A Fiscal Federalism Framework for Financing Infrastructure

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Harry Kitchen, Trent University

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1. Introduction

Canada is alleged to have a serious infrastructure deficit. The precise meaning of this is not easy to specify, but conceptually it suggests that the existing level of infrastructure falls short of some benchmark optimum.[1] This has two dimensions, quality and quantity. The existing stock of infrastructure may be of low quality because it has been allowed to deteriorate and needs to be replaced or upgraded. The quantity of infrastructure may be deficient to the extent that it has not kept pace with the growth of population and of the economy, and with the shift in population from rural to urban areas and among regions. Both dimensions of infrastructure deficit are likely to be true to some extent

particular, by 2005, over

are about 80% of transfers that

Municipal tax powers are much more restricted and depend on provincial decisions. In practice, Canadian municipalities rely heavily on property taxes, much more so than almost all OECD countries.[9] In Canada, municipalities set the general property tax rate[10] but they are often restricted as to what they can do when it comes to levying differential taxes on different property types. For example, municipalities in Newfoundland and Labrador, except for , are required to levy a uniform tax rate on all properties. The same is true for Manitoba except for Winnipeg. In other provinces (Prince Edward Island and New Brunswick, for example), they are required to levy differential tax rates on residential and non-residential (commercial/industrial) properties with the differential rate fixed by legislation. For other differential rates, there are often provincial restrictions on the amount by which the commercial/industrial rate may exceed the residential rate. As well, the number of differential rates that are permitted range from a low of two in some provinces - one for residential properties and a second for commercial/industrial properties - to a high of thirty-six in Ontario,[11] where variable rates may be applied to subcategories of commercial and industrial properties, vacant land, parking lots, and so on.[12] In addition, there are property tax relief schemes available for seniors (based on age)[13] and low-income residents (based on income).[14]

While municipalities set their general property tax rate, they are further constrained by the need to run a balanced operating budget and by the lack of other major own source revenues. Local tax revenue is supplemented by user fees, licenses, permits, and other property charges including special assessments, and in some cities, development charges, value capture levies and tax incremental financing. Arguably the potential for some of these to finance infrastructure has not been fully exploited.

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[9] See Appendix A.

[10] Municipalities have no control over assessment (tax base). This is a provincial

Federal transfers to the provinces take four main forms. First, under the Equalization program, provinces with below-average revenue-raising capacity receive unconditional equalization transfers to bring them close to the average. Revenue capacity is measured using the

provinces are equalized up to 95% of national average. Finally, Equalization is largely formula-driven, so both its absolute size and allocation are determined by the RTS calculations, although this is violated from time to time by federal discretion (e.g., the GDP cap, the Offshore Accords for Newfoundland and Labrador and Nova Scotia).

The second main form of transfers The Canadian Health Transfer (CHT) and the Canada Social Transfer (CST). These are the remnants of shared-cost programs for medicare, hospitals and social welfare of the 1960s that were instrumental in establishing provincial programs in these areas, and that became the Established ProgramTJETBT1 0 0 1 443.23(ovinci)]TJE

Budget announced that a new infrastructure fund would start in 2017-18 if the Conservatives are re-elected. This would include $750 million over two years, followed by an annual ongoing fund of $1 billion to help finance public-private partnerships to pay for projects and upgrades with a combination of public and private investment.

PTIC provides funding to support infrastructure projects of national, regional and local significance that contribute to objectives related to economic growth, a clean environment and stronger communities. To support a wide range of infrastructure needs, it is divided into two parts: the first is $9 billion for projects that are nationally and regionally significant, and are predominantly medium and large scale in nature; and the second is $1 billion for projects in communities with fewer than 100,000 residents.

PTIC is an allocation-based program consisting of $250 million that goes to each of the 13 provinces and territories with the remainder disbursed on an equal per capita basis over ten years. To access these funds, provinces must prioritize their infrastructure requests (with an emphasis on eligible costs and timing) for submission to the Federal government. All submissions must satisfy the terms and conditions of the PTIC and are application based. Eligible projects include those of both provincial and municipal governments with municipal requests channeled through provincial submissions. Generally speaking, projects will be federally cost-shared. The maximum federal contribution is 50 per cent for provincially-owned highways and major roads, as well as public transit projects. For municipal projects, the cost sharing is generally 1/3 for each level of government. The maximum federal contribution is 25 per cent for projects with for-profit private sector proponents as well as projects procured as P3s. For projects located in the Northwest Territories, Yukon and Nunavut, the federal government will fund up to 75 per cent of total eligible costs, including P3 projects. For projects with a for-profit private sector proponent, however, the cap would be 25 per cent.

The NIC is a merit-based application-driven program with no pre-determined provincial or territorial allocations. This program funds projects of a national interest. Eligible projects will be limited to those that provide the greatest economic impact under the following seven categories: highways and major roads, public transit, rail infrastructure, local and regional airports, port infrastructure, intelligent transportation systems (ITS), and disaster mitigation infrastructure. Thus, apart from the last category, targeted projects are in the transportation area.

Eligible recipients need not be a municipality or a province or an agency of these, but they could be. They could also be a private sector body, including for-profit organizations and not-for-profit organizations; a Canada Port Authority, International Bridge and/or Tunnel Authority. Generally speaking, projects will be federally cost-shared on a one-third basis unless they are P3 projects, in which case the maximum share is 25 percent.

The maximum federal contribution under NIC is 50 per cent of eligible costs for provincially-owned highways and major roads, as well as public transit projects. The maximum contribution is 25 per cent for projects with for-profit private sector proponents as well as projects procured as P3s. For projects located in the Northwest Territories, Yukon and Nunavut, the federal government will fund up to 75 per cent of total eligible costs, including P3 projects. For projects with a for-profit private sector proponit pco0 1 218.45 512.71 Tm[ )]TJ/MCID 32>BDC BT1 0 0 1 58 4927flf0 0

Provincial transfers to municipalities show considerable variation. In addition, funding for municipal infrastructure differs considerably from federal and provincial infrastructure. For municipal infrastructure financed by borrowing, debt service is included as an item in the operating budget. Thus, municipal infrastructure spending is constrained by a capacity to borrow, which in turn is affected by its tax capacity, by provincial and federal grants, and also by direct financing of infrastructure by the province. User fees are also an important source of ex post funding for capital projects, especially for water, sewer, solid waste, urban transit and transportation. As well, specific

actively build their provinces partly at the expense of others by low taxes and high levels of public services, including infrastructure.[21] t captures that.

The point is that one cannot presume that lower levels of government have an incentive to under-provide infrastructure. On the contrary, they have strong incentives to use infrastructure spending as a way to foster local economic development. Indeed, good infrastructure is a prerequisite to making a locality attractive for business, and for retaining business and skilled labour that is already there. If anything, there is a payoff to competing too aggressively against other provinces. There is little that the federal government can do to counter the adverse effects of province-building. However, it can be mitigated by ensuring that all provinces have comparable fiscal capacities to provide needed infrastructure, which is the task of Equalization and to a lesser extent the CHT and CST programs.

There is a broader argument for a federal interest in infrastructure that derives from Section 36(1) of the Constitution and that has recently been emphasized by Dodge, Burn and Dion.[22] As mentioned, that section commits the federal and provincial governments jointly to regional development, equality of opportunity and the provision of reasonable qualities of essential public

It is interesting that the NIC

published study on the Greater Toronto Area[26] concluded that there is room to increase property taxes in most municipalities in the GTA. A quick calculation of effective tax rates (property

other countries. Additional taxes would give cities more flexibility in responding to local conditions such as changes in the economy, evolving demographics and expenditure needs, changes in the political climate, and other factors. It would make the overall local tax structure more flexible, permitting elected politicians to choose taxes that best fit local conditions and circumstances. This could generate enough revenue to upgrade local infrastructure and provide public services while minimizing fiscal competition.

Given these considerations, arguably the main issue facing municipalities is a perceived vertical fiscal imbalance with respect to upper levels of government. Provinces make transfers to municipalities, but the question is whether they are adequate in size and suitable in structure. Unlike federal-provincial transfers, provincial-municipal transfers are not as systematically equalizing in all provinces. The consequence is that municipalities with the most needs and costs are generally the most financially stretched, and these may well include those with the largest infrastructure needs, such as larger metropolitan areas. To the extent that a vertical fiscal gap exists, it can be traced to a couple of key issues. One has been the tendency for provincial governments to download funding to the property tax for the provision of public services that are more provincial than municipal in nature. These include things like social services and education. While the actual delivery of these services might be better done at the local level, the fact that they are of provincial interest because of their redistributive or social insurance nature suggests that the province should be a significant financial contributor. The other issue is the relationship between a vertical imbalance at the municipal level and that at the federal level. The tendency for the federal government to pass on fiscal deficits to the provincial level has its parallel in the province passing on its deficits to municipalities. There is some evidence that aggregate provincial-municipal transfers are correlated with aggregate federal-provincial transfers. For example, since the early 2000s, the former have been roughly $10bn less than the latter, though with some fluctuation.[31]

Finally, lack of fiscal discretion at the municipal level might detract from the ability of municipalities to respond to infrastructure needs in a timely fashion. This lack of discretion is partly attributed to the oversight exercised by the provinces over municipal capital spending, which is understandable given the potential for soft-budget constraint problems and the potential

[31] See *Finances of the Nation*, Canadian Tax Foundation, Toronto, various years, Table A.2

need to bailout municipalities that have overspent.[32] It could also be attributed to the limited access that municipalities have to local taxes. This situation could be ameliorated if municipalities, especially the larger ones, had access to more flexible own source revenues. Furthermore, both theory[33] and empirical evidence[34] support this: increased local fiscal authority leads to increased local fiscal accountability.

Federal role in financing municipal infrastructure

A final issue is whether the federal government should make direct transfers to municipalities, by-passing the provinces. The argument in favour is that if a vertical imbalance exists for large municipalities and it constrains their ability to finance infrastructure, the federal government is better able to deal with that imbalance than are the provinces, who may themselves be fiscally constrained. Moreover, to the extent that one regards the cities as the engines of growth and innovation, and municipal infrastructure as a necessity for exploiting their potential, large municipal infrastructure investments are of national interest since they spur national growth and their benefits extend well beyond the city involved. A counter-argument is that municipalities are creatures of the provinces and are governed by provincial constitutions. This includes oversight and ultimate responsibility for municipal financial sustainability. Direct dealings between the federal government and municipalities would undermine municipal accountability to the province, and accountability between the municipality and the federal government would be constrained by the distance between them and the absence of day-to-day interaction. As well, direct transfers from the federal government to the municipalities are not necessary to achieve national objectives. Transfers made via the province for infrastructure projects that are deemed to serve national interests can be as effective and more accountable than those that bypass provinces given that provinces are particularly experienced at dealing with municipalities, and

[32] There is evidence suggesting that local governments subject to hard budget constraints tax and spend more sensibly than those not subject to such constraints. See J. ecJ. ecJ. ecJ. s, Gme that bypass

that large municipalities have direct input into provincial political decision-making through

Public-Private Partnerships

Public-private partnerships (PPPs or P3s) are contractual arrangements between the public sector and a private provider. Unfortunately, they are often viewed by politicians as a way to raise money for cash-strapped governments. Such enthusiasm, however, must be tempered with the reality that P3s are not a source of free money since the private partner must be repaid for any financing it provides.

Policy makers and practitioners generally acknowledge that P3s can generate significant efficiencies, better cost controls, stronger operational knowledge, and greater operational flexibility when used to deliver projects that have passed a rigorous and thorough value for money assessment (VfM). A VfM compares the net present value (NPV) of the P3 option with the NPV of a comparable project delivered through conventional procurement methods. While not a straightforward or easy task, the VfM is intended to capture all quantitative and qualitative factors affecting both costs and benefits.[37] A critical issue in this calculation is the way in which risks are assigned to the public and private operators.

At least two survey papers have examined the success of a number of P3s in Canada. One included ten
sometimes found it difficult to effectively reduce either their total costs (that is, the sum of production and transaction costs) or their budgetary risk exposure (by transferring revenue risk) .[38] This led the authors to conclude that P3s are not socially desirable for all public infrastructure projects, but may work well under certain circumstances; for example, where governments have not attempted to transfer revenue risk (uncertainty over future revenue streams) to the private sector; where projects have required specialized knowledge that the public sector lacks; and where governments have been able to transfer

A second and more recent study conducted a VfM assessment for 28 provincially approved P3 projects in Ontario from 2007 to 2010.[40] This study noted that the base cost of P3s was, on average, 16% higher than conventional tendered contracts. The higher cost was attributed to higher interest rates paid by private borrowers and a premium for taking on greater project risks arising from potential cost overruns, construction delays and so on. Transaction costs for lawyers and consultants added another 3% to private-sector costs.

Conventional government procurement practices also face a number of risks. As with P3s, these include cost overruns, construction delays, design flaws, and fluctuating revenues. To account for these risks and to attempt to establish a level playing field for comparative purposes, a risk premium that averaged 49% of base costs was added to the more conventional alternatives. It was this risk premium that drove the VfM in favour of a P3 for each of the 28 projects. A major concern here is that there is no empirical evidence to support such a large risk premium. The authors emphasized this concern and it has also been highlighted by On .[41]

for their money under P3 .

Canadian experience with P3s is relatively limited by international standards. Based on existing experience, municipal infrastructure projects that may be suitable for a P3 include roads and public transit, water and wastewater treatment systems, solid waste disposal as long as they can pass a rigorous and carefully constructed VfM assessment. A P3 may be most appropriate when outputs can be clearly defined, where risks are correctly assigned to each party, where proper incentives can be introduced for encouraging private partners to get better value and if there is clear communication and accountability between the private and public partners.[42] Where P3 contracts are properly structured and based on performance measures, they can lead to improved local governance including increased accountability, transparency, and value for money.

Because P3s are monopolistic in nature, there is a role for government in monitoring their behaviour. Governments should set the terms and conditions for service delivery, funding and quality of service, and establish performance standards or measures. Government could even provide the pricing structure to be used for services provided by the infrastructure (volumetric pricing for water and sewers, tolls and other charges for roads and public transit, user fees for solid waste disposal) or set up a price regulation or monitoring system.

Letting a private partner operate a P3 can raise transactions costs because of the need to monitor service quality. However, it has the potential advantage that user fees or prices are more politically acceptable because the public expects private-sector services to be priced.[43] These prices should be regulated in such a way that they do not prevent flexible or innovative pricing structures.

revenues devoted to financing infrastructure. If one took needs and/or costs into account in calculating Equalization, this would not affect the total Equalization amount, though it would affect its allocation among provinces. It is true that debt financing is not included in Equalization, and debt may be used to finance infrastructure. However, debt is just postponed taxes, which eventually enters Equalization. Similarly, CHT/CST transfers are unconditional and are meant to support both current and capital spending on health, social assistance and post-secondary education. The upshot is that a case for an additional infrastructure grant cannot be based on the idea that infrastructure spending is not taken into account in Equalization/CHT/CST.

There may still be an issue of whether total transfers to the provinces are adequate, given their share of tax room relative to their spending obligations. The concept of vertical fiscal imbalance is necessarily an ambiguous one, given in principle that both provincial and federal levels of government have full discretion in setting their own tax rates. At the same time, the greater the tax room occupied by one level of government, the more difficult it might be for the other to raise tax rates given that they are tapping into a common pool of potential revenues. Vertical imbalances evolve over time, and can reflect both longer-term factors like the relative growth rates of provincial versus federal expenditures and short run factors like precipitous reductions in federal-provincial transfers in response to fiscal shocks. In either case, a temporary vertical imbalance may be created that can be addressed by either increased provincial tax effort or increased transfers.

In current circumstances, the provinces are fiscally constrained because of the rate of growth in spending on health, education and social services which is reflected in higher growth rates in debt-GDP when compared with the federal government. At the same time, the federal government has reduced tax rates, leaving more tax room for the provinces. The provinces could increase tax rates and deal with any vertical imbalance they face. The economic question is whether it is desirable to shift tax room to the provinces as opposed to increasing federal transfers as a way to address an imbalance. Opinions differ on that. On the one hand, requiring provinces and municipalities to meet incremental expenditure needs by increasing ow3(ovince)6(s and)3(mun(y

and makes it more difficult for the federal government to meet its Equalization commitment. It also runs the risk of threatening the sustainability of tax harmonization. Another sometimes overlooked consequence of decentralized revenue-raising is that it reduces the ability of the federation to insure against regional shocks. As is readily apparent nowadays, this distinguishes a federation from an economic union such as the EU. These arguments might suggest some balance of own responsibility and transfers to meet vertical imbalance problems. For our purposes, the fact that provincial governments and their municipalities are fiscally constrained may make it particularly difficult to meet infrastructure needs if they are crowded out by growing expenditures on health and other public services. That does not necessarily mean that an infrastructure-specific grant is called for as opposed to remedying any vertical imbalance by a mix of federal transfers and own source revenues.

The existence of horizontal imbalance also results in particular strains on infrastructure spending for the have-not provinces. Because the Equalization system only applies to them and includes only half of resource revenues, the provinces with above-average fiscal capacity have a significant fiscal advantage over the have-not provinces. This constrains the ability of the latter to meet infrastructure spending by increasing own-source revenues. It would be difficult to address this issue directly since the Equalization system cannot be turned into a net system. However, the GDP cap, which applies selectively to the have-not provinces, could be eliminated, and the CHT/CST system could be more equalizing by making transfers contingent on fiscal capacity rather than being equal per capita.[44]

There remains an argument that some infrastructure investments delivered by the provinces serve

their January 30, 2015 Winter Meeting states:[46] Investments in public infrastructure support economic growth and create jobs. Premiers called on the federal government to join them by providing additional funding beyond the Building Canada Plan, to support investment in provincial and territorial infrastructure funding priorities which will advance our economic competitiveness now and well into the future. Premiers agreed that federal infrastructure - that will allow more strategic investments by all jurisdictions. Premiers also discussed the importance of trade infrastructure

must get provincial approval for new revenue sources. Moreover, as a proportion of their spending, infrastructure is much more important for municipalities than provinces, and arguably municipal infrastructure has significant spillover benefits that might warrant provincial conditional grants. Municipalities also face significant horizontal imbalances within provinces because of inadequate equalization systems.

If there is need for more infrastructure investment at the municipal level, what is the best way to fund it? Given that infrastructure spending benefits future generations and that municipalities have borrowing capacity, borrowing makes considerable economic sense.

infrastructure projects provide spillover benefits for residents in other locations, or when the infrastructure contributes to national objectives, such as those laid out in Section 36(1) of the Constitution.

Another relevant point is that most provincial infrastructure needs can be financed out of own source revenues, borrowing and unconditional transfers (Equalization, CHT/CST). The formula

such as by improving equality of opportunity or regional development. Identifying infrastructure projects that are of national importance is not an easy matter, and would have to be done on a project-by-project basis. These projects are better supported by project-specific grants, possibly of a cost-sharing nature, than by a broad, dedicated infrastructure grant.

6. Concluding Remarks

There is wide ranging agreement that both the quantity and quality of infrastructure plays a critical role in economic activity. Similarly, there is general agreement that an infrastructure deficit exists in Canada, although there is some question as to its size and how it has been estimated. For the purposes of this paper, however, knowing the size of the deficit is not relevant. What is relevant is who should be responsible for providing this infrastructure, how should it be financed, and what influence should one level of government exert on another? These questions, along with others, have been addressed within the fiscal federalism framework as it applies to infrastructure. The following points come out of this discussion.

First, the principle of subsidiarity supports a high degree of decentralized responsibility for the provision of infrastructure to provinces and municipalities. Second, contrary to what might be supposed, local infrastructure financing and provision is not constrained by serious fiscal competition problems. On the contrary, local and provincial governments have every reason to use infrastructure investment as a way of attracting economic activity, so they should not be reluctant to engage in it. Third, the federal government already provides largely unconditional transfers (Equalization, CHT/CST) to the provinces that can be used for financing infrastructure. Arguments in defense of federal infrastructure transfers to municipalities are limited to instances where there is a clear national benefit from the infrastructure that is not being taken into consideration by the provinces. The current federal infrastructure grants to municipalities do not fit into this category.

Similar comments apply to provincial transfers to municipalities, although these tend to be more conditional and perhaps less equalizing. Finally, to the extent that lower levels of government have difficulties financing infrastructure, these might be attributed to a basic fiscal imbalance in the tax-transfer system. This can be addressed by increasing transfers, which may reduce accountability, or by making available more tax room to provincial or municipal governments.

Table A-1: Relative

countries, the range extends from a low of 1% in Greece and the Czech Republic to a high of slightly more than 35% in Sweden with the unweighted average being 11.8%.

The following observations can be made about taxation in OECD countries:

Local governments in countries (federal and unitary) where local taxes are a relatively small percentage of total taxes generally have fewer expenditure responsibilities.

categories to be the population of the locality, . Needs equalization for spending category *k* is then simply:

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where *P* is aggregate population in all localities of this type. The aggregate expenditure needs equalization entitlement of locality *i* is then the sum of needs for all expenditure categories of types *j* and type *k* in (1) and (2):

The same calculation applies to all localities. Note that the sum of expenditure needs aggregated across all regions is actual total expenditures *G*.
Finally, the total equalization entitlement for region *i* is found by subtracting total expenditure needs minus total revenue capacity (calculated by RTS). This can be thought of as a gap-filling calculation.

Equalization calculated in this way has some notable features.

1) Assuming the RTS is calculated for all revenue sources, the combination of revenue and needs equalization equalizes 100 percent of the differences among localities. In principle, total entitlements for high-income localities could be negative. However, if the vertical gap is large enough (i.e., expenditure needs are high enough relative to revenue-raising), full equalization can be achieved without requiring any negative equalization.
2) The absolute size of the equalization program as well as the entitlements of all localities is endogenous to the system.
3) The effective marginal equalization tax is 100 percent in the sense that increases in a