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International Lessons in Fiscal Federalism Design

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Abstract

We review and evaluate alternative ways of designing federal-state fiscal relations with a view to achieving accountability, efficiency and fairness in the financing and delivery of public programs to citizens of different states. We draw on practices in other federations, particularly in decentralized ones such as Canada.

1. FEDERAL-STATE FISCAL ARRANGEMENTS: THEIR FORM AND PURPOSE

Federal-state fiscal arrangements can include a variety of elements. The *system of transfers* from the federal to state governments is an important one, and can consist of general unconditional transfers, bloc conditional transfers and specific-purpose transfers. The transfers can be unilaterally determined by the federal government or subject to federal-state agreement. They can be formula-based or can include discretionary elements. They can be enacted for a fixed term or can be indefinite. Two key features of federal-state grants that influence their role in achieving policy objectives are the extent to which they are equalizing among states and the extent to which conditions are imposed that are intended to influence state behaviour.

Related to federal-state transfers are *revenue-sharing arrangements*. In their simplest form, these specify what proportion of revenues collected by specified taxes are allocated to the states, and according to what formula. The absence of state discretion over tax rates on shared bases implies that shared revenues are essentially like unconditional transfers, albeit according to a particular allocation formula. Shared tax revenues may be regarded as own-source revenues and equalized to the extent that the equalization system includes revenue capacity as a determinant of transfers.

There might also be *bilateral agreements* between the federal government and individual states or groups of states that involve transfers of funds to achieve some agreed objective. For example, in Canada, bilateral agreements exist between the federal government and one or more provinces to fund provincial immigration activities and worker training programs.

Another important class of fiscal arrangements includes *harmonization agreements* negotiated between the federal and state governments. These can be tax harmonization agreements, when both levels use the same tax source and agree to use a common base and possibly a unified tax collection administration. They can also include the

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harmonization of spending programs or regulations, such as social insurance programs, environmental regulations or the regulation of product or labour markets.

The fiscal arrangements can also include *broad agreements* setting out principles that govern or constrain government policies. There might be an agreement to abide by internal economic union or common market behaviour to preclude policies that distort product and factor flows across state borders (e.g., the Agreement on Internal Trade in Canada), unless such behaviour is already restricted by constitutional provisions, as in the USA. A similar agreement might establish common principles for social policies (e.g., Social Union Framework Agreement in Canada). In principle, there could be agreements on the limits to deficit financing and debts accumulated, analogous to the Growth and Stability Pact in the European Union. For whatever reason, such agreements have typically not been used in federations. The tendency has been to rely on the cruder tool of balanced-budget legislation or constitutional provisions instead. Finally, institutions might exist that serve an advisory function on federal-state fiscal relations, such as the Commonwealth Grants Commission in Australia or comparable bodies elsewhere.

Federal-state fiscal arrangements serve various objectives. In the broadest sense, their purpose is to facilitate the decentralization of fiscal responsibilities to the states so as to take advantage of the benefits of decentralization, while at the same time ensuring that national objectives are satisfied. These national objectives, in addition to the standard provision of public goods and services at the federal level, include such far-reaching goals as the efficiency of the economic union, the appropriate extent of equity in the social union, and goals of social citizenship and national solidarity that reflect the national consensus. While these broader objectives may not be stated explicitly in the constitution, nonetheless, they are presumed in most nations to be the responsibility of the national government.

More specifically, the federal-state fiscal arrangements can be designed to allow the states as much freedom as possible to pursue their legitimate legislative objectives on behalf of their citizens in an accountable and responsible manner, while at the same time encouraging them to abide by shared national objectives. The key point is that some of the most significant programs that the states are called on to deliver — because they can do so most efficiently — are programs that necessarily have national equity and/or efficiency dimensions. These include important social programs like education, health, welfare transfers and social services. They also include state regulatory programs in areas like labour markets, capital markets, environment and communications. The federal government has a legitimate interest in the outcome of these programs to the extent that they affect national efficiency or national equity, insofar as they reflect the national consensus. While the states may have primary legislative authority in these areas, the federal government may be able to influence the design and delivery of them through the use of conditional transfers or negotiations. The key features are that the interests must be seen to be national by the citizenry, and the manner in which the federal government influences state decisions and priorities must be only as intrusive as necessary for the purpose. Therein lies one of the major challenges faced by federations.

One of the ways that national efficiency, equity and social citizenship objectives can be achieved with minimal disruption to state responsibilities is through policy harmonization. Federal-state tax systems can be harmonized while allowing varying

degrees of state discretion over rates and rate structures. This can best be achieved when states and the federal government both have access to the tax base in question, since then the federal government can coordinate harmonization among the states. The harmonization of transfers, including refundable tax credits, can also be achieved by federal-state agreement.

In practice, federal-state tax and transfer harmonization is implemented by a series of individual state-federal agreements (e.g., Canada and the USA). Harmonization of social policies is more difficult to the extent that states have legislative supremacy over social policy programs. Harmonization may be achieved by the federal government attaching broad conditions to the transfers it makes to the states in support of social programs. Indeed, encouraging states to abide by national standards in the design of their social programs is one of the main purposes of such transfers.

Another critical role of the federal-state transfer system is to equalize differences in fiscal capacity across states that arise from decentralization of revenue and expenditure responsibilities. The more decentralization there is, the greater the disparities there will be. There are two main dimensions to that. One arises from the fact that different states will inevitably have different ongoing fiscal capacities. In this case, the federal government can make equalization transfers so that all states are able to provide comparable levels of public services using comparable tax rates should they so choose. In the absence of equalization, fiscal inefficiency can arise as households and business have an incentive to locate in regions of greater fiscal capacity simply to take advantage of lower tax rates and/or higher public service levels. As well, fiscal inequity applies in the sense that otherwise comparable persons residing in different states are treated differently by their state governments. Note the critical point that equalizing for such inequities involves accepting the idea that citizens are entitled to roughly comparable fiscal treatment — subject to inevitable differences in the mix of public services and taxes that states choose given their fiscal capacities — regardless of their state of residence. This can be viewed as a dimension of social citizenship or solidarity for which varying degrees of consensus might exist. In some federations, the requirement that states have the ability to provide comparable levels of public services to their citizens is actually written into the national constitution (e.g., Canada, Germany, South Africa).

The second reason for equalization transfers is to provide a form of insurance to states when they are subject to temporary idiosyncratic shocks. The presumption is that the federal government is better able to provide such insurance than states themselves, given its superior ability to pool risks and its better access to capital markets. This stabilizing property of equalization is an important macroeconomic feature of federations that is missing in economic unions without a strong central government. In the latter cases, responses to shocks require more costly forms of adjustment, such as changes in wage rates or unemployment.

The need for transfers to address problems of differing fiscal capacities and idiosyncratic shocks, as well as to enable the federal government to have some influence over nationally important state policy decisions, entails that there should be a vertical fiscal gap: the federal government should raise more revenue than it need for its own spending programs so that it can make equalizing and conditional transfers to the states. In a well-functioning federation, the use of these transfers by the federal government will respect the legitimate responsibilities of the states. As well, it will

foster transparency and accountability at both levels of government. It will also forestall one level of government exploiting the other, especially by avoiding incentives that lead to either soft budget constraints exploitable by the states or situations in which the federal government can pass its fiscal problems on to the states in the event of a fiscal shock.²

There is no magic prescription for guaranteeing a well-functioning federation in which each level of government assumes the responsibility for pursuing its own responsibilities without impinging on the responsibilities of the other. A federation with a weak central government will be a federation in which national efficiency and equity are not achieved. If the federal government is too overpowering, it may seek to exercise too much influence over the states in ways that detract from responsible and accountable decision-making by the latter, and in the end foster dependency and state inefficiency. Striking the right compromise between decentralization and federal influence is the main challenge posed for federal-state fiscal arrangements.

2. WHY NOT SELF-SUFFICIENCY OF ALL LEVELS OF GOVERNMENT?

In principle, states could be made responsible for raising sufficient own-source revenues to cover all their needs without recourse to federal transfers. This would disentangle government budgets and promote accountability. This is virtually never done in federations. At the risk of some repetition, it is useful to pause to ask why this is the case. It will help to inform subsequent discussion of the design of federal-state fiscal arrangements.

There are a number of reasons why full self-sufficiency would be deleterious for achieving the objectives of a federation. First, self-sufficient states would have both different abilities to raise revenues and different needs for public services. Better-off states would have larger tax bases per capita and could raise greater revenues at comparable tax rates, or comparable revenues at more favourable tax rates, than less well-off states. States whose populations contain a higher proportion of groups that are heavier users of public services would need to raise greater revenue per capita to provide levels of services comparable to other states. In the absence of perfect mobility of persons, those residing in states with higher fiscal capacities and lower needs would benefit from better public services at lower tax prices. This would be a violation of fiscal equity or social citizenship whereby persons through their state governments could expect reasonably comparable fiscal treatment wherever they reside. It would also give an incentive for migration to higher-income regions to obtain the benefits of better fiscal treatment. Equalizing the capacity of different states to provide public services can be achieved without compromising the ability of states to choose their own mix of services and taxes to satisfy the local political consensus, but such a state of affairs requires equalizing fiscal transfers.

² Both of these have happened in the Canadian case. In the early 1990s, the federal government addressed its unsustainable debt and deficit crisis by fiscal austerity measures that disproportionately involved reduced transfers to the provinces. A vigorous debate ensued about vertical imbalance that has soured relations since. Conversely, the federal government struck bilateral deals with Newfoundland and Nova Scotia to allow them to receive revenues from offshore petroleum production without suffering equalization consequences. The rationale given was the high debt level of these provinces, inviting reference to soft budget constraints.

Second, fully decentralized state decision-making inevitably results in inefficiencies or distortions in the federal economy, even if the distortions are not intentional. State taxes on mobile factors of production cause them to be allocated inefficiently across states; beggar-thy-neighbour subsidies to attract investment play one state off against others; residence restrictions on the use of public services discourage mobility; state regulations distort the location decisions of firms; state procurement policies favour in-state over out-of-state firms; capital market regulations restrict the free flow of capital across the federation; and so on. The harmonization of fiscal and regulatory policies can in principle be achieved by agreement among states, and an internal free trade and investment agreement could avoid beggar-thy-neighbour policies. However, such agreements are difficult to consummate in the absence of a federal government that represents the nation as a whole.

Similar problems compromise redistributive objectives. Self-sufficient states would raise comparable levels of revenue as the federal government, and revenue sources would include those that are used for redistributive purposes. But, fiscal competition among states would encourage a race to the bottom in redistribution policies. The federal government could, in principle, compensate by making their tax-transfer systems sufficiently progressive. However, this would be difficult if their share of the tax room is highly constrained.³ More importantly, state public services are important components in the redistribution arsenal. To the extent that the national consensus calls for common levels of social protection in the programs the states deliver, the federal government has an interest in influencing state policies to meet minimum national standards. In the absence of federal-state transfers, a key policy instrument is not available for the federal government to meet this objective. Of course, this depends on there being a consensus for a high enough degree of social solidarity or social citizenship, and this can differ significantly across federations. Nonetheless, citizens in a federation are national citizens, and one presumes that actual citizenship brings with it some expectation of social citizenship at the national level.

Finally, self-sufficient states are less able to cope from a macroeconomic perspective than if their self-sufficiency were suitably restricted by a strong federal government. The latter can, through its transfers, provide implicit insurance to states against shocks. Federal-state transfers provide important shock absorbers to help states adjust when participation in a common national currency means they do not have access to macroeconomic policies like monetary and exchange rate policy. Moreover, national stabilization policy is more powerful than it would be in a fully decentralized federation, especially when state fiscal behaviour might be pro-cyclical.

3. WHY NOT A HIGHLY CENTRALIZED FEDERATION?

By the same token, the opposite extreme of a highly financially centralized federation, where states rely on federal transfers for the bulk of the revenues they need to finance their public spending, has serious disadvantages. With limited discretion over own revenue-raising, states are unable to control the size of their fiscal programs, thereby

³ The term *tax room* is commonly used to refer to the division of tax revenues from given tax bases between the federal government and the states when both have access to the base. This division is endogenous and depends jointly on the tax rates chosen by the two levels of government. Nonetheless, the higher the tax rates applied by one level of government, the more difficult it is for the other level to increase its rates. In some instances, the federal government can transfer tax room to the states by reducing its tax rate and inviting the states to increase theirs in response.

sacrificing one of the presumed aims of federalism. They are allegedly less accountable if they rely on funds from elsewhere to finance their spending: they are certainly not accountable to the federal taxpayers or the federal legislatures who provide the funds. If state revenue-raising power is very limited, they have limited accountability for even marginal spending decisions where arguably there is the possibility for determining the size of their budget. To the extent that they try to exercise discretion over marginal fiscal choices, they may over-rely on narrow sources of revenue thereby increasing the inefficiency of the tax system.

Highly financially dependent states are also more prone to soft budget constraint problems, especially if they have unexpected needs for spending. More generally, they are less able to self-insure against fiscal shocks that they inevitably face given the cyclical nature of some major state spending programs. This is exacerbated by the fact that borrowing is less effective if they must rely on future transfers to finance the loans.

Finally, excessive reliance on federal transfers predictably leads to excessive federal control over state spending priorities and programs. Federal legislators naturally seek to have some measure of accountability over the funds they disburse to the states, and this may take the form of intrusive interference with state choices. This defeats one of the main purposes of federalism, which is to allow state governments the discretion to provide the types and levels of public services most suited to their unique circumstances, albeit while abiding by national standards of efficiency and equity.

There are thus disadvantages both to federations that are too financially decentralized and to those that are too centralized. Some decentralization is beneficial for fostering accountability and for giving the states the discretion to match their fiscal structures to local needs and priorities. At the same time, too much decentralization compromises the efficiency and equity of the economic union. The key design question facing the fiscal arrangements in federations is how to achieve the correct balance. Indeed, as we have mentioned, one can view a role of federal-state fiscal arrangements as being to facilitate decentralized decision-making by the states, with all the advantages that brings, while at the same time enabling the federal government to counter the adverse effects of decentralization, which arise both from the fact that decentralization leads to horizontal fiscal capacity imbalances and to possible compromises of the rights and expectations of social protection that all citizens might anticipate wherever they reside. The role of the federal government is key in this regard, especially its judicious use of federal-state transfers, and the moral authority it has to broker pan-federation arrangements that harmonize state policies while leaving them with discretion to pursue legitimate state objectives.

The appropriate balance will be unique to each federation, since it depends on such things as the extent of heterogeneity of the population, the degree of consensus and social cohesion in the country as influenced by its history, and political institutions. Nonetheless, there are certain broad design features of fiscal relations that are shared among federations. The following section summarizes some of these.

4. A STYLIZED SUMMARY OF ACTUAL PRACTICES

There are some stylized features of federations that will inform our discussion. A key one is that state expenditure responsibilities share some common features. In addition

to being responsible for state and local public goods, states typically also provide important public services of a social nature, such as education, social services and health care. They may also be responsible for targeted transfers, such as welfare and disability payments. These social programs make up the bulk of state program spending, and constitute a main component of redistributive program spending in the federation. How state social programs are designed and delivered is of relevance to the nation as a whole to the extent that national norms of redistribution, social insurance and equality of opportunity apply.

State responsibility for public services of a social nature follows from basic subsidiarity arguments for decentralization: states can more efficiently deliver services to persons, can do so in more cost-effective ways, can better target to those in need, and can better innovate. Moreover, they are subject to the discipline of fiscal and yardstick competition from neighbouring states, which discourages waste. The federal contribution to redistribution through expenditures tends to focus on the transfer system, including transfers delivered through the income tax system, transfers that are relatively easy to administer on a large scale, like public pensions, and transfer programs for which risk-pooling is important, like unemployment insurance. Of course, not all federations have identical expenditure assignments. Some federations centralize welfare payments, while some decentralize unemployment insurance. Sometimes unemployment insurance and welfare are delivered as part of the same program, so federal provision applies. Nonetheless, in most federations, states have significant responsibility for social programs, while the federal government delivers transfers whose eligibility is not heavily reliant on individualized targeting. An important influence on federal-state fiscal arrangements is the coordination of redistributive programs delivered by the states and the federal government.

The share of expenditure responsibilities borne by the states tends to be relatively similar across federations (Watts 2008). Overall, state spending tends to be of comparable magnitude to that of the federal government. Where federations differ is in the extent to which states finance their spending through own revenues, and the breadth of tax sources to which they have access. In federations where states have significant revenue-raising authority, the states have access to broad-based taxes, such as income, sales or payroll taxes, typically sharing these tax bases with the federal government. Tax sources that are sometimes assigned more or less exclusively to the states include taxes on property and property transactions (property taxes, natural resource levies, stamp duties and land transfer taxes) and some excise taxes. Where broad-based taxes are jointly used by the federal government and the states, they may be harmonized and administered by a single national revenue agency.

Even those federations with the most decentralized revenue responsibilities maintain a sizeable vertical fiscal gap: the federal government raises more revenues than it requires for its own program spending, and transfers the excess to the states. In one sense, this vertical fiscal gap exists simply because the arguments for decentralizing expenditures are more compelling than for decentralizing revenue-raising responsibilities. Large-ticket items like social programs are state responsibilities because they can be more effectively delivered by the states. But, excessive decentralization of revenue-raising leads to inter-state distortions, administratively complex collection and compliance, and compromised equity outcomes.

Rather than being a residual between expenditure and taxation decisions, a vertical fiscal gap may be desirable in its own right, and its size may be a consequence of the explicit choice of federal-state transfers. These transfers serve three main purposes. The traditional role is as a device to encourage states to spend on programs that have spillover benefits to residents of other states, though this is a minor role in practice.

A second role is to equalize the fiscal capacities of states that have different abilities to raise revenues and different expenditure needs. This role becomes more pressing, and at the same time more difficult to fulfill, the more decentralized is the federation. In principle, equalization could be done at no cost to the federal government by financing the transfers to low-capacity states by taxes on high-capacity ones. However, such 'net equalization schemes' are rare since it is constitutionally difficult for the federal government to tax a state. Thus, equalization is typically financed by federal general revenues. It may provide funding only to those states that are below average fiscal capacities, as in the Canadian case, or it may achieve full equalization by providing funding to all states commensurate with their fiscal capacities, thereby replicating a net scheme, as in Australia. The latter is much more expensive to the federal government than the former, and therefore entails a larger vertical fiscal gap.

The third role of federal transfers is as a vehicle for the federal government to influence state program spending to encourage them to design their social programs to conform to minimum national standards and to harmonize them sufficiently so that persons who move between states continue to have access to such programs. Bloc grants with broad conditions attached can be used for this purpose. There may be instances where the federal government wants to encourage the states to institute some new social programs, as was the case in Canada when provinces were being induced into legislating public health insurance programs. In that case, the conditions need to be more explicit and the incentives in the financing stronger until the transformation is complete and the programs are established. Most federations have mixes of specific conditional grants, equalization transfers and conditional bloc grants in various combinations. A major exception is the USA, where equalization is absent.

State governments are also usually given significant discretion in macro-management of their budgets. The ability of states to borrow at their own discretion is common, although there may be self-imposed restrictions, such as balanced-budget legislation or constitutional provisions, as in the USA. There is no analogue of the Growth and Stability Pact of the European Union to constrain states from accumulating debt. It may seem odd that states have full discretion over fiscal policy, despite being part of a common currency arrangement and having no influence over monetary policy. The existence of a sizeable federal government that implicitly redistributes among states both through its tax-transfer policies and federal-state transfers implies that states are not left entirely to their own devices in responding to shocks. Nonetheless, the decentralized nature of federations means that countercyclical fiscal policy, to the extent that it is thought of as a policy option, is more difficult to implement.

Suppose we take as given the assignment of expenditure responsibilities of the federal and state levels of government. Their exact details will vary from federation to federation in ways that are relatively inconsequential for our purposes.⁴ We simply

⁴ For example, in addition to the specific types of expenditure programs that each level alone can enact, some expenditure categories might be permissible for both levels of government, in which case one

assume that aggregate state expenditure responsibilities are of the same order of magnitude as federal ones. Our concern is then with how to finance those expenditure responsibilities. There are two options, and the next two sections consider them in detail. The first is for the states to raise their own revenues, and the other is to rely on federal transfers. The next two sections focus on some of the details of these two methods, both of which will be used in varying degrees in practice. We later discuss the appropriate mix of own finance and transfers.

5. STATE REVENUE-RAISING

If the states are expected to self-finance a reasonable proportion of their spending, which is the norm in most federations, they need access to at least some broad-based tax revenues, such as those from income, payroll or sales taxation. We can distinguish three alternative ways for states to obtain significant levels of own revenues: revenue-sharing, decentralized access to one or more broad tax bases, and harmonized access. Consider each in turn.

5.1 Revenue-Sharing

Revenue-sharing involves states being assigned a share of revenues raised by the federal government from some source. It involves both an overall share of tax base revenues being assigned to the states, and an allocation of the revenues among states. The latter may be according to the principle of derivation, or the revenues can be allocated according to equalization principles. To the extent that an equalization system exists alongside revenue-sharing, it matters little whether the revenues are equalized before being turned over to the states or subject to equalization afterwards. In principle, any tax base can be used, and the system is administratively easy to implement. Revenue-sharing maintains a fully harmonized tax system, and avoids fiscal externalities between state and federal governments. As well, it provides a relatively certain flow of funds to states.

However, revenue-sharing has serious drawbacks. It affords no discretion to states to choose their own tax rates and tax mixes. It makes the states dependent on the federal government for much of their funding, and may induce the federal government to exert leverage, implicit or explicit, on state program spending. It may also lead to adverse incentives by the federal government in administering the shared tax to the extent that the revenue share of the states is high relative to the federal government. As such, revenue-sharing is perhaps better thought of as an alternative to discretionary transfers rather than as a means of revenue assignment. Countries that rely on revenue-sharing typically have relatively highly centralized revenue systems (Australia, Germany). A form of revenue-sharing has been used in Canada to share VAT revenues with certain provinces as discussed below, although in recent years participating provinces have been allowed some discretion in setting their own VAT tax rates. The discretion is limited, though, and the system is more like access to a harmonized tax base considered below.

level might be paramount. One level may be able to delegate some expenditure functions to the other. Some expenditure categories may not be explicitly assigned, in which case the level of government with the residual power assumes responsibility. The federal government may have the power to disallow state legislation, for example, if it is deemed to violate the free movement of products and factors across state boundaries. The federal government may also be able to mandate some state expenditure programs.

Revenue-sharing can be particularly constraining if shared revenues make up a substantial portion of state revenues. The states must then typically rely excessively on narrow forms of tax to vary their desired revenues, and this can lead to distorting taxation.

5.2 State Access to Decentralized Taxes

States are typically allowed discretionary access to certain tax bases, either exclusively or in co-occupation with the federal government. They may choose to harmonize their taxes among themselves or with the federal government, the consequences of which we discuss in the next subsection. Taxes assigned to the states vary across federations. They include both broad taxes capable of generating substantial revenues and taxes on narrow transactions. They may also include taxes that fulfill a redistribution role, as well as taxes on relatively immobile tax bases.

The fiscal federalism literature provides some guidance on the ideals of tax assignment, though there is far from consensus about the optimal assignment in practice. Roughly speaking, taxes regarded as most suited for states include those on immobile bases, those that are primarily revenue-raisers rather than instruments for redistribution, and those that more closely reflect benefit taxation. Indeed, an influential line of argument, inspired by the classic Tiebout model⁵ is that benefit taxation is the ideal benchmark for state taxation.⁶ However, given the amount of own revenues that states must raise in many federations, the need is for broad-based revenue sources that almost certainly have redistributive consequences. Moreover, given that a high proportion of state spending is on public services of a redistributive nature, implementing benefit taxation financing would be counterproductive.

There are a large number of potential tax bases states could deploy. A brief summary of them follows.

Property Tax

States and their municipalities are typically assigned responsibility for property taxes. This has often evolved from systems where municipalities are fully responsible, to harmonized systems where common bases are applied within states (e.g., market value assessment in Canada), and property evaluation and collection are done by a provincial agency, while municipalities are allowed to choose their own rates. Given the immobility of real property and the tendency to view property taxes at least partly as benefit taxes, this is reasonable. Local governments typically rely on a mix of own property tax revenues, user fees and transfers from state governments. Over-reliance on property taxes, which may be a result of states restricting local transfers as a way of addressing their own fiscal problems, can lead to inefficiencies, especially where they include business properties (as in Canada).

Payroll Tax

⁵ Tiebout (1956) developed a model in which local communities competed for mobile individuals by offering different mixes of local public goods and personal taxation. Individuals chose their community of residence based on their most preferred tax-spending mix. Tiebout argued that in equilibrium, taxes would reflect benefits, and individuals would allocate efficiently among communities.

⁶ McLure (2001) has argued forcefully for state benefit taxation.

States also often have access to payroll taxes, typically earmarked for social insurance programs. In fact, payroll taxes satisfy many of the ideal properties of decentralized taxes. They are relatively immune to tax competition, are easy to administer, and have some potential for progressivity, especially when combined with refundable tax credits. From a fiscal federalism perspective, payroll or even progressive earnings taxes seem to be an ideal state revenue source, especially if they are harmonized. For whatever reason, non-earmarked payroll taxes have not been as prominent as state revenue sources as might be desired. This may be due to the largely erroneous presumption that payroll taxes are taxes on jobs, a presumption that might be perpetuated by the fact that they are often levied on employers as well as employees. An earnings tax imposed as a direct tax on individuals might dispel that notion.

Excise Taxes

States typically can deploy narrow taxes of various types, often along with the federal government. These can include taxes on alcohol and tobacco products (sin taxes), taxes on petroleum products, and taxes on property transactions (stamp duties). They can also include licences for motor vehicles and driving permits. While these are suitable taxes for states, they are not large revenue-raisers so are inadequate as sources of own revenues to finance the large spending programs of states. They are not satisfactory to meet objectives of fiscal responsibility and accountability. To the extent that states are forced to over-rely on them for revenue-raising, their use leads to excessive excise tax rates and inefficient tax systems. In fact, from a public economics perspective, differential tax rates on particular goods and services are mainly advocated as devices for correcting market failures or serving as pseudo-benefit prices rather than as revenue-raisers. For revenue-raising purposes, the consensus is that a broad-based sales tax with minimal exemptions is preferable both from the point of administrative simplicity and optimal taxation.⁷

Income Tax

In some federations, states have relatively unfettered access to personal and corporate income taxes alongside the federal government (Canada, USA). If such taxes are not harmonized, they give rise to differences in tax bases and rate structures across states, as well as compliance costs since taxpayers must deal with more than one tax authority. This is especially a problem for business income taxes, given the potential for tax competition and beggar-thy-neighbour state policies. In the case of personal income taxes, state rate structures tend to be less progressive than federal rate structures, judging by the experience in Canada and the USA. When both state and federal governments occupy the income tax, the division of tax room and therefore the vertical fiscal gap are important. The more tax room the federal government occupies, the more able it is to pursue its redistributive objectives. As well, the less states rely on own tax revenues, the lower is the demand on the equalization system, and the more likely it is that the federal government can facilitate tax harmonization, which is a bottom-up process, discussed further below. Modern tax reform initiatives, such as the schedular or dual tax system, lend themselves to federations. The earnings part of the tax can be co-occupied, while the capital income part as well as the corporate tax

⁷ The recent Mirrlees Review in the UK (Mirrlees et al 2011) argues forcefully for a fully uniform sales tax system alongside a progressive income tax system as the fairest and most efficient tax system.

could remain centralized. Integration is less important, so the ability to divide the taxes between the federal and state levels is easier.

Sales Tax

Sales taxation might be thought to be potentially ideal for the states, given the immobility of the base (except for cross-border shopping), the potential for relatively large sums of revenue, and the fact that sales taxation is not relied on for redistribution. However, administration problems are legion in the absence of harmonization. The sales tax of choice is the VAT, since it avoids taxing business inputs and treats local and non-local firms on a par. But, there are particular problems with administering decentralized state VATs when there are no border controls. Collection and compliance are costly both for firms and for revenue authorities, especially when there are different state tax rates and exempted or zero-rated products. Not only must firms deal with separate tax authorities and keep track of taxes and credits applying with each, but the absence of border controls opens up opportunities for fraudulent behaviour that can undermine the integrity of the tax. Fortunately, as discussed below, these problems can be largely mitigated by a system of VAT harmonization between the federal government and states with a single tax-collecting agency that has full access to taxpayer information as necessary, even if states adopt different VAT rates and exemption. Otherwise, decentralized access to the VAT is not a practical option in the absence of harmonization.⁸

Wealth and Wealth Transfer Taxes

States may also levy wealth taxes on firms in their jurisdictions. As the Canadian experience indicates, this is tempting since previously accumulated wealth is like a fixed tax base that should not respond to being taxed punitively (the so-called hold-up problem). However, from a longer-run perspective, taxes on wealth discourage capital formation. Similarly, wealth transfer taxes, including inheritance or bequest taxes, could be used by the states. However, given that their role is redistributive and that wealthy persons are relatively mobile among states, it is not a suitable tax for state use. We mention it mainly to highlight the experience in Canada with decentralizing the inheritance tax from the federal government to the provinces in the 1970s. The almost immediate consequence was that the provinces all abolished inheritance taxation, a telling testimony to the power of tax competition when the tax base is mobile.

Natural Resource Taxation

A final significant problem concerns natural resource revenues. In some federations, states have access to natural resource revenue-raising (Australia, Canada, USA), in some cases exclusively. From a tax assignment perspective, state access to natural resource revenues makes sense because of the immobility of natural resources and so their resistance to tax competition, and the fact that their management and development can best be done locally. At the same time, there are significant problems

⁸ There have been mechanisms suggested for addressing the problems of decentralized VATs in situations where there are no border controls, such as the EU. These are summarized in Crawford, Keen and Smith (2010). However, even these require some central tax authority, and may also require agreement on the allocation of tax revenues among states.

to resource revenue decentralization owing to the fact that natural resources are typically very unequally distributed among states. This gives rise to two serious concerns. First, the horizontal imbalance resulting from the unequal pattern of state resource endowments leads to the potential for fiscal inequity and fiscal inefficiency unless equalization transfers are able to offset it. Undoing the horizontal resource imbalance is costly and strains the viability of the equalization system. It also effectively undoes the property rights of the states over the natural resources in their jurisdictions that lead to the states' right to tax them in the first place. This stress between state ownership of natural resources and the constitutional obligation of the federal government to equalize state fiscal capacities has led to enormous amounts of unresolved tension in the Canadian case. Second, decentralization of natural resource revenues exacerbates the so-called resource curse. State governments seem unable to resist using them for current spending rather than saving them in a resource fund whose capital income is spent, as in the case of Norway. Moreover, the state spending is likely partly devoted to infrastructure spending designed to build state industries, and to attract factors of production from other states. There is no apparent reason why non-resource development should be induced to locate in resource-rich states. These problems can be at least partially avoided if the lion's share of natural resources revenues accrues to the federal government.

5.3 Harmonized Tax Base Sharing

Many of these problems with state taxation can be overcome, while at the same time affording the states considerable revenue-raising discretion, by allowing both states and the federal government to have independent access to a common broad tax base with a single tax administration. There are various ways in which this can be done, varying in the amount of discretion given to the states. A critical condition required for the success of harmonized federal-state tax systems is cooperation between the two levels of government. State and federal participation are voluntary, so the terms of participation must be agreeable to both. In the case of the states, this means that they must be satisfied both with the definition of the tax base and their permissible deviation from it, with the discretion they have to set their own rates, and with the tax room that the federal government makes available to the states so that both sides can enjoy ready access to the common base. Indeed, the creation of tax room for the states by the federal government is often a necessary first step to implementing a harmonized tax system. The possibility of a single tax authority should be attractive to both levels from an administrative simplicity point of view. Even if the federal government bears the collection and compliance costs, it is willing to do that in return for ensuring that an efficient and fair tax system is in place nationwide that still respects state independence.

Harmonized tax systems can be deployed for both direct and indirect taxes, though their characteristics differ. Different considerations arise for personal and corporation income taxes and for general sales taxes. Let us consider them in turn.

Personal Income Tax Harmonization

The personal tax lends itself to various gradations of federal-state harmonization depending on the amount of discretion that it is desirable to give the states, or that they

demand as a price for participation.⁹ The states could, in fact, voluntarily and unilaterally harmonize their income tax bases with that of the federal government simply to economize on administrative costs. This is largely done in the Canadian province of Quebec, where maintaining an independent tax authority is highly valued. However, in the absence of a single tax authority, important collection and compliance benefits are not achieved since taxpayers must report to two separate agencies.

The form of income tax harmonization that leaves least discretion to the states is a state surtax on federal tax liabilities. This is simple to administer by a national tax agency, it assures a common base and also maintains the progressivity of the federal rate structure. The only discretion the states have is over their rate, so limited accountability is achieved. States are vulnerable to changes in their tax revenues when the federal government changes its rates, and to that extent accountability and predictability of tax revenues are compromised. This system was used by nine out of ten Canadian provinces until the early 1990s, and was replaced in response to provincial dissatisfaction with the limited discretion they were afforded.

A less restrictive method is to allow the states to impose a surtax on the federal income tax base. This maintains a fully harmonized base, and avoids the states being vulnerable to federal tax rate changes. However, it leaves the states no discretion over their rate structure, and in fact implies a proportional state tax.¹⁰ The overall progressivity of the income tax can be compromised unless the federal government changes its rate structure.

More state tax policy discretion can be achieved by allowing the states to impose their own rate structure on the federal base. The rate structure can be taken to include not just the defined tax brackets and rates but also the system of tax credits — refundable or otherwise. This allows the states to impose their own preferences for progressivity. The overall level of progressivity nationwide is affected, depending on the shares of tax room occupied by the federal and state governments. This is the system now in effect in Canada. The provinces agree to abide by the federal base, and can choose different rate structures and state-specific values of the credits used by the federal government within limits. In practice, the provinces have chosen less progressive rate structures than the federal government, typically by having fewer tax brackets. One province has even opted for a flat tax. This may not be surprising from a fiscal competition perspective, but it does imply that decentralizing income tax room to the provinces reduces the overall progressivity of the income tax, especially when the tax system as a whole (including the broad-based sales tax) is taken into account.

More generally, the ability to initiate and maintain tax harmonization probably requires that the federal government occupy a significant share of the relevant tax room compared with the states. The Canadian experience indicates that harmonization becomes more fragile the larger the tax room the provinces occupy.

Two other elements of personal income tax harmonization are relevant. One is that both federal and state taxes can be administered by a single tax authority, which

⁹ Similar principles apply to earnings or payroll taxes, so these need not be considered separately.

¹⁰ This is the method recently adopted in the UK to devolve some income tax responsibility to Scotland. It was implemented by the UK government reducing its tax rate to Scottish taxpayers, creating enough room for the Scottish Parliament to choose its own tax rate.

reduces administrative costs for the government and the taxpayers alike. In Canada, there is the quasi-independent institution, the Canada Revenue Agency (CRA), that administers, interprets and enforces the personal income tax for the federal government and all provinces except Quebec. It reports jointly to the federal finance minister as well as to a Board of Management consisting of federal and provincial nominees. The CRA also administers the harmonized corporation income tax and sales tax as well as other federal taxes. Ease of compliance is particularly important in Canada because virtually all citizens file tax returns. This is required for all those liable to pay taxes, but it is also necessary to be eligible for a series of refundable tax credits, which are income-tested.

The second element of any tax harmonization system is an allocation formula. When taxpayers earn income in more than one state, a method must be found for attributing income across states. There is no perfect way of doing that, so typically some arbitrary method is chosen. For example, in Canada, a taxpayer's province of residence is deemed to be where he or she resided on December 31 of the tax year. In addition to being arbitrary, this could invite taxpayer avoidance choices if tax rates across provinces vary significantly. Fortunately, the equalization system (discussed below) ensures that provincial tax rates do not diverge widely, so this has not been perceived as being a problem.

Corporation Income Tax Harmonization

In some federations (e.g., Canada, USA), states have access to corporation as well as personal income taxes. This is perhaps not surprising, given that corporate and personal income taxation are both enacted by an income tax law that defines tax bases the same for all businesses, incorporated or not. On the other hand, given the mobility of capital, the case for state taxation of corporation income is weak on fiscal federalism grounds. Nonetheless, where state corporation taxes exist, similar tax harmonization arrangements can apply as with personal taxation. States can be encouraged to adopt the same tax base as the federal government both to reduce administration costs as well as to avoid distortions in the allocation of business activity across states. State corporate taxes can then be applied to the common base (as in Canada), and they may even be able to apply different tax rates to different types of firms (e.g., small versus large). In the Canadian case, provinces also have the ability to enact province-specific corporate tax credits provided they do not discriminate against firms of other provinces and do not distort the flow of products and factors across provincial borders.

The advantages of a single tax authority apply here as well, especially so since many firms will operate in more than one state. As well, an allocation formula is required to assign corporate taxable income among states. Ideally one wants to design the formula to discourage profit-shifting across borders, such as by concentrating borrowing in high-tax states to take advantage of interest deductibility or by engaging in transfer pricing of intra-firm transactions. In Canada, half of profits are allocated according to the shares of payrolls in each province and the other half by gross revenues. In the USA, some states include a third factor, the state share of capital, though the convention is not uniform across states. Indeed, some states tax firms on the basis of their world profits, a practice that lends itself to double taxation. Allocation is further enhanced if corporate accounting for tax purposes is consolidated rather than being separated by branches of the firm operating in different states.

The exact allocation of profits among states will likely not accurately reflect the source of income. However, this will be of little concern to the states in federations in which corporate income tax is equalized using a representative tax approach. As discussed below, differences in corporate tax base across Canadian provinces are equalized at the national average provincial corporate tax rate, but this only applies for provinces with tax capacities below the average. For them, any shortfalls of allocated corporate income from its true value will be fully equalized unless the province's tax rate differs from the average. This also applies to allocations of the personal tax base, as well as of harmonized sales taxes, to which we now turn.

Sales Tax Harmonization

General sales taxes, like payroll taxes, would seem to be excellent candidates for decentralization to the states. The sales tax base is broad and the only apparent source of fiscal competition is cross-border shopping, which would be a minor concern in large federations. However, there are significant administrative challenges that apply if states adopt VATs for sales taxation. There are strong economic reasons for the VAT as the sales tax of choice, especially their ability to avoid taxing producer inputs, and to treat domestic products on a par with imported products by taxing imports and zero-rating exports. The problem, as discussed above, is that in a federation without state border controls, the taxing of imports and zero-rating of exports gives rise to serious problems in the absence of carefully designed harmonization measures.

Decentralized VATs in situations without border controls have been deployed both in some federations (e.g., Brazil, Canada and India) as well as in economic unions (e.g., European Union, EU). In practice, two main approaches to harmonization have been used, both of which are present in the Canadian case. In one approach — exemplified by Quebec — an attempt is made to mimic a destination-based VAT within a state. Exports from the state are zero-rated, so exporters collect no tax on their sales and receive full credit for taxes paid on their inputs. Imports into the state are treated on a deferred basis: no tax is levied at the border, and a tax is applied when the imported product is first sold domestically. While this delays the collection of VAT for one stage, in most cases this is of little consequence since this is made up when full tax is levied at the next stage. Deferral simplifies compliance and collection since it avoids the need for the state tax authority in the importing state to collect taxes on sales made by non-state firms to those within the state. This is a practical necessity in the absence of border controls since the exporting firm is not under the jurisdiction of the importing state tax authority.

This system has some practical problems as a method of decentralizing VATs, even if all states agree to a common base. Firms operating in more than one state must deal with more than one tax authority and keep track of both tax payments and tax credits accruing to each state in which they operate. This is further complicated if there is a federal VAT alongside those of the states, with a federal tax authority. In the Quebec case, there is a unique bilateral agreement according to which the Quebec tax authority collects not only the Quebec VAT (called the Quebec Sales Tax, QST), but also the federal Goods and Services Tax (GST). Also, the deferral of taxation of imports implies a break in the VAT chain at the border. It is known from EU experience that this opens the possibility of tax fraud. Firms exporting from one state to another obtain a refund of their input taxes and, through unreported transactions, can avoid paying

tax on subsequent sales.¹¹ There is little evidence on the importance of this problem in the Canadian context, but the possibility can be avoided by the next method of harmonization.

The second method of harmonization avoids the break in the VAT chain at state borders and minimizes administrative costs by using a single tax-collecting authority for all state and federal VATs, while sacrificing the true destination approach within the federation. The Canadian Harmonized Sales Tax (HST) illustrates the beneficial properties of this approach as well as its prerequisites. The HST has been adopted by five of the ten provinces. It consists of a federal GST component of 5 percent and a provincial component that varies from 7 to 10 percent. The participating provinces have been allowed to exempt certain necessity products that are not exempt under the GST (e.g., children's clothing and footwear, and diapers), but otherwise the bases are harmonized. The CRA acts as tax agency for the HST as well as for the GST in non-participating provinces. All firms with annual revenues in excess of \$30,000, excluding those operating only in Quebec, must register with the CRA. They collect taxes on their sales anywhere in Canada and pay the relevant rate in the province of sale. They claim an input credit on purchases from other registered firms. Each tax period, they self-report their total tax collections and total input tax credits without attributing either to particular provinces. This is enforced by the quasi-independent CRA, which can perform audits and impose penalties, and which files a report every five years on the operation of the system. The tax revenues collected by the CRA are then allocated to the provinces according to a formula that is meant to reflect spending on taxable consumption in each province and provincial tax rates, and is based on data provided by Statistics Canada.

The HST system shows that it is possible to implement a VAT in a multi-jurisdiction setting in a way that is administratively efficient. States are able to choose their own tax rates with discretion, and to have state-specific refundable tax credits and exemptions. As long as there is a single tax agency, the VAT can be applied seamlessly on cross-border transactions. One seemingly unattractive feature of the HST is that taxes are not applied strictly on a destination basis by province. Instead, total tax collections must be allocated among provinces according to estimates that may be inaccurate. However, as long as state sales tax revenues are equalized — as they are in the Canadian case — this is a relatively benign problem. Any shortfalls of revenues allocated to a province will be roughly compensated through equalization provided the province is equalization-receiving and has a provincial VAT rate that is not too different from the national average provincial tax rate.

In summary, significant tax revenues can be made available to the states in ways that give them some discretion in tax policy while at the same time maintaining an efficient and equitable harmonized system. The introduction and sustainability of such a system is very much facilitated by a federal presence in the relevant tax base. In fact, the most likely way of introducing such a system is from an initial situation in which the federal government is the main occupant of a tax. The states can be encouraged to participate in a harmonized system by the federal government turning over of tax points the states by unilaterally reducing its tax rate and inviting the states to increase

¹¹ See Crawford, Keen and Smith (2010) for a discussion of such fraud, referred to as missing-trader schemes.

theirs. In return, the states would be asked to agree to abide by a single tax authority and the federal tax base.

6. FEDERAL-STATE TRANSFERS

Federal-state transfers are a feature of all federations, and their design is intimately related to the extent of decentralization of revenue-raising. The greater the share of tax room occupied by the states, the greater will be interstate fiscal disparities and the exposure of state to fiscal shocks. The need for equalizing transfers will be greater, but the federal government will be harder pressed to finance such transfers. As well, greater state revenue-raising autonomy will make it more difficult for the federal government to induce tax harmonization among states and provide incentives for state fiscal programs to respect national objectives. In light of this, some amount of vertical fiscal gap is desirable, although it would be folly to attempt to specify exactly what that amount should be. The federal government is instrumental in determining the extent of the fiscal gap, or equivalently the extent of decentralization, since it takes the initiative in deciding how much tax room to occupy and what level of transfers to make to the states.

There is an important relationship between federal-state sharing of tax room and the level of fiscal transfers. Given the notional division of expenditure requirements between the two levels of government, each level will require a given level of finance: the states from own revenues and transfers, and the federal government from own revenues less transfers to the states. If the federal government occupies too much of the overall tax room relative to its own needs and the amounts it transfers to the states, there is said to be a vertical imbalance.¹² This can happen, for example, when the federal government takes unilateral action to deal with a debt problem. The potential for such problems to arise, which can lead to a deterioration of federal-state relations, reflects the interdependency of federal and state fiscal stances and emphasizes the need for cooperative decision-making. This is outside the realm of economic expertise, like much of the fiscal arrangements.

We mentioned earlier the fundamental roles played by federal-state transfers. They equalize persistent differences in fiscal capacity across states. They provide a form of insurance against temporary fiscal shocks, both national and regional. They provide an instrument by which the federal government can induce transformational change in state programs. They can be used to encourage states to maintain some broad national efficiency and equity standards in their major public services. And, they serve to close the fiscal gap. The two main instruments used for these purposes are unconditional and conditional transfers. While, in principle, they could be aggregated into a single mega-transfer designed to serve all purposes, it is useful to discuss the two separately. We follow the Canadian convention whereby unconditional transfers are delivered through the equalization system while conditional transfers consist mainly of bloc transfers. The distinction is somewhat artificial because bloc conditional transfers are implicitly equalizing, but the principles should be transparent.

¹² This situation was alleged by the provinces to be the case in Canada in the wake of federal deficit reduction measures in the mid-1990s. It led to an outcry from the provinces, reflected in two major reports from the Séguin Commission in Quebec (Commission on Fiscal Imbalance 2002) and the Council of the Federation (Advisory Panel on Fiscal Imbalance 2006), and more than a decade of poor relations between the two levels of government. The concept of fiscal imbalance is discussed in Boadway (2005).

6.1 Equalization

Most modern federations (apart from the USA) have explicit equalization systems, whereby transfers to states are related to states' fiscal capacities, and other transfers such as bloc transfers and revenue-sharing are implicitly equalizing. There is a substantial literature on equalization that emphasizes both the social value judgments required to validate equalization and the technical difficulties involved in implementing those judgments.¹³ A stark way to see the difficulties is to imagine as a benchmark the unitary nation. In such a nation, a common tax structure is applied to all citizens, and common public services are provided. Even in such a setting, difficulties arise. It will be more costly to provide public services in some geographical areas, so in practice there is a compromise between equitable provision and costs. Nonetheless, persons living in comparable geographic settings should expect comparable access to public services. On the tax side, local costs of living or amenities may differ by region and these are reflected in wage rates. Ideally, such differences ought to be taken into consideration in the income tax system, but this is difficult to do, so a tax system based on actual wages is the norm.¹⁴ Roughly speaking, comparable citizens are treated comparably by the fiscal system of the unitary nation and in that sense horizontal equity applies.

Once the imaginary unitary nation becomes a federation with independent state legislatures, the unitary norm is violated for our purposes in two main ways. First, different states will choose different tax and expenditure programs. It is a perfectly legitimate consequence of federalism that states exercising their discretion will deviate from unitary nation policies. It should not cause alarm as long as the policies do not unduly violate national efficiency and equity norms. To preclude the latter, policies such as those considered in the next sub-section can be considered.

Second, different states will have different capacities for providing public services at comparable tax rates so could not achieve the unitary nation allocation even if they wanted to. States may differ in their average income levels, in their needs for public services, in the costs of providing them, and in their access to natural resource revenues and other source-based taxes. In these circumstances, there will be incentives for residents to move to states where fiscal capacities are higher, so-called fiscally induced migration. More important, otherwise comparable persons will be treated preferentially in states with higher fiscal capacities: there will be fiscal inequity. The key question is whether and to what extent equalization transfers should be directed at removing such fiscal inequities, so that different states have the potential for providing comparable levels of public services at comparable tax rates whether they choose to or not. The answer to this involves a value judgment: should citizens be entitled to potentially comparable fiscal treatment regardless of their state of residence? An affirmative answer implies a dedication to social citizenship or social solidarity at the national level regardless of the heterogeneity of states. Many federations are prepared to make that judgment, including Australia, Canada and Germany, and this is reflected in their equalization systems, and in the latter two in their constitutions. However, this

¹³ See, for example, Boadway and Shah (2009) for a full discussion on the principles and practice of equalization.

¹⁴ Albouy (2009) analyzes the consequences for the USA of the failure of the income tax system to take account of the fact that regional wage differentials in part reflect local amenities.

requires some national consensus, and this could be strained the more decentralized the federation.

Suppose that we accept this notion of social citizenship and try to design an equalization system that, to borrow the wording from the Canadian constitution, enables all states ‘to provide reasonably comparable levels of public services at reasonably comparable tax rates’. There is no perfect system, but some principles can be outlined. It is useful to distinguish the equalization of revenue capacity from the equalization of expenditure needs and costs. In both cases, a suitable approach for equalizing the capacity to provide comparable public services at comparable tax rates is to define representative fiscal capacities, that is, the ability to provide a standard bundle of public services by applying standard tax rates to standard tax bases. The standards reflect a representation of the public services that a typical state provides using typical tax bases and tax rates.

Revenue Equalization

Canada applies a *representative tax system* (RTS) approach to equalizing revenue capacities of provinces. Tax bases for inclusion in the formula are first defined. Currently there are five (personal income, corporation income, sales, property and natural resources), having recently been reduced from over 30 to simplify the system.¹⁵ For all except natural resources, a standard tax base is defined, and the size of the tax bases in each province estimated.¹⁶ Then, the national average provincial tax rate for each base is calculated by dividing total provincial tax revenues by the sum of provincial tax bases. A province’s per capita equalization entitlement for base j is calculated as $e_j^i = t_j(b_j - b_j^i)$, where t_j is the national average provincial tax rate for this base, b_j is the national average per capita tax base and b_j^i is the per capita tax base in province i . This calculation is done for all tax bases other than natural resources. For the latter, because of the heterogeneity of resource tax bases, equalization is based on actual per capita revenues relative to the national average, and only 50 percent of revenues are included. Total per capita entitlements for a province are then given by $\sum_j e_j^i$, where all five bases are included in the summation.

Finally, for all provinces whose per capita entitlements are positive — the so-called have-not provinces — the federal government makes per capita equalization payments equal to per capita entitlements, while other provinces receive nothing.¹⁷ This effectively brings the tax capacity of the have-not provinces up to the national average.

A number of features of this RTS approach are worth noting. It equalizes only revenue capacity, so effectively assumes that per capita expenditure needs are identical across provinces. It equalizes have-not provinces up, but high-capacity provinces retain

¹⁵ This simplification was recommended by the Expert Panel on Equalization and Territorial Formula Financing (2006), which the federal government had commissioned to rationalize the equalization system.

¹⁶ Actually, for the personal tax, each tax bracket is treated as a separate base since each has different tax rates.

¹⁷ There are some nuances. Equalization entitlements are based on a three-year moving average, and the growth of aggregate equalization is constrained not to exceed annual GNP growth.

higher than average abilities to raise revenues, implying that fiscal equity is not satisfied. In the Canadian case, where horizontal imbalances are marked, this is a significant concern. This concern is exacerbated by the fact that only half of natural resource disparities are equalized. There are three purported reasons for special treatment. One is to respect the provincial ownership of natural resources. A second is affordability. Natural resources are the largest source of provincial disparities, and the federal government has limited access to revenues from natural resources to finance equalization. Their access is limited to income and sales taxes obtained from the resource sector. The third is that, given the extent to which the provinces can influence resource development, full equalization would impose a significant disincentive to such development. In principle, the problem of incentives should affect all equalized tax bases. Since the amount of a province's equalization depends on the size of its tax bases, to the extent that the latter is influenced by provincial fiscal decisions, there would be a disincentive to take measures that increase the tax base, such as reducing tax rates. In practice, this problem is particularly apparent in natural resources, given the direct control that provinces have.¹⁸

The RTS approach is formula-driven, including both the aggregate amount and the division among provinces. Occasionally the government has departed from this principle, either by arbitrarily reducing aggregate equalization payments in times of fiscal constraint, or by offering special discretionary treatment to particular provinces to deal with some contingencies. In either case, the predictability and transparency of the system is compromised, and in the case of special treatment the potential for provinces to exploit the federal government's inability to commit to a formula-based approach introduces the possibility of adverse incentives for provincial behaviour. More generally, governance issues have surfaced from time to time. Equalization is based on federal legislation and is renewed in five-year intervals. Because it involves spending, it is formulated as part of the annual budget process and is therefore subject to budget secrecy. This reduces the predictability and transparency of the program, and from time to time leads to abrupt changes that affect the provinces' finances. Concern has been expressed about this lack of transparency and the short-sightedness of the process, and proposals have been floated for a more open process, such as the establishment of an arms-length advisory body analogous to the Australian Grants Commission. But these have not been acted on, and policy remains firmly within the federal Department of Finance.

As a final comment, the RTS system becomes more complex and requires more administrative judgment the more diverse are state tax systems. It relies on the definition of representative tax bases, and this becomes more and more arbitrary as states choose different tax bases and rate structures. Moreover, when a representative tax base is formulated, its size then has to be estimated for each state. This is made much easier if the states have harmonized their tax bases. Absence of harmonization has been one of the difficulties faced in Canada in equalizing natural resource revenues. In highly decentralized federations, harmonization is more difficult to achieve and at the same time the need for equalization is greater. Alternatives to the RTS approach have been proposed, such as so-called macro-systems under which

¹⁸ In principle, provinces also have an influence on the national average tax rate. This is only a concern where a province has a significant share of particular tax bases. In earlier years, when natural resource equalization was disaggregated by type of resource, this was a problem for selected resources (e.g. potash in Saskatchewan). Concessionary treatment existed to mitigate this problem.

equalization is based on some broad measure of revenue capacity such as per capita gross state product or disposable income.¹⁹ Such approaches represent very imperfect measures of revenue-raising capacity, and they invite thinking about equalization as a means of equalizing disparities in state incomes rather than disparities in the ability to provide public services.

Expenditure Equalization

Expenditure capacities can be equalized along with revenue capacities using a representative expenditures approach, but the procedure is inherently more complicated. For one thing, public services are very heterogeneous in make-up and quality, which complicates the definition of comparable levels of public services. This problem can be mitigated by concentrating on the main state expenditure categories, education, health and welfare, where the bundles of services offered by different states tend to be comparable. Nonetheless, taking account of quality differences is challenging, even relatively quantifiable ones like average classroom sizes and hospital wait times.

For another, the ability to provide comparable levels of public services contains different factors, and aggregating these into a single measure poses difficult problems. We can broadly aggregate the factors into two categories: needs and costs. Since different public services serve different segments of the population, states' needs for public services will differ according to their demographic composition: the young, the elderly, the disabled, the unskilled, etc. These are relatively easy to measure, and provided the cost per unit of public services is similar across states, equalizing for needs should be relatively straightforward. However, costs are likely to differ across states as well, reflecting wage costs, rental costs, population density, geographical terrain, and distance. Taking account of cost differences raises the issue of whether comparable public services ought to be the norm. As we have mentioned, even within states common levels of public services are not provided to all regions: because of cost differences there is an equity-efficiency trade-off. One way to deal with this issue is to equalize the ability to provide comparable levels of public services to comparable regions across states, and rely on how states actually treat different regions for how the equalization system should treat them.

The upshot is that equalizing for differences in expenditure capacity is very difficult, given the heterogeneity of public services provided, the differences in level of service in different regions within states, and the various sources of difference in costs and needs. In addition, one might expect that these factors would be to some extent offsetting. States with more need for public services, which tend to be the more disadvantaged ones, will generally have lower costs because wages and property values will be lower. This would suggest that disparities arising on the expenditure side will not be as great as those on the revenue side.

These factors have persuaded successive Canadian governments and policy prescribers, including the Expert Panel on Equalization (2006), to argue against expenditure equalization and to equalize solely on the basis of revenue capacity differences. Such a system is deemed to be more transparent and more reliable. It

¹⁹ Barro (2002) had proposed such a system. For a critique of the macro approach to equalization, see Boadway (2002).

might be suggested that one could equalize on the basis of those factors of expenditure capacity that are more readily estimated, such as needs or wage costs. The danger of such a selective approach is that the factors left out might work in the opposite direction.

The formal equalization system is not the only source of equalization in the broader sense. If bloc grants exist, they will inevitably be implicitly equalizing. The Canadian case is again instructive. The main bloc grants are those in support of provincial social programs: the Canadian Health Transfer (CHT) in support of provincial health programs and the Canadian Social Transfer (CST) in support of welfare and post-secondary education. Both programs are equal per capita transfers financed by federal general revenues. As such, they are effectively perfect revenue equalizers, mimicking a net equalization system that equalizes all provinces to a common level of revenue-raising ability unlike the existing gross equalization system that only equalizes the have-not provinces up to a national average. These transfers serve more than an equalizing purpose, however, since they also have conditions attached to which we now turn.

6.2 Conditional Transfers

Conditional transfers form one class of instrument that the federal government deploys to encourage states to institute programs or maintain program standards that contribute to national objectives. Transfers can be designed to achieve specific objectives, such as to construct roads or bridges that provide cross-state benefits or to implement sector-specific programs, and can include matching components. Such specific grants are of relatively minor quantitative importance and are non-controversial. Of more importance for us are bloc grants in support of broad policy areas of expenditure, such as social programs that serve broad national objectives. Conditional bloc grants represent the only device that the federal government has to exercise its responsibility for national efficiency and equity in program areas that are state legislative responsibilities.

The particular features of bloc grants will reflect the needs of each federation. However, there are some broad elements of design that can be singled out, and the Canadian experience is again instructive. In Canada, as in many federations, the provinces are responsible for key social programs because they can most effectively be delivered at a sub-national level. There may be an advantage in some social programs abiding by some basic standards of efficiency or equity, such as accessibility to benefits of social programs for persons migrating or simply visiting across provinces, universality of coverage of programs meant to serve all residents, breadth of services offered, availability of public services, professional standards of those delivering the services, and the role of the public versus private sector in delivering and financing the services. Bloc transfers in support of social programs in Canada include broad conditions that provincial programs must satisfy to be eligible for full transfers. The exact manner in which these conditions are applied will vary from program to program, and given that the provinces are assigned responsibility, the conditions should be flexible enough that provinces can design their programs in the most suitable way.

The important thing is that the conditions not be too intrusive since that would detract from provincial program responsibility. The provinces would also object to conditions

that they deem to interfere with their program discretion, especially if the conditions are not widely accepted by the public. There is obvious potential for federal-provincial conflict, given that it is the federal government that determines whether the conditions have been met, and if so, what the penalty should be. In fact, penalties have not often been applied in Canada, and their application has most often been in connection with conditions that might be deemed to be excessive, such as the prohibition of extra-billing by doctors and user fees in provincial health insurance programs, and the requirement that all basic health services be public in nature. More generally, the most effective conditions are those that elicit voluntary compliance by the provinces.

The design of bloc transfers depends on the purpose that they are meant to fulfill. Transformative bloc transfers whose intent is to induce states to institute major programs, such as public health insurance programs or welfare programs, can provide an incentive most effectively by having some matching provision (though not necessarily 50-50). The problem with matching is that it detracts from the equalizing role of bloc transfers: states able to spend more will obtain more transfers. This could be minimized by applying matching to only a proportion of bloc transfers and base the rest on either needs-based criteria or more simply population.

For established programs, bloc transfers serve two purposes. One is to encourage states to design their social programs in a way that respects national efficiency and equity objectives using broad conditions as discussed above. The other is to serve as a main vehicle for closing the vertical fiscal gap. Both objectives can be met by allocating the transfers across states in a manner consistent with equalization principles. In the Canadian case, this means equal per capita allotments, which is how bloc transfers have been allocated.²⁰

Two important questions remain. One is what programs ought to have conditions imposed on them by bloc grants? The candidate programs are the large social programs that are delivered by the states but have obvious implications for national objectives. Health care is a case in point, since the main reason for public intervention in the provision of health care and insurance is to provide social protection or social insurance. If states are left to their own devices, state political and fiscal competition may result in a fragmented system that fails to serve the less healthy and less well-to-do segments of the population. The same could be said for welfare programs and social services. Education might also be a candidate, given its importance in fostering equality-of-opportunity. In Canada, post-secondary education is a provincial responsibility and has been a target of bloc transfers, but significant conditions have never been applied. This is surprising given the mobility of university students and graduates, the extent to which the federal government finances university research and scholarships, the barriers that exist among many provinces with respect to university entrance and fees, and the non-portability of some professional qualifications.

The second is what should determine the aggregate level of bloc transfers, or equivalently the size of the vertical fiscal gap? There is no easy answer to this, since there is no ideal fiscal gap. At the same time, transparency, predictability and good

²⁰ It could be argued that the allocation of funds under Canadian bloc transfers should be used to equalize down the high fiscal-capacity provinces so as to correct a deficiency of the equalization system. There is certainly merit in this argument from an equalization point of view, though it could detract from the value of bloc transfers as devices for encouraging cooperative social program design.

governance would favour determining the level and rate of growth of transfers according to some objective criteria whose interpretation reflects the purpose of the transfers. The absence of an objective criterion in the Canadian case has led to adversarial debates over the size of the transfer, as well as to discretionary changes by the federal government that, for example, have passed on federal deficit problems to the provinces. As well, reductions in the vertical fiscal gap are not easy to reverse. The Australian approach has been to earmark GST revenues for the states. While this leads to certainty, it is not an approach that reflects any underlying principle of the ideal fiscal gap, nor is it one that takes account of changes in the relative growth of state versus federal expenditures. A candidate that to some extent addresses these deficiencies is to base the rate of growth of bloc transfers on the average rate of growth of aggregate state program spending in the target areas. This approach was actually used in Canada in the 1960s and 70s when social transfers were first established, but was abandoned partly because the rate of growth of provincial social programs exposed the federal government to rapidly growing commitments. Of course, under such an approach, the federal-state sharing of tax room would have to adjust as necessary.

6.3 Other Considerations

Some of the goals pursued by federal-state transfers can be pursued by other means. National objectives, such as equality of opportunity or the free flow of products and factors of production across state borders, might be written into the constitution. If so, it would be up to the courts to interpret and enforce them, which might reduce the flexibility of their application and the degree of harmony in the federation. Legal remedies might also take the form of federal disallowance of state programs or federal mandates on state programs as in the USA, which are also fractious. A less contentious approach, but one that is difficult to deploy, is the negotiation of federal-state agreements in important policy areas. In Canada, various examples of this exist. The federal and provincial governments signed an *Agreement on Internal Trade*, which was a wide-reaching document covering interprovincial trade and investment, labour mobility, procurement, consumer regulation, agriculture, communications, and other areas. The premise of the agreement was sound, but the absence of a binding dispute settlement mechanism rendered its application rather toothless. Some provinces have negotiated labour market agreements that have been more effective. The federal government and the provinces also signed a *Social Union Framework Agreement* that set out some principles governing the use of conditional social transfers by the federal government. There have also been various program-specific agreements in areas of joint responsibility, like immigration and training. Broad agreements of these sorts are difficult because they require unanimous approval by all governments. This is difficult to achieve, especially when implicit interprovincial redistribution is a feature.

An important part of the Canadian federal landscape has been the use of asymmetric fiscal arrangements, whereby provinces are able to opt out of federal transfer programs with compensation. These have typically been instituted as a way of accommodating Quebec's unique place within the federation, although in most cases the opportunity to opt out has been offered to all provinces even though others have not taken advantage of it. Some programs, such as tax harmonization, involve voluntary opting in by provinces. Here again, Quebec has most often been the most reluctant to sign on to a federal-led harmonization initiative.

In the end, conditional bloc transfers combined with equalization are the most effective ways for the federal government to fulfill its responsibility for achieving national economic and social objectives given that some of the important programs for that purpose are state responsibilities. These are most effective if they are formula-based, principles-based, transparent, and as non-intrusive as possible on provincial discretionary decision-making. They work best when there is substantial cooperation and agreement among the federal government and the provinces.

7. CONCLUDING REMARKS

As mentioned, the federal-state fiscal arrangements will ideally enable the states to exercise as much discretion as possible in areas of state legislative responsibility in a transparent and accountable way while at the same time ensuring that any adverse effects of state fiscal decisions on national equity and efficiency are mitigated. This is a daunting task given that state expenditure responsibilities in most federations are of the same order of magnitude as that of the federal government. The most challenging aspect of it is to decentralize revenue-raising responsibility to the states while at the same time avoiding the potentially disruptive effects of uncoordinated state tax and transfer decisions.

The Canadian case offers an example of how the benefits of fiscal decentralization can be achieved without sacrificing national standards of efficiency and equity, or social citizenship. The states can be given revenue-raising discretion for their own income taxes and VATs in a harmonized manner, provided the federal government retains enough tax room to provide leadership in establishing and maintaining harmonized tax-transfer systems. Some vertical fiscal gap is necessary to allow the federal government to manage the decentralization. It must be able to mount an effective equalization system to address the fiscal disparities that necessarily accompany decentralization. It must also retain enough transfer capacity to be able to encourage the states to abide by broad national standards of efficiency and equity. The ideal size of vertical fiscal gap is not well-defined. It is clear from the Canadian case that it is feasible to decentralize significant revenue-raising authority to the states without jeopardizing the integrity of the federation.

The Canadian case also illustrates the importance of a cooperative approach to the fiscal arrangements. Cooperation is important for sustaining tax and transfer harmonization, and for the states abiding by the conditions that the federal government imposes on its transfers. It requires that federal actions not be too intrusive and lead to predictable and fair outcomes. Unilateral and unannounced actions lead to distrust and poison the cooperative functioning of the federation. There may well be federal institutions that can contribute to the smooth functioning of the federation, but that goes beyond the competence of an economist.

Each federation will have its particular sources of tension. In the Canadian case, there are a number of these. One is the challenge posed by the highly unequal endowments of natural resources combined with the constitutional rule that these belong to the provinces. Another is the continuing urbanization of the country such that the largest cities are larger than the smallest provinces. Financing the cities is a major challenge, given that they are all creatures of their respective provincial governments. Coming demographic trends will also be difficult to manage. The population is aging, but the aging is disproportionate in the lower-income provinces. Environmental policy will

pose difficult problems, given that both federal and provincial governments will necessarily play a part, and given that polluting industries are concentrated in the resource-rich areas of the country. Managing all these challenges will require maintaining some vertical fiscal gap so that the federal government can play its part in collectively addressing these issues.

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