) the total amount of public expenditures. The results for the estimation of the flypaper effect are very similar and around 40%.

[6] Bordignon et al. (2013) extend Brollo et al. (2013) to allow for two "quality" dimensions of politicians. Richer municipalities (with larger tax bases) are more likely to attract "productive" rather than "rent seeking" politicians. In their paper, rather than grants, the exogenous variation is from the 1999 reform in Italy that gave municipalities the power to set a surcharge on the income tax.

[7] See Johansson (1999) for an empirical test of the distributive politics theory.