IS VERTICAL FISCAL IMBALANCE SO INEFFICIENT? or: THE FLYPAPER EFFECT IS NOT AN ANOMALY

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I: Introduction

This paper re-examines criticisms made of vertical fiscal imbalance in Australian and other federations. We argue that one of the central criticisms made of vertical fiscal imbalance is unproven.

Vertical fiscal imbalance occurs when the central government collects more taxes than it spends on its own purposes; when the states collect less in tax than they spend; and the differences represent grants from the central government to the states (and local governments). The alternative to vertical fiscal imbalance is an assignment of taxing and spending powers, between the Federal government and the States, so as to achieve a coordinate system in which there were no or small flows of federal grants.¹ Our paper contains a defence of an 'unbalanced' assignment of taxing and spending powers in a federation, and shows how the efficient use of those powers leads to grants (Sections II and III); discusses why grants vary and with what effects, in competing models of the grants process (Sections IV and V); adds some remarks about public choice mechanisms (VI); and offers some conclusions.

II: Assignment of spending and taxing powers in a federation

Although not attempting a full-blown defence of federalism, we should begin with a brief outline of the kind of arguments adduced in support of federalist arrangements. Central to the normative case for federalism is the claim that that form of government is best which best satisfies the wishes of its citizens. For economic efficiency, the ideal quantities of the various types of public spending are attained when the marginal value of a public expenditure item equals its marginal cost, including the cost of taxation. Inter-governmental competition can assist towards achieving this ideal. What a federal system offers, in addition to the electoral competition available in all democratic systems, is a form of constrained competition between governments. The constraints include restrictions on the powers to tax and spend, embodied in rules by which powers are assigned to the tiers (or columns) of government, federal and state.

There are connections between the principles upon which expenditure assignments should be made in a given federal structure and the optimal design of a structure consisting of n tiers of government. These connections relate directly to the spatial distribution of spillover costs and benefits. The standard theory is that the assignment of spending powers should be governed by the spatial character of the public spending

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¹ The case for severe reduction or elimination of general revenue grants is made in Kasper (1996), Walsh (1996) and Petchey, Rutherford and Nahan (1996).
concerned. Specifically, the responsibility for decisions about ‘local’ public goods should be given to the ‘local’ government, and for ‘national’ public goods given to the central government. There is a large and well developed literature on these matters, which we need not rehearse here. (See, for example, Williams (1966), Pauly (1973) and Head (1974)). It is sufficient to note that, if expenditure assignment is made on the basis of these principles, there will be some efficiency losses in any particular assignment.²

Although it is a less central part of the received federalism literature, there is a more or less analogous analysis relevant to the tax side of the budget. That is, different tax bases are differentially susceptible to spatial externality issues. For example, a tax on commodity X, which is mainly produced in jurisdiction A, but is consumed in all jurisdictions, will involve substantial tax spillovers if applied at the jurisdictional level; but virtually no such spillovers if applied at the national level. Part of the logic of the federated structure (and its customs union elements specifically) is to triumph over incentives at the level of each jurisdiction to impose the local analogue to the “optimal tariff”. Furthermore, taxes on relatively mobile factors of production or tax bases are likely to generate tax flight (and, possibly, consequent tax competition) that tend to make imposition at the jurisdictional level inappropriate. Of course, such factors of production may be internationally mobile also—but the degree of mobility is likely to be a negative function of jurisdictional size.

Within the tax literature, even that which takes the federal structure seriously, it seems to be assumed often enough that the properties of a particular tax inhere in the tax, so that the distortion created by the tax, per dollar of revenue raised (at various levels of revenue), is simply a matter of which tax it is, independently of the jurisdictional level at which the tax is imposed. It is, for example, often taken as read in the Australian debate that the personal income tax would be no less ‘efficient’ a tax instrument if it were levied at the State or at the Commonwealth level. But that seems an implausible claim. Income tax rate differentials among States seem likely to create tax incentives not present under a uniform rate regime, and the locational effects that those incentives generate seem on their face to be additional sources of distortion. But for some tax bases (and labour income might be one of them), and at some revenue levels, the size of these additional locational distortions is probably not great, and the incidence of the tax seems likely to fall almost entirely within the borders of the levying jurisdiction. Such tax bases are relatively amenable to decentralisation. Other tax bases, without these properties, are properly the province of the national level. Accordingly, there will be an ‘optimal’ allocation of taxing powers (tax bases primarily, but also conceivably rate structures) between jurisdictional levels, reflecting among other things the spatial properties of those tax bases or rate structures. (It is worth noting that it is not normally desirable that there be no local taxes).³

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² Whenever the geography of governments has been set by prior constitutional arrangement, or whenever numerous special-purpose ‘governments’ cannot be created and destroyed as demanded, then the assignment of spending powers to government will be approximate, rather than perfect. We might also note that the case for federation identified here does not depend on heterogeneous preferences for public goods across regions, although the presence of heterogeneity strengthens the case. See Hochman, Pines and Thissse (1995).

³ Suppose jurisdictions differ significantly in the consumption or production of some good. Consumption and production are roughly equal within each jurisdiction in such a way that there are no
Although none of the foregoing discussion amount to a robust theory of tax and spending assignment, let us proceed on the assumption that some appropriate assignment has been made. To what extent can that assignment take into account or assure a close matching between revenue collections and expenditures of the various governments? If all governments, Federal and State, collected taxes and charges in amounts that matched their spending, there would be no recurrent need for the federal government to make general revenue grants to the States. However, there could be occasions for other kinds of grants from the federal government to sub-national governments. For example, the national government may wish to increase the amount of ‘local’ public spending on, say, roads. Such a national policy objective could be achieved either by the use of ‘tied’ grants, i.e. grants with conditions attached; or by the use of ‘matching’ grants, grants arrangements that lower the relative prices of the spending categories that the national government wishes to stimulate. For ease of exposition, we will not discuss matching grants, but confine our attention to general revenue grants.  

III: Efficient use of the assigned powers leads to grants

An exact matching of public revenue collection and public spending in each jurisdiction could be achieved in various ways, including a constitutional prohibition on inter-governmental grants. Such a forced exactitude, however, would seem to introduce an economic inefficiency which can be avoided by the use of general revenue grants. In an efficient allocation, the marginal burdens of any sources of public funds would be equal to each other, and equal to the marginal valuation of the various forms of public expenditure. With a settled assignment of taxing and spending powers, only by accident (or extraordinarily skillful constitutional design) would that efficiency condition be met (or be approximated) when each government’s own-purpose expenditures exactly exhaust its tax collections.

Figure 1 illustrates the argument in partial equilibrium, within a simplified model of public decision making within one state. The figure abstracts from a common feature of fiscal federalism, which is that the amounts of federal taxing and spending occurring in a state is not determined solely within the state, but by some federal decision process; this matter is taken up later. In the meanwhile, we assume that there are two sources of public funds collected in the state, federal funds and state, the marginal burdens of which are independent and are shown by the curves labelled $C^F$ and $C^S$. Their horizontal addition is shown as $C^T$. Initially, taxes are ‘earmarked’ to finance two kinds of public spending in the state, one made by the federal government

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4The Commonwealth Grants Commission treats most Specific Purpose Grants to the Australian states as though they were fully fungible, relying on their being inframarginal. That is, the Commission assumes that the state, in the absence of the tie, would have spent, on the purpose specified, an amount at least as large as the Specific Purpose Grant itself.
and one by the state government. Both the federally-determined as well as the state-determined goods or services are assumed to be available at constant costs of production, normalised to unity. Demands by citizens in the state for federal and for state public spending, assumed independent, are shown as $D^F$ and $D^S$: their horizontal summation is shown as $D^T$.

With the constraint imposed that federal tax collections in the state are exactly assigned to federal spending in the state, and the same for state taxes, the efficient quantities are those with marginal costs of state taxation and federal taxation revenues shown as $S_0$ and $F_0$ respectively. These differ, implying an economic inefficiency.

With the constraint on grants removed, and inter-governmental grants permitted, equality of marginal costs of public funds can be achieved at cost level $T_1$. A federal grant of $R^F x^F = x^S R^S$ would be made, and federal grants would fund some proportion $g$ of state public spending. The welfare gain from satisfying all the marginal conditions is the sum of the shaded 'triangles'. At the federal as well as at the state level, the public choice mechanisms will have worked perfectly.

As is outlined in Section VI, there is a literature that claims that grants themselves distort the public choice mechanism at the state level. A central purpose of this paper is to dispute the evidence for those claims. If they were nonetheless true, then there are costs to be offset against the efficiency advantages illustrated in Figure 1.

Two important characteristics of the model presented so far relate to income effects and endogeneity. The federal grant of Figure 1 has no income effects, being paid out of taxes collected from the citizen-voters: there is no redistribution in the system of grants. In Section IV we consider redistributions and income effects. Also, the federal grant is endogenous to the conditions of demand for the various goods and to their costs. Section IV discusses the alternative approach in which federal grants are exogenous, and Section V attempts a reconciliation.

For the while, we will stay with endogenous grants. To focus this paper, we will concentrate on an exogenous change in community income, initially in a world in which all citizens were equally satisfied with the fiscal choices at federal and state levels. A rise in community income causes changes in demands and in the levels of various taxes collected (given tax rates), according to the relevant income elasticities. A canonical case is when the relevant elasticities are all unity, so that all the following variables grow at the same rate: income; federal spending; federal taxing; state spending; and state taxing. That is, the exogenous growth in income is allocated to federal taxes and grants, to public and to private spending in marginal proportions to income equal to their average proportions.

In these circumstances, federal grants, responding to a rise in community income, will remain in constant proportion, $g$, to state spending. Therefore, the ratio of the increase in state government spending to the increase in grant will be the inverse of $g$: $1/g$ is greater than unity. With perfect public choice decisions at the federal and state levels,

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5 In Brennan and Pincus (1996), we examine the effects of changes in tastes and in the excess burdens of taxation in a model with a median voter mechanism.
so that grants and spending are both responsive to changes in community income, state spending rises by more than the increase in grants.  

IV: Exogenous grants and ‘flypaper effects’

There is an alternative, standard account of federal grants which gives rise to very different expectations about the relationship between grants and state spending. In this alternative, federal grants are considered to be exogenous and their receipt is assumed to increase the income of the recipient community, dollar for dollar of the grant: that is, to have an ‘income effect’. With a perfect public choice mechanism in place at the state level, extra community income, if unaccompanied by any change in relative prices, should be allocated to private and government goods in a ratio that does not depend on the source the exogenous increase in income. Therefore, the receipt of a grant of size $G$ should cause an increase in state spending of $mG$, where $m$ is the community’s marginal propensity to spend community income, from whatsoever source, on state supplied goods and services.

Note that the value of $m$ is greater than zero, unless state supplied goods and services are income-inferior; and that $m$ is less than unity, unless all other goods and services are income-inferior.

There is a body of econometric literature offering estimates of the ratio of extra public spending to the extra grants received by the spending authority. In numerous studies, mostly in the US but also in Australia, estimates of that ratio tend to be much higher than the empirical estimates of $m$ drawn from the same or other demand studies. That is, the estimates of the apparent marginal propensity for public spending out of federal grants greatly exceed the marginal propensity for public spending out of community income. For example, the marginal propensity for state public spending out of state grants can be two or three times the marginal propensity for state public spending out of the community income of the state’s citizens; and sometimes exceed 1.0 (that is, sometimes federal grants appear to give rise to extra state spending in excess of the grant itself).

On this basis, it is frequently argued that state public choice mechanisms are very imperfect, due in particular to fiscal illusion and to manipulations of voters by bureaucrats and politicians; and that, in consequence, grants are not disposed of as

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6 Clearly, this ratio will vary when all income elasticities are not equal to one, or when the exogenous demand event, causing a change in grants, is a change in tastes. For specific components of state spending, even those subject to Specific Purpose Payments from the central government, the ratio g is difficult to estimate.

7 Typically, the cross-sectional regression is in the form $X = a + bY + cG + \text{other terms}$, where $X$ is state public spending (total or disaggregated); $Y$ is community income; $G$ is grants. A flypaper effect is claimed when the estimate of the coefficient $c$ exceeds that of coefficient $b$. See E. Becker (1996) for support of the claim that it is all due to simple misspecification. McGuire (1978) and others have investigated the proposition that grants that are apparently free of binding conditions are in fact accompanied by changes in relative prices that are not observed by the statistician; see also Brennan and Pincus (1990) for the case that there is no such thing as a free grant.

8 A brief survey of the empirics is given in Hines and Thaler (1995).
though they were an increase in community income, but instead remain in the public sector. More importantly, it is implied that grants themselves cause fiscal illusion. We will take this matter up in Section VI.

How satisfactory is the standard theory that gives rise to the expectation that, if state public choice mechanisms are perfect, a grant of size $G$ should cause an increase in state spending of $mG$? For the interim, we will assume exogeneity of grants, but not the claim about an income effect.\(^9\) (Section V explores the question of exogeneity.) In addition, we will continue with the assumption that the public choice mechanism is perfect at the state level, in allocating the (exogenous) grants and in deciding the level of state spending and taxing.

The effects of exogenous grants are illustrated in Figure 2. The curves $C^S$ and $D^S$ are again the cost of state tax funds and the demand for state spending. With no federal grant, state taxing and spending would be $X^S$. A grant of size $OG$ shifts the supply curve of public funds to the right by the amount $OG$, to $C^S_1$. If the grant were funded by an equal rise in the federal taxation paid by the recipients of the grant, the demand curve, $D^S$, would not change, so there is no income effect. Yet, state spending increases to $X^S_1$. The induced rise in state spending can be as high as one dollar of extra spending per dollar of grant.\(^10\)

In the grants literature, the name ‘the flypaper effect’ has been given to any increase in state spending in excess of that explainable by an income effect. To this point, there is no ‘net federal fiscal dividend’ implied in the grant, and so the federal grants causes no income effect on demand. Yet, with a perfect public choice mechanism operating at the state level, state public spending should increase when federal grants rise, even though extra federal taxes fund the grant.\(^11\)

When would grants carry a ‘net federal fiscal dividend’ and so induce an income effect? Fisher (1982) points out that, with an unchanged budget balance at the federal level, what the residents of one state receive as grant in excess of federal taxes paid (less federal spending received), residents in some other state or states ‘pay’ by way of a federal tax bill in excess of grants. Because there is no aggregate ‘net federal fiscal dividend’, there is no aggregate income effect of grants. In Figure 2, therefore, demand curve $D^S$ shows the circumstance of the ‘average’ state.

However, if one were deeply sceptical about the efficiency properties of the public choice mechanism at the federal level, then one could derive a kind of ‘net federal fiscal dividend’ from grants. The argument would be that when federal taxes were paid, they represented resources lost to the citizens of the state, and that any federal spending in the state is worthless. Therefore, federal grants to the state represent...

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\(^9\) For a clear discussion of this issue, see Fisher (1982).

\(^10\) The rise in state spending per dollar of grant is equal to $ds/(1 + ds)$, where $d$ and $s$ are the (absolute) slopes of the linear demand and cost curves, respectively. This parameter is bounded by zero and unity. Note that the calculation applies when the grants system involves no redistribution of income; grants received equal federal taxes paid (and not returned by way of federal spending made). The effects of redistribution are discussed below.

\(^11\) Brennan and Pincus (1996) shows in general equilibrium that state spending could fall, if the increase federal taxes and grants shifts the decisive taxpayer further from his or her preferred tax mix.
manna from heaven: exogenous, unexplained, unsystematic, random. Alternatively, one could assume that, for some unknown reason, a portion of federal tax collections is set aside for grants; and that the distribution of those grants between states is exogenous, unexplained, unsystematic, random.

How could public choice mechanisms in a federation be remotely satisfactory if the amount of federal grants and their distribution are exogenous? A perfect public choice mechanism would not produce grants exogenous to the preferences and costs of taxpayers. Therefore, when grants are assumed to be exogenous, it seems quixotic to apply a perfect public choice mechanism at the state level, one that is exactly reflective of citizen’s preferences and costs.

Nonetheless, we will proceed in the way in which the standard literature on grants does proceed: assume an exogenous federal grant embodying a ‘net fiscal dividend’; and then derive the test for whether the state fiscal decision satisfies the criteria for efficient allocation of the grant within the recipient state. In Figure 2, the curve $D_2^S$ is the demand for state public spending when the state has received an exogenous increase in income associated with the receipt of a grant. The horizontal difference between $D^S$ and $D_2^S$ is equal to $m$ times the net federal fiscal dividend embodied in the grant, with $m$ again denoting the marginal propensity to spend community income on state-supplied goods and services. At most, the shift in $D^S$ to $D_2^S$ is equal to $mG$, where $G$ is the quantity of the grant. More commonly, the shift will be $m(G - T)$, where $T$ is the addition to federal taxes in the state, intrinsic to the funding of the grant.

Notice that $X_2^S$, the actual increase in state spending due to the grant, is greater than the shift in the demand curve, for reasons explained earlier. Thus, an exogenous grant that embodies an increase of $G$ in the net federal fiscal dividend, causes an increase in state spending of more than $mG$. Depending on (price) elasticities, state spending could increase by as much as $G$ itself. A model, which includes the assumptions of the standard theory concerning exogeneity and net fiscal dividend, does not yield $m$ as the ratio of extra spending to grant. We would thus expect to find estimates, of the marginal propensity for state spending out of federal grants, which are greater than the marginal propensity for state spending out of community income.

V Possible Reconciliation

Let us return to the empirical studies that rely upon the standard theory of grants, with its implication that, if state public choice were perfect, state spending should increase by $m$ dollars per dollar of grant. We have endeavoured to show that no such firm inference can be made from theory. Firstly, it cannot in general be true that the receipt of a grant represents an equal increase in community income: on average, grants must be matched by increases in federal taxation, and so there will be no income effect. Nevertheless, an exogenous increase in federal grants will stimulate state spending; the ratio of extra state public spending to extra grant can rationally range from zero.

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12 The rise in state spending per dollar of grant is $(m + ds)/(1 + ds)$, where $d$ and $s$ are defined in note 7 above. The value of this expression lies between $m$ and unity.
through \( m \) to unity. For those (rare?) cases in which grants fully embody increases in community income, and with a perfect public choice mechanism at the state level, and with exogenous, unconditional, general revenue grants, the ratio of extra state public spending to extra grant can rationally range from \( m \) to unity; and can exceed unity with endogenous grants. Empirically, the estimates of the marginal propensity to spend on state supplied goods and services *out of grants* have greatly exceeded estimates of the marginal propensity to spend on state supplied goods and services *out of community income*; and have sometimes exceeded unity. In this section, we speculate about how, by switching to a statistical concept of endogeneity, one might reconcile these empirical results with theory of Sections III and IV, without immediately appealing to the existence of deficiencies in the public choice mechanisms.

Crucial, to the standard approach, is the *implicit assumption that grants are exogenous to economic conditions in the recipient state*. In our alternative model, set out in Sections II and III, grants are determined by a public choice mechanism at the federal level interacting with the public choice mechanism at the state level. If citizen-voters were identical, then Figure 1 would be all that would be required; and federalism would be irrelevant. Only by accident or only for very few voters, will any public choice mechanism deliver the exactly preferred mix of taxes and of expenditures; and the preferred amount of federal grants. For most voters in most states, federal grants will have a degree of exogeneity (and will carry redistributions. We discussed the consequences of redistributions in the previous section).

Although it is true in a federation that at most one of a set of heterogenous citizens-voters can be expected to achieve the perfect tax mix and the perfect expenditure mix; and true that, for all other voters, federal grants have elements of exogeneity, all is not lost. If economic conditions in the recipient state are highly correlated with the economic conditions that, at the federal level of public decision making, determine the amount of grant, then grants are (statistically) endogenous. If the relevant voters enjoy similar increases in income (to stick with the case above), then the degree of endogeneity of grants will be high.\(^1\)

Much, therefore, depends on the degree of homogeneity of economic experience among the relevant voters. In the Australian case, it is a commonplace that economic conditions do not vary greatly between the states. When national income grows, it tends to grow at roughly similar rates in most states and regions. Relative prices and tax rates do not vary greatly between states: The shape of the distribution of income is probably not very different in the different states. In these circumstances, grants will not be statistically unrelated to economic conditions in the recipient states; grants will be largely endogenous.

If so, then it is not too surprising that, as income has grown in Australia, so have federal grants. With federal and state political decisions somewhat responsive to voters, the income-induced increase in the demand for extra state spending will

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\(^{11}\) For example, if the median voter theorem applies drives the public choice mechanisms at the federal and at the state levels, then what matters is the correlation between the exogenous changes influencing the various median voters (see Brennan and Pincus, 1996). On the endogeneity of recipient governmental tax effort and of expenditures, see Becker (1996) and references therein.
generally be financed in part by additional federal taxes and grants in aid, and in part by extra state taxes. State spending will increase by more than the grants in aid, with only some of the excess ‘explained’ by any change in preferences. Variations in income (which is the demand shock most relevant for historical experience since, say, the early 1950s) will produce variations in the extent of measured flypaper effects; but such flypaper effects will not be ‘anomalous’. On the contrary, they will be perfectly consistent with fully informed, demand driven policies.

VI. The Fiscal Illusion Argument

So far, our strategy has been the negative one of showing that one does not need to appeal to fiscal illusion in order to “explain” the flypaper effect. In that sense, we have sought to show the fiscal illusion argument “unproven”. But we also think that the logic of the fiscal illusion argument, at least as it is most commonly rendered, is itself deeply suspect and may not have the implications that its proponents seem to think it has. It is a little difficult to be confident about this last claim, because the fiscal illusion argument itself is rarely laid out explicitly. Instead, there is a gesture towards a proposition that seems to be totally self-evident—and the argument is left to hang or fall on the intuitive appeal.

Here’s how it goes. Suppose there is fiscal illusion around federal grants—that citizens of the recipient jurisdiction underestimate the cost (in terms of higher federal taxes) that the grant involves. To the citizen-voters of the recipient State, grants seem like “free money”. When State voters consider the cost of State expenditures, therefore, those expenditures appear to be cheap, and in particular much cheaper than they actually are. Accordingly, State voters will vote for more of these apparently “cheaper” public services than they would vote for if they had to pay the taxes directly to fund those services. Once we assume that demand curves for public expenditures slope downwards, the logic seems incontrovertible: grants, plus fiscal illusion, implies overexpansion of State spending. Grants are, on this reading, a snare and delusion in the body politic: they encourage overspending and a measure of general fiscal irresponsibility at the State level. Better from this viewpoint if “vertical fiscal imbalance” is rectified. To use Cliff Walsh’s (1996) neat reversal of Tom Paine’s famous aphorism: there should be “no representation without taxation”.

But, in fact, this line of argument seems to us to be highly dubious, on two counts. First, if there is fiscal illusion of this kind at the State level, there must be a corresponding fiscal illusion at the Federal level of an offsetting kind. It would indeed be bizarre if voters at the Federal level were prepared to support inter-governmental grants on the grounds that these provide valued public services at the State level, and at the same time treat those grants when they arrive in the State as “free money”. It is a simple point, but seemingly often overlooked, that those voters who vote for (parties that offer) significant inter-governmental grants at the Federal level are the same

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14 For a recent survey of the literature on fiscal illusion, see Dollery and Worthington (1995) or Becker (1996). The econometrical studies of the fiscal illusion of federal grants, with which we are familiar, focus on the supply side illusion. However, as Fisher (1982) notes, many studies use, as a demand shifter, community income before federal taxes, thereby unknowingly including fiscal illusion on the demand side.
persons who vote at the State level. If the process that generates State receipts is seen to be a kind of black-box Santa Claus at the State level, it should also be seen as a black-box drain at the Federal level. The obvious question, then, is why Federal voters should routinely vote for parties who proffer policy packages that include intergovernmental grants—why those parties should routinely wear the opprobrium of levying higher taxes when there are no political benefits to be obtained from the expenditure. Of course, one might appeal to models of political process in which voters’ preference over policies play a minor role or are essentially epiphenomenal—but then one does not need “fiscal illusion” to explain political outcomes. Voters’ misperceptions of costs and benefits are only relevant where voters’ beliefs on these matters are electorally significant.

The second objection to the intuitive version of the fiscal illusion argument is that it fails to distinguish between the average and the marginal costs of State funds at the State level. To see what is at stake in this failure, it is useful to appeal to diagrammatic representation. In this representation, we shall treat the level of grants as exogenous at the State level: that is, we take the level of grants to emerge from a process over which State voters as such have negligible control. We shall follow the simple median model of State political process, in which levels of State spending are determined according to the demand curve of the median voter. For simplicity, we shall here assume that the marginal cost of public funds is constant and that the median voter’s share of that cost is independent of the level of spending. So, the tax-price to the median voter of public spending is \( x \).

We also for simplicity normalise units of \( X \) in terms of one dollar’s worth. Suppose the level of grant is set at \( G_0 \). Then for any level of State taxes, \( T \), the perceived cost to the median voter will be \( x \cdot \frac{T_0}{T_0 + G_0} \), because the government grant funds State expenditure but costs State voters nothing (or at least, nothing they observe: in fact, as we emphasize throughout, they do pay for these inter-governmental grants in terms of higher federal taxes). On this basis, so the argument goes, the level of spending will be pushed to the point where the perceived average cost cuts the demand curve—that is, for \( G_0 \), the point will be \( X_0 ( = T_0 + G_0 ) \) in Figure 3, where the demand curve cuts the horizontal line \( x \cdot \frac{T_0}{T_0 + G_0} \). Clearly, \( T_0 \) is a function of \( G_0 \). If \( G_0 \) were higher, say \( G_1 \), the new political equilibrium would be at \( X_1 ( = T_1 + G_1 ) \) in Figure 3, where the demand curve cuts the horizontal line \( x \cdot \frac{T_1}{T_1 + G_1} \). Only if \( G \) is zero, will the truly efficient; zero-illusion outcome of \( X^* \) be achieved. And the conclusion will follow, so the argument goes, not only for the case where Federal grants are seen as free money, but also for any case where the tax cost of Federal grants is perceived to be less than its true value, \( x \).

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15 See Grossman (1994) for estimates of the electoral benefits that US federal politicians obtain from grants to the states.

16 We also assume that the marginal cost of public funds is the same for State and Federal taxes. As we have made clear in the earlier discussion, this is a critical assumption and wrong in crucial respects. But it is useful to abstract from certain aspects of the federalism issue here, in order to focus attention on the relevant mistake in the intuitive argument.
We have set the foregoing argument out explicitly, only for the purposes of demonstrating how dubious it is. For, while it may be plausible to think that voters suffer from fiscal illusion in relation to grants, it is highly implausible to suppose that political parties suffer likewise. Or, even if they did, that they would not, over time, come to realise the error of their ways. To see this, consider the situation where Federal grants are at level $G_0$. The logic of $X_0$ as the corresponding level of spending derives from the conclusion that, at $X_0$, the median voter's (perceived) surplus is maximised. But that claim is simply false. A party that offers $X_0$ when grants are $G_0$ will be defeated by a party that offers $X^*$, so that whether the $X^*$ outcome arises because one party is more astute than the other or by accident, $X^*$ will tend to emerge as the political equilibrium. To see why $X^*$ defeats $X_0$, note that what is at stake is a comparison between the package $(X^*, T^*)$ where $T^*$ is the perceived tax bill with $X^*$, and $(X_0, T_0)$. At $(X_0, T_0)$ the voter is receiving an extra $(X_0 - X^*)$ units of public spending at a tax cost of $(T_0 - T^*)$ of which the median voter's share is $a(X_0 - X^*)$. Faced with a choice between $X_0$ and $X^*$ on those terms, the median voter will prefer not to have the additional units of $X$: $(X^*, T^*)$ gives the median voter more surplus than $(X_0, T_0)$. Put another way, the perceived cost of marginal units of $X$ is the full $a$, because those marginal units are financed wholly out of State taxes. Because the level of grant is exogenous to State citizen-voters, the perceived fiscal saving is entirely infra-marginal: it saves total tax dollars, but it does not figure in the marginal cost. Accordingly, the fiscal illusion associated with grants does not affect State spending choices. It would only do so if State taxes were zero (if $G$ were greater than $X^*$).

To say that fiscal illusion of the kind we have been discussing here does not affect State spending choices is not to say that it may not have some effect on something. In particular, this kind of fiscal illusion does serve to stimulate a pro-federalist bias. Faced with a choice as to where to locate a new spending activity, or with making a more general judgment about the relative efficiency of State and Federal fiscal systems, the citizens are more likely to opt for the State level. After all, in political equilibrium with fiscal illusion, the surplus they see themselves to be getting is considerably greater at the State level: States can do so much more with so much less (perceived) revenue than the Federal government can. Thus, fiscal illusion over grants contributes to the assignment of expenditure powers and to general federalist ideology, but it does not lead to over-expanded expenditure levels in the State fiscs:

**VII. Conclusion**

Nothing in this paper should be construed as an argument against federalism or as a denial of the possibility of fiscal illusion in voter behaviour. Our aim has been the more modest one of showing that one particular argument (albeit an increasingly common one) against "vertical fiscal imbalance" is essentially misconceived. The argument we aim to criticise rests on two propositions:

- **proposition one**—that we know that there is fiscal illusion in relation to grants because of the widespread evidence for a flypaper effect;
- **proposition two**—that such fiscal illusion leads to distortions in the level of spending at State (recipient government) levels.

Our object here has been to show that both propositions are false.
There may be yet other arguments against vertical fiscal imbalance. But such arguments ought to recognise the simple case for vertical fiscal imbalance—namely, that VFI permits one to separate to some extent the requirements for efficient expenditure and efficient tax allocation across levels of government. There may be costs involved in such separation, but the simple intuitive arguments based on fiscal illusion do not succeed in making a case to that effect.

REFERENCES


Kasper, W., 1996, Competitive Federalism: Bidding Wars, or Getting the Fundamentals Right (Institute of Public Affairs).


