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Robin BOADWAY
David C. Smith Professor of Economics Emeritus
Queen's University
boadwayr@econ.queensu.ca

Fiscal Federalism: A Canadian Perspective

Abstract: *The purpose of this paper is to review some of the key principles of fiscal federalism. We consider the assignment of functions, fiscal relations between levels of government, including intergovernmental transfers and tax harmonization, the benefits and costs of decentralization, and the effects of fiscal competition. The Canadian federal system illustrate some best practices as well as some pitfalls.*

Contents

1 Introduction

The organization of the federal system is unique to each nation. How sub-national territories are delineated and how their authority is defined depend on non-economic factors such as geographic, demographic, cultural and linguistic characteristics, as well as history and institutions. Federations vary in the extent of decentralization, the institutional arrangements between levels of government, the constraints imposed by a constitution, and the responsiveness to shocks. Nonetheless, there are some underlying principles against which to design policies and judge outcomes.

The organization of a federation depends on how it has evolved. One can broadly distinguish between top-down and bottom-up perspectives. The top-down approach refers to cases where federations have evolved from centralized nations. Here the focus is on the advantages of decentralization. A case must be made for the federal government giving up responsibilities to the sub-national governments, which we refer to throughout as provinces. This is especially important for revenue-raising responsibilities since federations differ much more in revenue decentralization than in expenditure decentralization. On the other hand, federations that originate in separate nations face a bottom-up approach: how much authority should be ceded to a central government? The onus of proof is placed on arguing the case for ceding powers to a national government, and the principle of subsidiarity carries special weight.

An important feature of federations is the extent of cooperation between levels of government. Much of the fiscal federalism literature emphasizes non-cooperative or competitive decision-making, and asks whether intergovernmental competition is beneficial or not. Tiebout (1956) had argued that competition among government, analogous to that among firms, contributed to efficient levels of public goods and taxation, and efficient allocations of population. Subsequently, emphasis was put on fiscal externalities or spillovers arising from decentralized decisions (Oates 1972), some of which could be addressed by federal policies and harmonization. In practice, there is much cooperation in actual federations, and institutions exist for achieving agreement. The federal government is typically relied on to facilitate cooperation, though this hinges on its ability to influence provincial behavior. This is important because there are substantial differences between cooperative and non-cooperative outcomes.

Finally, a key feature of federations, as distinct from economic unions, is that residents of all provinces are national citizens, so have rights of citizenship. These can include social and political rights, such as fundamental freedoms and freedom of mobility within the federation, and also rights of an economic nature. Given the fiscal decentralization that exists in any federation, an ongoing issue is the extent to which provincial policies should respect national solidarity, or what is called fiscal equity (Buchanan 1950), especially given that provinces differ in fiscal capacity. To what extent should solidarity (equal economic treatment, social insurance, equal access to public services) apply at the national level relative to the provincial level?

2 Assignment of Responsibilities

The legislative powers of federal and provincial governments are prescribed by a constitution, though the terms are flexible enough to allow for differing degrees of fiscal decentralization. Some powers are assigned exclusively to one level of government, while other powers can be co-occupied, often with one level of government being paramount. Either level of government may be given residual powers—those not explicitly assigned. The constitution may also impose broad economic obligations on governments, such as providing for basic economic rights, pursuing equality of opportunity or ensuring comparable treatment of citizens in all provinces. Governments may also be restricted from impeding the free flow of goods, services, labor and capital among provinces, or from discriminating against residents or businesses of other provinces. While the courts enforce the constitution, the federal government might oversee provincial behavior. It may be able to disallow provincial legislation and may influence provincial programs through federal transfers. There may also be institutions designed to constrain federal or provincial behavior, such as fiscal councils, limits on budget deficits and debt, and grants councils who advise on federal-provincial transfers.

Interaction between levels of government is typically hierarchical: the federal government deals with provinces, and provinces control municipalities within their borders. In what follows we focus mainly on federal and provincial governments.

Some principles used to inform the assignment of actual spending, revenue-raising and regulatory responsibilities are outlined below. Actual responsibilities differ among federations.

2.1 Expenditure Functions

The assignment of expenditure functions is similar across most federations. Expenditure programs are highly decentralized with aggregate provincial spending being comparable in magnitude to the federal government. Categories of spending include public goods, public services, infrastructure, social insurance and transfers. Public goods whose scope is national, such as defense, external affairs and development aid, are provided federally. Provincial public goods are a relatively small component of provincial expenditures. Public services delivered to individuals, such as health, education and social services, are typically decentralized since local agencies are better informed about needs and face fewer administrative and agency costs. These services comprise the bulk of provincial spending, yet their program design is of national interest since they contribute to equity and equality of opportunity. The federal government often influences them using federal-provincial transfers as discussed below.

Infrastructure is also largely decentralized since its scope is geographically limited. However, the federal government may exercise some oversight in design and financing since infrastructure is important for the internal economic union. Some infrastructure is provided nationally, such as national transportation networks (road, rail), airports and harbors.

Social insurance programs, such as public pensions and unemployment insurance, are often federal. Federal provision takes advantage of economies of scale in pooling risks as well as in program costs, and incurs limited administrative cost. In addition, social insurance serves national equity objectives. General programs of transfers to individuals, especially transfers delivered through the income tax system, are also federal. On the other hand, targeted discretionary transfers, such as welfare and disability assistance, can be delivered efficiently by the provinces whose administrators are closer to the recipients.

Overall, the mix of federal spending contains a balance of transfers to individuals and provinces, social insurance payments, and goods and services expenditures on large items like defense. Provincial spending is dominated by public services and to a lesser extent targeted transfers and infrastructure. Municipalities, which we subsume under provinces, spend mostly on local public goods and services. The extent of provincial discretion over decentralized spending programs is important. The arguments for decentralizing spending to the provinces are that administrative efficiency is enhanced and program design reflects local preferences and needs. At the same time, national objectives, such as equity and equality of opportunity, might be served by provincial programs (e.g., education, health), and provincial programs might generate spillover benefits or costs to those in other provinces. In these circumstances, federal government oversight or encouragement, or interprovincial harmonization, can improve national outcomes.

2.2 Revenue Raising

While expenditure decentralization is similar across federations, the extent to which provinces raise their own revenues as opposed to relying on federal transfers varies greatly. Part of the variation is due to differences in the tax instruments made available to provincial governments, and part is due to differences in the extent to which provinces exploit those taxes.

The general principles of tax assignment are widely accepted (McLure 2001; Boadway and Shah 2009). Tax bases that are more mobile, such as corporate income, are liable to induce tax competition if decentralized so are better suited as a federal tax base. As well, taxes that are used for redistributive purposes should be federal, both because redistribution is a federal concern and because it can be competed down by the provinces. Tax bases that are immobile, such as property taxes, are suitable for decentralized use. Natural resource taxation is an interesting exception. Although natural resources are immobile and their development and extraction might be better managed by provinces, they are also often concentrated in a subset of provinces. Provincial resource taxation can be a significant source of horizontal imbalance, and for that reason taxation of them is federal in many nations. Environmental tax assignment also presents conflicting considerations. Administering environmental taxes requires monitoring of pollutants, and this favors provinces who are closer to polluters. But, environmental externalities may transcend provincial borders, which favors nationwide taxes. Payroll taxation could also be decentralized since worker mobility is likely to be limited, although payroll tax revenues are often earmarked for social insurance programs delivered by the federal government. Provinces can also fruitfully use excise taxes, especially since they are used to control of externalities, such as pollution, congestion or health outcomes.

Since provinces have large expenditure programs to finance, they should have access to at least one broad-based tax. This could be personal income taxation or sales taxation (e.g. VAT). Where broad-based taxes are used by the provinces, they usually co-occupy those bases with the federal government. This has administrative and policy advantages. The income tax is an important tax instrument for the federal government to achieve equity. In the case of the sales tax, co-occupancy leads to more harmonization, which reduces compliance costs. More generally, co-occupancy offers the opportunity for the federal and provincial governments to agree to tax harmonization. This facilitates provincial revenue-raising discretion and the attainment of national tax policy objectives.

Federal-provincial tax harmonization can take various forms, differing in how much provincial discretion they allow. At one extreme is revenue-sharing where the provinces are entitled to a given share of some tax collected by the federal government. This assures the provinces of tax revenue as long as the revenue-sharing is in effect. But they have no discretion over their own tax rate. Moreover, the sharing of tax revenues among provinces may not correspond with the province of origin and this can lead to uncertainty of a province's revenues.

Tax harmonization schemes can be devised that allow both the provincial and federal governments to set their own rates to a common tax base. They also allow each province to decide whether to participate. These schemes also have the advantage of a single tax-collecting authority. Provinces are precluded from choosing their own tax base, but they may have some discretion over the fate structure to apply to the common base. Tax harmonization systems of this form can apply to income taxes as well as sales taxes. In the case of sales taxes, the mechanism must assure that the destination approach applies to purchases in a province and that cross-border purchases of inputs are properly credited at the applicable provincial tax rates. One approach is for all sales to be taxed in the province of destination, credit to be given for input taxes, and final VAT revenues to be allocated among provinces using estimates of consumption in each provinces. Alternatively, a deferment method can be used whereby cross-border sales are exempt from VAT, while products purchased from another province are subject to taxation when they are first sold at home.

A looser form of tax coordination is piggybacking. Provinces simply apply surtaxes to federal tax liabilities at rates they choose. It is similar to full tax harmonization but leaves the provinces with relatively little discretion other than choosing a tax rate. Provinces who choose to piggyback can allow the federal government to collect taxes on their behalf or they can collect their own taxes.

A final source of revenue is borrowing, which postpones taxation. The federal government usually has full discretion over borrowing, possibly subject to any restrictions that may be imposed either by legislation or by the constitution. The provinces, and especially their municipalities, may have some restrictions on borrowing, possibly imposed by the federal government. These may take the form of balanced-budget requirements or fiscal rules, or their borrowing may be restricted to day-to-day financing or investment purchases. They may be forced to borrow from a federal agency.

In more decentralized federations, provinces have full discretion to borrow, subject only to capital market discipline. In all cases, there is the possibility of soft-budget constraints. That is, the federal government may find it difficult not to bail out a province that comes under financial distress. Provinces that have some expectation of being bailed out in the event of difficulty will take more financial risks. Thus, while the federal government might be expected to provide some insurance for provinces who are subject to an economic shock, providing such insurance is fraught with moral hazard problems as we discuss further below. The extent to which provinces face a soft-budget constraint depends on a) their ability to raise own revenues, b) how much federal transfers to the provinces are based on formulas rather than discretion, and c) the extent to which provinces face capital market discipline. It is practically impossible to avoid the possibility of a bailout entirely: the only issue is how best to contain it.

Finally, it is worth emphasizing the interdependency of federal and provincial taxation. They may both use the same tax bases or overlapping tax bases. The more taxation is raised from broad tax bases by the federal government, the harder it is for the provinces to raise revenue. Moreover, the need for provinces to raise revenues will be affected by the level of transfers they obtain from the federal government. The relative amounts of tax revenues raised by each level of government and the level of transfers are jointly determined and highly influenced by the federal government, which can reasonably be viewed as a first-mover. We return to the consequences of that in the following section.

2.3 Regulation

The assignment of regulatory functions also impinges on the efficiency of the internal economic union. Given the mobility of goods and services and factors of production, there is a general presumption for national regulation of these markets. This is especially true for capital markets, and regulation of financial markets, financial products (like pensions) and currency are typically national. Provincial regulation of labor markets, including professional and trades licensing, employment standards, minimum wages and occupational safety, can impede labor mobility and distort internal market. Decentralized regulation might be relevant to the extent that there are linguistic or cultural values that motivate regulatory protection, though it is difficult to separate regulation to enhance local values as opposed to regulation to protect local workers and businesses. Regulations might also be easier to enforce locally than nationally. Some regulation influences mainly local matters, such as zoning, water supplies and local developments, and these can be decentralized.

3 Fiscal Gap: Rationale and Consequences

In virtually all federations, the federal government raises more revenue than it needs for its own program spending and transfers the excess to the provinces. This fiscal gap serves various purposes. It may simply be that the case for decentralizing expenditures is much stronger than for decentralizing revenue-raising. As Dahlby (2008) puts it, the marginal cost of public funds tends to be higher at the provincial than at the federal level owing, for example, to the mobility of tax bases across provinces.

There are other, more compelling, arguments for a fiscal gap. Decentralizing revenue-raising leads to horizontal imbalances in the sense that provinces require different tax rates to finance comparable levels of public services. Horizontal imbalance that go uncorrected lead to differences in net fiscal benefits to residents across provinces. The consequences are i) horizontal inequity across provinces—otherwise identical persons are treated differently depending on their province of residence (Buchanan 1950)—and ii) fiscally induced migration—individuals migrate in order to take advantage of higher net benefits of provincial policies (Buchanan 1952; Boadway and Flatters 1982). To the extent that the federal government feels obliged to address horizontal imbalances, say, for reasons of solidarity or to maintain the integrity of the economic and social union, this will be more difficult the more decentralized in the federation.

Decentralizing revenue-raising to the provinces, by reducing federal presence in broad tax bases, also makes it more difficult for the federal government to facilitate tax harmonization. Tax harmonization can more readily be achieved with federal dominance in a tax base. This gives the federal government leverage in the choice of a common tax base, and also gives it the persuasive power to encourage provinces to participate. Federal dominance of personal taxation also makes it easier for it to achieve its national equity objectives through tax progressivity. At the same time, it does not preclude provinces from pursuing their own preferred amounts of progressivity using their tax room shares.

A fiscal gap may be desired its own right to allow the federal government to pursue national objectives using federal-provincial transfers. An important form of transfers are for equalization purposes, that is, to undo the horizontal imbalances resulting from fiscal decentralization. A system of equalization transfers can be viewed as the facilitator of decentralization: It enables the federation to obtain the efficiency advantages of decentralization by undoing its adverse consequences (Boadway 2001). Equalization also serves as a long-term regional insurance program by transferring funds to provinces whose fiscal capacity has been reduced by an economic shock (Von Hagen 2007).

The design of an equalization system involves a compromise. The usual objective is to make differential transfers to provinces so that they are able to provide comparable levels of public services at comparable tax rates (Boadway and Shah 2007). At the same time, the extent to which equalization must be tempered by two factors. First, provinces should be discouraged from exploiting the system by changing their tax rates or economic development policies to attract equalization payments. Second, equalization should not discourage provinces from choosing appropriately different policies to suit the preferences and needs of their residents. In practice, this balance is achieved by equalizing the potential for different provinces to provide comparable public services at comparable tax rates, while leaving them free to choose policies that deviate from provincial norms. One method is to use the Representative Tax System (RTS) and/or the Representative Expenditure System (RES) approaches. According the RTS approach, revenue equalization is achieved by equalizing the revenue that would be raised by applying national average provincial tax rates to a standard set of bases. The RES approach equalizes the funds required to provide comparable levels of public service given differences in needs and costs across provinces. (See Boadway 2004.)

Federal transfers to the provinces also allow the federal government to influence the design of provincial spending programs that impinge on the efficiency and equity of the internal economic and social union. In the case of broad provincial programs like education or health, federal block transfers can be used that impose general conditions that provincial programs should satisfy to be eligible for the transfer. Such block transfers can be contentious to the extent that they are perceived as impinging on areas of provincial spending responsibility. For that reason, the conditions should be as non-intrusive as possible. More detailed conditionality, and perhaps shared-cost arrangements, are appropriate where the federal government seeks to encourage the provinces to establish major spending programs. As well, specific conditional grants can be used where the benefits of provincial programs transcend borders. In practice, specific transfers are of less importance than block transfers.

Federal influence over provincial programs might be pursued without using federal-provincial transfers. The mere reliance of the provinces on federal transfers allows the federal government to exert moral suasion on the provinces. In some federations like the USA, the federal government can mandate provincial spending programs, and it can do so with or without providing financial assistance. In federations where the responsibilities of the provinces are treated as paramount, mandates imposed by the federal government would be resisted.

The fiscal gap is endogenously determined by the independent actions of the federal government and the provinces. However, actions by each government might take account into response their impact on the actions of other government. The nature of the interdependency of federal and provincial behavior have important implications for the quality of the final outcome. In the fiscal federalism literature, non-cooperative (Nash) behavior is often assumed: each government makes its decisions given the decisions of the others. The Nash equilibrium resulting from this process is likely to be sub-optimal because spillover benefits and costs felt by residents and governments elsewhere are ignored.

But, non-cooperative behavior is unlikely. For one thing, governments are in continuous communication and are likely to agree tacitly about one another's decisions. It is also likely that governments anticipate the responses of other governments to policy decisions. If, as seems likely, the federal government expects its policies to affect provincial government behavior, it can choose its policies to discourage non-optimal provincial policies. It can use conditional transfers to induce cooperative provincial behavior, and it can encourage policy harmonization among provinces so that national efficiency and equity are pursued. As well, it can use equalization transfers to undo fiscal inefficiencies and inequities, and to insure provinces against idiosyncratic shocks. At the same time, if the federal government is not fully benevolent, it can use transfers to its own advantage at the expense of the provinces. For example, it might respond to a fiscal shock by reducing federal-provincial transfers so as to pass fiscal deficits onto the provinces rather than implementing their own austerity measures.

Alternatively, if a province anticipates that the federal government will come to its rescue in the event of provincial insolvency, it may spend and borrow excessively so that it cannot weather an economic shock. Avoiding a soft-budget constraint is one of the most difficult challenges in a federation (Rodden et al. 2002; Kornai et al. 2003; Vigneault 2007). It arises because the federal government cannot commit to maintaining an announced policy regardless of provincial behavior. The problem can be mitigated by imposing fiscal rules on provincial governments to preclude them from taking decisions that are not sustainable. It can also be mitigated by giving the provinces sufficient fiscal responsibilities to be able to manage fiscal shocks. Decentralizing adequate revenue-raising authority to them, and giving provinces the discretion to borrow subject to the discipline of capital markets as well as to fiscal rules might also mitigate against future bailouts. Perhaps counterintuitively, imposing strict borrowing constraints on provinces may actually enhance the possibility of bailouts (Poterba 2004).

4 Decentralization: Fiscal Externalities versus Fiscal Competition

Federations differ in the extent of the decentralization of fiscal responsibilities. While this reflects differences in political, institutional, and cultural backgrounds, it also reflects judgments about benefits and costs to decentralization. History too is important since decentralization can be difficult to reverse. Once the revenue-raising authority of provinces has been increased, for example, by the federal government turning over tax room to the provinces, this is hard to reverse. Decentralization measures taken to address short-term contingencies may be long-lasting and cumulative. In this section, we recount the benefits and costs of decentralization, and how decentralization might be managed so that its benefits are achieved without enduring all its potential costs.

4.1 Benefits of Fiscal Decentralization

The influential study of Tiebout (1956) emphasized the benefits of fiscal competition for decentralization. Competition would lead local policy-makers to choose the mix of expenditures and taxation that best suited the preferences and needs of local residents. It would also lead to localities to competition for residents, which would allegedly result in an efficient allocation of population among localities. While Tiebout's model was of localities competing with one another in the absence of a central government, his views informed the early fiscal federalism literature (Musgrave, 1959; Oates, 1972). The subsequent literature has taken a more nuanced view of the Tiebout model and of the benefits of fiscal decentralization and competition (Bewley 1981; Brueckner 2000; Boadway and Tremblay, 2012).

The advantages of local policy-makers in tailoring provincial programs to local preferences and needs remains an advantage of decentralization. In addition, efficiency of public programs is enhanced if they are delivered by governments closer to the people, since this exploits the benefits of local information and reduces agency costs, and enhances accountability (Schaltegger and

Torgler 2007). Innovation in program delivery is also enhanced by decentralization as many provinces are able to experiment with new approaches, and the lessons learned can be adopted elsewhere (referred to as laboratory federalism). Decentralization may also contribute to growth through efficient infrastructure provision (Thiessen 2003).

Political economy arguments can also favour decentralization (Besley and Coate 2003). Competition among provincial government leads to smaller governments with lower tax rates, and this can curb excessive rent-seeking by politicians and reduce the opportunities for corruption (Edwards and Keen 1996; Fisman and Gatti 2002; Fan, Lin and Treisman 2009). Citizens can judge their politicians using the performance of neighboring provinces as a yardstick (Besley and Case 1995).

These advantages of decentralization apply especially to the delivery of public services to citizens, so it is not surprising that these programs are typically responsibilities of provincial governments.

4.2 Costs of Fiscal Decentralization

A main source of inefficiency from decentralization is fiscal externalities or spillovers (Dahlby 1996). Residents of neighboring provinces might obtain benefits from a province's spending programs, or they might incur costs in the event of negative spillovers. Taxes can result in spillover benefits if economic activity is diverted across borders or if the location of factors respond. Since provinces have no incentive to take account of spillover benefits, the result can be taxes and public expenditures that are too low relative to their efficient or cooperative level. As we have mentioned, fiscal inefficiencies and inequities result if decentralization leaves different provinces with different fiscal capacities.

To the extent that provinces recognize that their policies will lead to an outflow of economic activity, tax competition will result where all provinces compete down their tax rates and expenditures. Fiscal competition can also result in higher expenditures on items that serve to attract business, such as infrastructure and business services. They may also use specific beggar-thy-neighbor policies like subsidies to attract firms from other provinces. Even in the absence of fiscal competition, uncoordinated provincial fiscal policies can result in barriers to movement. This will be the case if tax policies are not harmonized so firms are discouraged from operating across borders because of the costs of complying with multiple tax systems.

Decentralization might entail foregoing economies of scale in public spending or taxation. Provinces can also be exposed to more risk if they are forced to be more self-sufficient when there are prospects for regional fiscal shocks. Perhaps more seriously, decentralization can erode solidarity and increase citizens' regional loyalties. Provinces can engage in a race-to-the-bottom by competing down redistribution norms. This can increase the difficulty of achieving national equity and social insurance objectives, and in some cases contributed to separatist sentiments.

4.3 Managing Decentralization

All federations are decentralized to some extent, and a key challenge is to accompany decentralization with federal policies that mitigate the possible adverse consequences. Federal-provincial transfer schemes are an important instrument for managing decentralization as discussed above. They can offset the horizontal imbalances that decentralization entails, and can be vehicles whereby the federal government encourages provincial policies to contribute to national norms. The federal government can use its dominant revenue-raising position to facilitate tax harmonization. These policies can be designed so that the advantages of provincial discretionary policy choices are achieved while the disadvantages are minimized.

The federal government and the provinces can also pursue intergovernmental agreements that can lead to more cooperative decision-making that reduces fiscal externalities and distortions of the internal economic and social union. Policy harmonization agreements can be pursued in a variety of areas, such as environmental policy, immigration and interprovincial migration, communications, infrastructure and redistributive tax-transfer policies. The effectiveness of such agreements depends on their being a robust dispute settlement mechanism to which all sides have committed.

5 Canadian Experience

The Canadian federation illustrates many best practices and some pitfalls of fiscal federalism. It has evolved into one of the most decentralized federations in the world. The provinces have exclusive legislative jurisdiction over social programs like health, education and welfare, as well as standard provincial public goods. They regulate both labor and capital markets and administer much of the justice system. They manage and tax natural resources. The federal government is responsible for nationwide public goods, like defense, foreign affairs, trade and foreign aid. About two-thirds of its spending is on transfers, including transfers to persons, transfers to the provinces and social insurance (pensions and unemployment insurance). Provinces are responsible for municipal governments, and aggregate provincial and municipal expenditures exceed that of the federal government. The federal government is assigned the residual power and can disallow provincial laws, although that is almost never done. In practice, provinces enjoy significant autonomy.

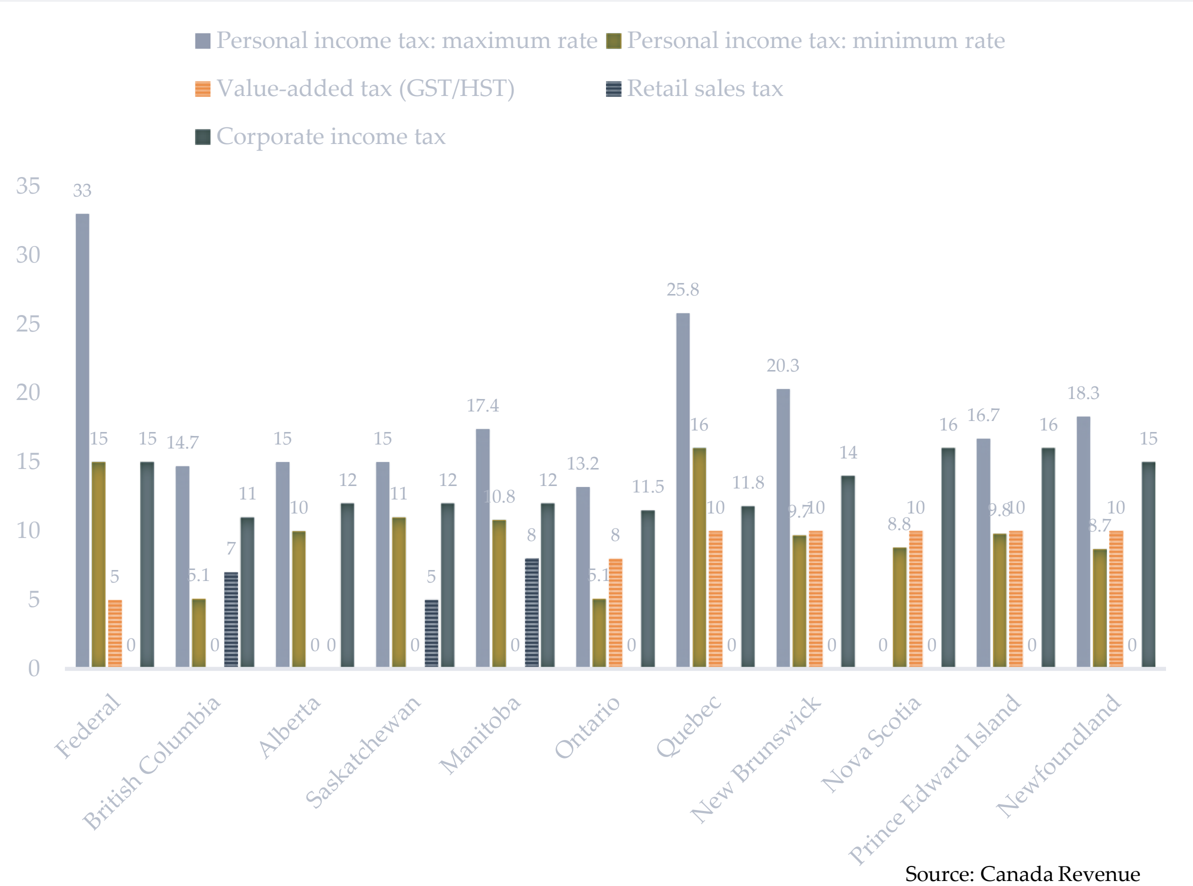
To finance their large spending responsibilities, provinces have access to personal and corporate taxes, general sales taxes, resource taxes and excise taxes. On average, they raise over 80% of their own revenues, relying on federal transfers for the rest. Provincial tax systems are largely harmonized with federal taxes by a series of tax collection agreements that follow a common template but are individually signed. Harmonized income taxes are administered by the independent Canada Revenue Agency. Provinces must agree to common bases, but have considerable discretion over their rate structures and tax credits, provided that the latter do not discriminate against non-resident taxpayers. Quebec - the French-speaking province - remains outside the income tax collection agreements but nonetheless adopts similar tax bases. For corporations who earn income in multiple provinces, revenues are allocated to provinces using formula apportionment which gives equal weight to revenues, payrolls and capita assets. All personal income goes to the province where the taxpayer resided on December 31 of the tax year.

Six of the ten provinces harmonize their sales taxes with the federal Goods and Services Tax, which is a value-added tax. One of those – Quebec - collects sales tax revenues for both itself and the federal government for sales in its jurisdiction. For the remaining five, both federal and provincial tax rates apply to a common base in each province where sales are made. Revenues collected by the Canada Revenue Agency are allocated among provinces according to estimates of aggregate consumption. Most non-participating provinces levy a single-stage retail sales tax. Its base is much narrower than the Goods and Services Tax since most services are exempt, and taxes paid on business inputs are not refunded leading to inefficiency of production.

Table 1 shows tax rates used by the federal and provincial governments for personal and corporate income taxes and sales taxes. Several observations are relevant. Provincial corporate income tax rates are comparable with the federal rate, and vary greatly among provinces. In particular, the lowest-income provinces have the highest corporate tax rates, reflecting their lower revenue-raising capacity (despite equalization) and their larger per capita spending obligations. This can lead to inefficiencies in the allocation of investment among provinces. Federal personal income tax rates are both higher and more progressive than those of the provinces. The latter partly reflects fiscal competition pressures. Finally, provincial sales tax rates are significantly higher than federal ones, especially for those provinces that have harmonized their sales taxes with the federal Goods and Services Tax. The extent of decentralization of revenue-raising to the provinces and the diversity of their tax rates is compatible with minimal collection and compliance costs because of the tax harmonization arrangements. These ensure that provinces adopt the federal tax base, and that revenues are collected by a single agency. The fact that provinces individually choose to harmonize indicates the flexibility of the system.

Provinces can borrow at their discretion, although they restrict borrowing by their municipalities. The debt-GDP ratio varies across provinces and in some cases is comparable to the federal government. Provinces can borrow at similar terms to the federal government despite the higher chances of insolvency in some cases. This suggests that capital markets discount provincial debt risk, effectively expecting that provinces will be bailed out in the event of insolvency. In fact, provincial bailouts are very rare. One province was bailed out in the wake of the 1930s depression, while another that had high debt levels was given preferential federal transfers in the 1990s.

Table 1: Federal and Provincial Tax Rates 2017, in %



Source: Canada Revenue

The high degree of revenue decentralization results in significant horizontal imbalance. High-income provinces and those heavily endowed with natural resources have relatively high fiscal capacity. The Constitution obliges the federal government to make equalization payments to the provinces so that they can provide relatively comparable level of public services at relatively comparable tax rates. In practice, this is achieved by a system of revenue equalization. National average revenue capacity is calculated by applying the RTS[1] approach to personal and corporate income, sales and property taxes as well as 50% of natural resource revenues. Provinces with revenue capacity below the natural average receive equalization transfers to bring them to the national average. Those above remain unequalised, so revenue capacity differences persist post-equalization. The equalization system serves partly as a regional insurance system as there is frequent turnover of equalization-receiving provinces.

[1] Under the RTS approach, equalization entitlements to each province are calculated to be the revenue that would be raised by applying national average provincial tax rates to a standard set of bases. For example, in the case of sales taxation, a common sales tax base is defined and converted to per capita terms. The average provincial tax rate is the ratio of total provincial sales tax revenues to the aggregate national sales tax base. Average sales tax capacity is obtained by multiplying the average provincial tax rate by the national per capita sales tax base. For each province, individual per capita sales tax capacity is calculated by multiplying the average tax rate by provincial per capita tax capacity. Sales tax equalization entitlements for each province is the difference between the national and provincial per capita sales tax capacities. The same procedure is applied to all provincial tax bases. For each province, aggregate per capita equalization entitlements are the sum of entitlements from each tax base. Provinces with positive entitlements receive equalization payments equal to their aggregate per capita entitlements.

The federal government also makes transfers to the provinces in support of their social programs. Equal per capita block grants are provided, one for provincial health programs and another for welfare and post-secondary education. Broad conditions apply to health transfers, mainly to encourage provinces to maintain public health care programs that are comprehensive, universally available and accessible without user fees. The federal transfer has been increasing at less than the rate of growth of provincial health spending, and now makes up less than 25%. Transfers for welfare and post-secondary education are conditional on provincial programs imposing no mobility restrictions. Since these block transfers are equal per capita, they are also equalizing. Some specific matching conditional grants are also deployed, but they are relatively small in magnitude.

Table 2 summarizes the per capita amounts that each province obtains from the main transfers. The Canada Health Transfer and the Canada Social Transfer are equal per capita transfers to all provinces. Since they are financed from federal general revenues, which are progressive overall, these transfers implicitly equalize revenues to the provinces: net revenues are transferred from high-income to low-income provinces. The total of these two transfers is $1388 per person,[2] of which about three-quarters is for health. Equalization transfers are provided to six of the ten provinces, and the per capita amounts vary from $101 in Ontario to $2593 in Prince Edward Island. The four provinces not receiving equalization are the natural resource-rich ones. Their revenue-raising capacity remains above the other six provinces since equalization does not apply to them. The differences in equalization payments across provinces is reflected in the differences to which they rely on federal transfers for their revenues. Alberta, whose oil and gas revenues are substantial, receives less than 10% of their revenues from federal transfer, while the poorer provinces receive well over 30%. Overall, this table reflects both the high degree of revenue decentralization in Canada and the extent to which the transfer system addresses the resulting fiscal capacity differentials.

Table 2: Federal-Provincial Transfers 2017, $ per capita

Provinces	Canada Health Transfer	Canada Social Transfer	Equalization	Aggregate	Transfers as % of Total Provincial Revenues
British Columbia	1013	375	0	1388	15.9
Alberta	1013	375	0	1388	9.9
Saskatchewan	1013	375	0	1388	14.2
Manitoba	1013	375	1361	2749	30.6
Ontario	1013	375	101	1489	15.8
Quebec	1013	375	1322	2710	18.4
New Brunswick	1013	375	2321	3709	32.2
Nova Scotia	1013	375	1855	3243	36.1
Prince Edward Island	1013	375	2593	3981	36.8
Newfoundland	1013	375	0	1388	49.9
AVERAGE	1013	375	598	1986	18.8

Sources: Statistics Canada, Finance

Federal-provincial agreements exist that aim to strengthen the economic and social union. Some are multilateral, like the Agreement on Internal Trade and the Social Union Framework Agreement. The former is intended to eliminate cross-border distortions and discriminatory practices. Its success has been limited by a weak dispute settlement mechanism, and has recently been renegotiated to strengthen this mechanism and to broaden the agreement's coverage. The

[2] More specifically, each province receives a per capita Canada Health Transfer of $1013 and a per capita Canada Social Transfer of $375, for a total of $1388. In addition, provinces with below-average revenue capacities obtain Equalization transfers of varying per capita amounts.

latter is an agreement to regulate the manner in which the federal government can enact measures that are perceived as intruding into provincial responsibility for social programs. This has been a particularly contentious issue in Canada given the use of conditional federal transfers to influence provincial design of these programs. Other agreements are bilateral, and include those on training, immigration, agriculture and pensions.

An important feature of the Canadian federation is the frequent use of asymmetric arrangements with different provinces, analogous to enhanced cooperation in the EU. Some provinces choose not to harmonize their taxes. Different arrangements exist among provinces with respect to shared responsibility for immigration, training, tourism and agriculture. In the past, provinces have been allowed to opt out of certain federal transfer programs with compensation, although Quebec has been the only one to take advantage. As well, when major shared-cost transfers for health were first introduced, provinces were allowed to participate individually, and all eventually did.

Not surprisingly, some problems remain. The decentralization of revenue-raising responsibilities, especially for natural resources, creates fiscal pressures for the federal government which is obliged to finance equalization from its own revenues. Disagreements exist over the structure of the equalization system, particularly the extent to which natural resources should be equalized. There is lack of consensus among provinces about how far environmental policies should be pursued. And, despite the broad powers of taxation enjoyed by the provinces, they rely on the federal government for some infrastructure finance, even for projects of primary benefit to provincial (and municipal) residents.

Fiscal competition results in pressures on provincial redistribution policies and in tactics to attract business from other provinces. Provinces set welfare rates for the long-term unemployed at well below the poverty level, and are much less generous than transfers chosen at the federal level, such as unemployment insurance, pensions and transfers to families with children. Along with provincial income taxes that are less progressive than the federal system, this indicates a clear race to the bottom. In the case of corporate taxes, federal-provincial tax harmonization has achieved a uniform base and minimized compliance costs. But two problems remain. Significant profit shifting occurs for firms operating in multiple provinces despite the formula apportionment system, though this could be avoided by adopting a system of consolidated accounting for affiliated firms (Mintz and Smart 2004). As well, there is still room for business tax competition through the choice of provincial tax rates and beggar-thy-neighbor tax breaks. There have been proposals for reassigning the corporate tax to the federal level with compensating fiscal transfers (Tremblay 2012).

The provincial control of natural resource revenues has given rise to a further problem. Resource-rich provinces face revenue uncertainty from fluctuating world prices, and seem unable to self-insure by putting revenues into a sovereign wealth fund. In fact, they proactively use their resource revenues to develop their own provincial economies, partly at the expense of other provinces. This exacerbates the Dutch disease problem whereby resource booms attract labor and capital from other parts of Canada, and the accompanying real exchange rate increase results in the decline of manufacturing and innovative industries relative to resource extraction. The result is a decline in productivity growth as well as a vulnerability to subsequent negative resource shocks.

Finally, a problem that persists and is magnified by ongoing horizontal imbalances among provinces is the potential unsustainability of some provinces' finances in the event of a fiscal shock. The equalization system is based on current revenue capacity and does not take account of accumulated debt. Some provinces have run up sizeable debt-GDP ratios, which are sustainable as long as interest rates remain low, but will cause financial difficulties should interest rates rise. This, accompanied by demographic pressures in the poorest provinces, leave some provinces in a precarious position.

In principle, provinces have broad revenue-raising powers and could be left to their own devices in the face of financial stress. However, evidence collected by Hanniman (2015) suggests that capital markets expect the federal government to bail provinces out of difficult financial circumstances, and there is no mechanism to commit the federal government to resist bailouts. On the contrary, in the past the federal government has found it politically difficult to abandoning a province to its own devices and not come to its rescue with federal transfers. There is no easy way to pre-commit the federal government, but Hanniman suggests that an independent advisory council that monitors federal-provincial transfers would at least keep the public informed and provide warnings of impending problems. Presumably, the fact that the provinces have wide-ranging taxation powers minimizes the likelihood of a bailout, but does not eliminate it completely. The only watertight approach would be a federation without federal-provincial transfers, but that would mean forgoing the many advantages of such transfers outlined earlier.

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