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A European State: Lessons from Existing Federations

Does centralization increase the size of government?

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Abstract

Are fiscal programs larger or smaller if they are run centrally, rather than locally, in a prospective federation. We abstract completely from well-understood economic issues and focus instead on the *political* effects of centralization. For fiscal programs with benefits broadly spread in the population – such as redistributive transfer schemes, social insurance and general government consumption – centralization changes the coalition of voters who favor a large program in a direction that depends on the nature of the redistributive instrument. For fiscal programs with localized benefits – such as provision of local public goods – centralization creates opportunities for rent-seeking, which increases the size of government.

Key words: Fiscal federalism; Constitutions; Redistribution

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1. Introduction

Recent events in Europe and elsewhere have put the working and design of federal constitutions on the agenda of public debate. Integration within Western Europe and disintegration in Eastern Europe both involve questions about the form of two-tier^{TIER} government; German unification has put fiscal policy under strain and raised questions about budget interactions between different Länder and individual citizens; in Italy as well as Belgium, public-debt problems in conjunction with regional conflict have created demands for a federative structure with more regional autonomy in carrying out

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government functions; the new federalism in the U.S. involves decentralizing tasks from federal to state hands so as to reduce public spendings; perceived problems in Canada with federal schemes for transfers to and income equalization between provinces are at the center of the political debate.

At stake in all these cases is a classical issue in federalism: how to allocate responsibility over certain state functions to different levels of government. A common general theme is fiscal policy, particularly its redistributive aspects.

Scholarly attention among economists and political scientists to constitution design in a federation goes back at least 200 years to the Federalist Papers (Madison et al., 1987). Important contributions were made in the past by Musgrave (1959), Riker (1964), and Oates (1972). World events, however, revived the interest in fiscal federalism, as witnessed by a session of the 1991 Annual Congress (Casella and Frey, 1992; Buiters and Kletzer, 1992; Inman and Rubinfeld, 1992).

More recently, Weingast (1993) relies upon historical evidence and game theory to argue that decentralization may be necessary to contain prospective distributional coalitions from forming and putting a halt to successful development. Cooter and Drexler (1993) apply the idea of 'structure-induced equilibrium' to analyze how proposed changes in EC policy-making procedures will change the relative powers of the Council of Ministers, the European parliament and the European Court. Piketty (1993) suggests that federation-wide voting may provide a mechanism for resolving the fiscal externality problems tied to mobile tax bases. Persson and Tabellini (1992, 1993) investigate how alternative fiscal constitutions handle incentive problems in federal and local policy, drawing on hierarchical principal-agent analysis amended with collective choice.

Most of these contributions deal with *normative* issues.¹ This paper addresses a simple but important *positive* question in fiscal federalism: Are fiscal programs larger or smaller if decentralized to the local level of a prospective federation? An answer to this question is a necessary input in the normative issue of how to allocate fiscal responsibilities between the two tiers of government. We abstract completely from issues of tax competition and mobility of tax bases, not because they are unimportant, but because we think they are already well understood. Instead we focus on the *political* effects of centralization.¹

In Section 2 we study fiscal programs where the benefits are broadly spread in the population, such as redistributive transfer schemes, certain types of tax-financed government consumption, and social insurance. Centralization changes the coalition of voters who favor a larger redistributive program, in a direction that depends on the specific nature of the redistribu-

¹ The closest antecedent to our analysis is probably a recent paper by Perotti (1993), which addresses a similar question but in a different and more complex economic environment.

tive instrument. In Section 3 we study fiscal programs where the benefits are localized, such as provisions of local public goods. Political activities in this case operate through lobbying. Centralizing the provision of public goods that benefit only specific localities creates opportunities for rent seeking. This increases the size of government and leads to overprovision of local public goods.

2. Redistribution

This section deals with redistribution between citizens, according to their individual characteristics, but *irrespective* of their geographical location. For such policies, it makes sense to use majority rule as a benchmark model for equilibrium policy choice.

Income differences. We first deal with policies associated with individual income differences. Consider a simple Meltzer–Richards (1981) type model of redistributive taxation. There are two regions that only differ in their mean incomes. We denote variables referring to the poor region with an asterisk ‘*’. In each region there is a continuum of individuals with measure unity. Individual i in the rich region has the following preferences:

$$u^i = c^i + V(x^i), \quad (2.1)$$

where c and x denote the consumption of goods and leisure, respectively, and where $V(\cdot)$ is concave. She pays a proportional income tax t on her labor income l^i , where the gross wage is fixed at unity from a linear technology, and receives a lump-sum transfer, g , from the government.² Her consumption is thus $c^i = (1-t)l^i + g$.

Individuals differ only in their (effective) time endowments e^i , which are split between leisure and labor: $l^i + x^i = e^i$. These endowments are given by $e^i = e + \epsilon^i$, where e is the mean endowment. The idiosyncratic endowment ϵ^i has a zero mean and is distributed according to the same distribution function $F(\epsilon^i)$ in both regions. In keeping with existing income distributions, we assume that F is unimodal and skewed to the right, such that the median value ϵ^m is negative and $F(\epsilon^m + a) - F(\epsilon^m) < F(\epsilon^m) - F(\epsilon^m - a)$, for any positive number a . The poor region is identical in all respects, except that it has a smaller average time endowment, $e^* < e$.

It is straightforward to verify that the assumed linearity in preferences makes each individual optimally consume the same amount of leisure. The

²The results are qualitatively identical if the linear income tax instead finances per-capita government consumption g , which enters utility via an additive term $H(g)$ on the RHS of (2.1).

optimal labor supplies are given by $l^i = L(t) + \epsilon^i$, where the common labor supply function $L(t) \equiv e + V_x^{-1}(1-t)$ is negatively sloped. Since the mean of ϵ^i is zero, we can write the government budget constraint as $g = tL(t)$. If each individual contemplates her preferred tax rate, at a point in time when she knows her endowment, she will trade off redistributive benefits against efficiency costs.

What is equilibrium redistribution when fiscal policies are chosen locally? Consider the rich region first. Individual i 's optimum, t^i , is defined implicitly by the following first-order condition, obtained by inserting the government budget constraint into (2.1), taking the derivative with respect to t , and exploiting the envelope theorem:

$$t^i L_t(t^i) + (e - e^i) = t^i L_t(t^i) - \epsilon^i = 0, \quad (2.2)$$

where a subscript denotes a derivative. Individual preferences are clearly monotonic in ϵ^i . Those with low endowments and labor supplies want a larger redistributive program: t^i grows in the distance between the average and individual endowment $-\epsilon^i$. Policy preferences are also single peaked. Exactly the same expression holds in the poor region. Majority rule will therefore produce the same equilibrium tax rate in both regions, the solution to (2.2) for the (common) median idiosyncratic endowment ϵ^m . Since ϵ^m is negative, this common equilibrium tax rate is positive.

What if instead fiscal policies are chosen at the federal level? The equilibrium tax rate will then be governed by the federal distribution of policy preferences, obtained by aggregation across the two regions. Individual policy preferences have the same form, the only difference being that preferred tax rates are monotonic in the distance between individual endowments and average endowments in the *federation*. Because of this, majority rule at the federal level will produce *less* redistribution than at the local level.

To see why, express the distance between the average and median local endowments as $e - e^* = e^m - e^{*m} = 2a$. Note also that if the federal median were at the point exactly in between the two local medians, namely $e^m - a = e + \epsilon^m - a = e^* + \epsilon^m + a = e^{*m} + a$, the federal and local tax rates would coincide. Consider therefore the measure of voters below this point: $F(\epsilon^m - a) + F(\epsilon^m + a)$. It follows directly from our above definition of skewness that this measure is below unity – half the federal electorate. The federal median voter must thus have a *higher endowment*, which, in turn, implies a lower federal equilibrium tax rate.

Intuitively, when the regions are integrated, some voters in both regions change their preferences for redistribution. In the rich region, some voters just to the left of the median now favor less redistribution than in the decentralized environment. The reason is that, although poorer than the

majority of voters in the rich region, they are richer than the majority in the whole federation. Conversely, there are now some relatively rich voters in the poor region who favor more redistribution. Centralizing the redistributive program has thus altered the size of the coalition in favor of less redistribution. But because endowments are skewed to the right, the poor voters in the rich region who now favor less redistribution are more plentiful than the rich voters in the poor region who favor more redistribution. The coalition supporting less redistribution thus has become larger. Hence, centralization leads to a fall in the political equilibrium tax rate and to smaller transfers.

Risk differences. The previous model is most relevant for fiscal programs that redistribute between individuals with different *realized* income levels. It is less relevant for ‘social insurance programs’ associated with individual differences in the *risk* of income loss.

Consider the following simple bare-bones model of social insurance, along the lines of Wright (1986) and Persson and Tabellini (1992). Each individual has the same primitive, concave utility function $U(\cdot)$. She faces individual risk: her income will be either 1 or 0. These individual risks differ, however. Individual i in the rich region has probability p^i of good luck, where $p^i = p + \pi^i$. Here, p is the fraction of individuals with good luck in the rich region and π^i is an idiosyncratic risk parameter with zero mean and distributed according to the common distribution $G(\pi^i)$. The empirically relevant case now has G skewed to the left, such that is π^m positive and $G(\pi^m + a) - G(\pi^m) > G(\pi^m) - G(\pi^m - a)$, for any positive a . The reason is that the risk of becoming ‘unemployed’, or of suffering a major income loss, is likely to be concentrated in a minority of the population. The two regions differ only in the average fraction of lucky individuals. Thus, the poor region (denoted with a $*$) is identical in all respects, except that $p^* < p$. We assume that only market transactions are observable, while individual incomes are not. This makes private income insurance infeasible while it still leaves room for a social insurance program: by imposing a tax on all consumption and paying an equal lump-sum transfer to each individual, the government can redistribute between lucky and unlucky.³

Space limitations prevent us from going through the derivation of the results (see Persson and Tabellini, 1992, 1993) for a similar model with aggregate risk). But a clear-cut result can be derived in a similar way as in the prior model. When the two regions integrate, some voters in both regions switch coalitions. In the rich region some relatively high-risk individuals now favor a smaller social insurance program, since they have become low-risk types, relative to the rest of the federation. And the opposite happens in the

³ Similar results will continue to hold if the rationale for government policy involves less stark capital-market imperfections.

poor region. If, as we assumed, the distribution of individual risk is skewed to the left, we now reach the opposite conclusion. Centralization tends to increase the size of government, not decrease it, as in the prior model.

We can draw a general lesson. Integrating the redistributive programs of regions with different average income changes the coalitions in favor of more or less redistribution. The net effect depends on the shape of the distribution of voters preferences within each region. If the distribution is skewed to the right, as plausible in the case of ex-post income redistribution, centralization decreases the equilibrium size of government. If instead the distribution is skewed to the left, as in the case of social insurance programs, the opposite result holds: centralization increases the equilibrium size of government. It is possible and interesting to introduce further asymmetries the two models of this section, such as regions with different size or individual-attribute distributions of different shape. This will modify, but not alter, the general lesson.

3. Local public goods

In this section we deal with fiscal policies the benefits of which are concentrated in particular localities. If such policies are financed via federal taxation, the costs will be born in all localities, which introduces a free-rider problem. For policies with concentrated benefits and dispersed costs, majority rule may not be the most illuminating benchmark model of the policy process. Consequently, we will model the aggregation of conflicting preferences into actual policy via a different political mechanism, namely lobbying. The point of this section is that centralizing the provision of these local public goods introduces a free-rider problem, which enhances the incentives of each locality to lobby for federal spending.

We consider j symmetric localities, $j=1, \dots, J$. Each has a population of measure 1. There is no heterogeneity within localities, and the representative agent in locality j has preferences

$$v_j = c_j + H(g_j), \quad (3.1)$$

where g_j now represents a local public good, and $H(\cdot)$ is concave.

Suppose first that the local public goods are supplied locally and financed by a local lump-sum tax, such that the private budget constraint is

$$c_j = 1 - t_j = 1 - g_j. \quad (3.2)$$

Everybody in locality j agrees on the optimal level of g_j , namely $g^* = H_g^{-1}(1)$. This is also the first-best level of the public good.

If the local public goods are instead supplied at the federal level and

financed by a federation-wide, lump-sum tax, the situation is different. The federal government's budget constraint can be written

$$Jt = \sum_j g_j. \quad (3.3)$$

Clearly, all agents in locality j have strong incentives to push for an expansion of g_j , since – if successful – they pay only a fraction $1/J$ of the cost. The question is how to model equilibrium policy choice in this setting.

One simple way is suggested by a class of models of pork-barrel spending, which is common in political science, and associated with Weingast (1979) and Weingast et al. (1981). In these 'universalism', or 'reciprocity' models it is typically assumed that (the representatives of) each locality get to pick their preferred level of g_j , taking g_i for all $i \neq j$ as given. A political equilibrium is then a Nash equilibrium in these local choices. It is easy to see that this kind of equilibrium would involve overprovision of each public good: $g_j = H_g^{-1}(1/J) \equiv g^N > g^*$, for all j . Though suggestive, this is very much a black-box model of political equilibrium, however.

Instead, we formulate a somewhat more structural model, borrowing from the recent work by Grossman and Helpman (1992) on trade policy – another area with concentrated benefits and dispersed costs. Their work, in turn, is inspired by the theoretical work on common agency by Bernheim and Whinston (1986). Following this approach, let us assume that agents can engage in political action, such as paying campaign contributions or lobbying, to influence federal policymakers to provide public goods for their own locality.

Specifically, we assume that each locality can commit to a 'contribution schedule', whereby it specifies a payment z_j to federal policymakers as a function of the public goods they provide: $z_j = Z(g_j)$. To assume that the contribution schedule does not depend on other g_i 's, or on t , is an arbitrary, but realistic restriction. Federal policymakers are potentially responsive to these contributions: subject to (3.3), they choose a vector of local public goods (g_j) so as to maximize

$$v = \sum_j v_j + \alpha \sum_j z_j, \quad (3.4)$$

where v_j is now given by

$$v_j = c_j + H(g_j) = 1 - t - z_j + H(g_j), \quad (3.5)$$

and where α is a weight above unity. A political equilibrium in this setup is a Nash equilibrium in the federal policy choices and in the J contribution schedules, with the latter chosen first. Thus, when choosing g_j , the federal government takes the function $Z(\cdot)$ (but not its value z_j) as given.

To characterize this equilibrium, we consider first the choices of the federal policymaker – the common agent – given a vector of contribution schedules. The first-order condition for g_j can be written

$$H_g(g_j) - 1 + (\alpha - 1)Z_g(g_j) = 0. \quad (3.6)$$

In the previous stage of the policy game, the groups of local agents – the J principals – simultaneously choose their contribution schedules to maximize (3.5). Since v_j is linear in consumption each group has a unique preferred point for g_j , which satisfies the condition

$$H_g(g_j) - 1/J - Z_g(g_j) = 0, \quad (3.7)$$

obtained by maximizing (3.5) with respect to g_j . The equilibrium level of g_j , call it g^f , is defined by the following expression, which combines (3.6) with (3.7):

$$H_g(g^f) - 1 + (\alpha - 1)(J - 1)/\alpha J = 0. \quad (3.8)$$

Which contribution schedules induce this equilibrium outcome? One can show that the answer is

$$z_j = \text{Max}[0, (g_j - g^*)(J - 1)/\alpha J], \quad (3.9)$$

where g^* is the ‘first-best’ level defined above by $g^* \equiv H_g^{-1}(1)$. As is evident from (3.6), the federal policymakers are willing to provide g^* without any compensation, but must be induced to provide a higher level.

How does this equilibrium compare to the decentralized outcome? Clearly, the influence activities in the federal system generate more local public goods than in a decentralized system. We see from (3.8), that $g^f > g^*$ and that it is higher the higher is J and the higher is α . This is intuitive, since a larger number of localities makes the free-riding incentives stronger, whereas a higher weight on contributions in the policymaker’s objective function makes influence activities more profitable.

This result has some implications for the much discussed ‘subsidiarity principle’, the idea that policy functions should be decentralized unless the federal government has a clear advantage because of externalities or economies of scale. Suppose that centralizing the provision of some public goods enabled the federal government to exploit economies of scale. Suppose also that the public goods remained ‘local’ in that their benefits were regionally concentrated. Clearly, centralization would create a tradeoff between economies of scale and free-rider and lobbying incentives. The latter incentives would be stronger, the more concentrated the benefits from the public good. That is, the stronger the regional concentration, the stronger the case for decentralization. A myopic application of the subsidiarity principle, which

only considered technical efficiency and neglected the incentive problems, could lead to the wrong normative conclusion.

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