

Comments of the Core Questions of the Expert Panel on Equalization and Territorial Formula Financing

by

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1. What indicators of fiscal disparities would be relevant to evaluating funding levels for Equalization?

The fixed growth path for funding under the new equalization framework has one advantage over the old approach in that tax cuts by large provinces will not reduce the total pool of equalization funds. The change therefore eliminates the incentive for larger, wealthier provinces to reduce their (indirect) funding of the equalization program by cutting taxes and reducing the size of their public sectors below what might otherwise be considered optimal. However, it is only a stopgap solution and rigid adherence to the approach could result in inappropriate levels of equalization funding as the framework for fiscal relations between the federal government and the provinces evolves over time.

I interpret the constitutional commitment as intending to put all provinces¹ in the position of potentially providing their residents with the same standard of services, measured in terms of results, while imposing comparable tax burdens on them. Both fiscal capacity and expenditure needs of provinces must be taken into account in achieving this objective. On the revenue side, total revenue sources for a province and its local governments include: (1) own-source revenues; (2) federal special purpose and capital grants; (3) special tax point transfers; (4) federal per capita grants designed to fill the vertical fiscal balance gap, especially CHT/CST; and (5) equalization payments. On the expenditure side, relative expenditure needs among provinces can be reflected by an index that would be applied to a national average per capita expenditure outlay that reflected average vertical fiscal balance between the central government and the provinces. The constitutional commitment would therefore be met by equalizing needs-adjusted total fiscal capacities among provinces, where fiscal capacity is assessed at a standard tax burden.

The following equation sets out the basic relationships in the proposed approach. Let E be the target per capita expenditure of a province with average needs, FC_i be the per capita own-source tax revenues (i.e., fiscal capacity) of province i at an average tax burden imposed on its citizens, N_i be the relative needs index of province i , Tr_i be the per capita value of other direct and tax point transfers, and G_i be the per capita equalization grant to province i . Then

¹ For convenience, in most cases I use the term “province” to refer jointly to provinces and territories. As discussed later, I think they should be treated equivalently under an expanded equalization program.

$$G_i = E * N_i - T_i - Tr_i. \quad (1)$$

The example in the following table illustrates the range of factors that could affect the required size and growth of the equalization pool. It assumes that there are five provinces, that the objective of the equalization program is to fully equalize needs-adjusted fiscal capacities, and that expenditure needs differ among provinces in the manner reflected by their respective needs indices.

| Example 1 | | | | | | | |
|---|----------|--------|--------|--------|--------|------------------|---------|
| | Province | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | Aver | Total |
| 1. Population | 100 | 500 | 800 | 300 | 400 | 420 | 2,100 |
| 2. Index of relative expenditure need per capita | 1.2 | 1.1 | 0.9 | 1.3 | 0.8 | 1 ⁽¹⁾ | 5 |
| 3. Own-source fiscal capacity | 6,000 | 40,000 | 60,000 | 30,000 | 24,000 | 76.2 | 160,000 |
| 4. Own-source fiscal capacity per capita | 60 | 80 | 75 | 100 | 60 | 76.2 | 160,000 |
| 5. Provincial per capita expenditure requirement at average needs | | | | | | 150.0 | 315,000 |
| 6. Needs-adjusted per capita fiscal requirement (row 5 av. x row 2) | 180 | 165 | 135 | 195 | 120 | 150.0 | 315,000 |
| 7. Per capita fiscal gap (row 6 - row 4) | 120 | 85 | 60 | 95 | 60 | 73.8 | 155,000 |
| 8. Special purpose/capital grants and tax point transfers per capita | 25 | 10 | 15 | 25 | 20 | 16.7 | 35,000 |
| 9. Equal per capita federal grants (e.g. CHT/CST) | 40 | 40 | 40 | 40 | 40 | 40 | 84,000 |
| 10. Remaining per capita fiscal gap and equalization entitlement (row 7 - row 8 -row 9) | 55 | 35 | 5 | 30 | 0 | 17.1 | 36,000 |

Note: 1. The national average needs index of 1 is derived by applying population weights to the provincial indices.

The average per capita expenditure requirement of 150 (row 5) reflects vertical fiscal balance between the federal government and the provinces. It could be derived based on estimates of total national fiscal resources, at reasonable standard tax rates, and the relative allocation of expenditure responsibilities between levels of government. For example, it might be estimated that total national fiscal resources are 250 per capita and that the provinces have 60 percent of the expenditure responsibilities.

Row 6 shows per capita fiscal requirements after applying provincial expenditure needs indices to the figure for average expenditure requirements (row 5). Row 7 shows the fiscal gap—that is, fiscal requirements minus own-source fiscal resources. Row 8 shows special purpose grants, capital grants and special tax point transfers that may have been distributed to the provinces under various programs. Row 9 shows the distribution of per capita fiscal grants (e.g., CHT/CST), which are designed to achieve overall vertical fiscal balance. Assuming the equalization program

continues to remain gross-funded so that the federal government bears the full cost of the program, the per capita grant would be set so as to result in no negative numbers in row 10 of the table. If the program became net-funded, so that “have” provinces funded “have not” provinces directly through the equalization program, there could of course be negative numbers in row 10.

On balance, as the table shows, equalization is affected by and interacts with a wide range of factors. The equalization pool, which is 36,000 in the specific example shown, could be affected by any of the following:

1. average expenditure requirements (row 5), which could be affected by such things as changes in the assignment of expenditure responsibilities between the central and subcentral levels of government, shifts in technology, population and demographic factors (e.g., health, education and social conditions and standards), overall economic growth, and the substitution of private for public services;
2. the distribution of relative needs among provinces (row 2), population growth and inter-provincial shifts in population (row 1);
3. the average level of own-source revenue capacities and its distribution among provinces (row 3), which could be affected by provincial growth rates, shifts in revenue bases and changes in the assignment of revenue authorities between the federal government and the provinces;
4. the level and distribution of special purpose/capital grants and tax point transfers; and
5. the extent to which per capita grants close the vertical balance gap.

Therefore, on-going assessment of the full intergovernmental fiscal regime and the factors affecting it would be required to determine the optimal growth of the equalization pool.

2. What indicators of costs of public services in the North would be relevant to evaluating the funding levels for the TFF?

I think TFF should be eliminated and the territories should be included in the overall equalization model. There should not be two separate concepts of equalization in Canada. I discuss expenditure needs below. Briefly, in encompassing expenditure needs the equalization system should take into account all factors that affect the per capita expenditures that a province or territory would potentially have to make in order to achieve national standards. Thus, the focus is on potential outcomes, which goes far beyond simply taking into account some identified higher regional costs.

3. Are multiple Equalization standards among provinces reasonable and sustainable over the long term? If so, what principles or evidence should determine how they vary among provinces?

In my view, a single equalization standard—that is, equivalent needs-adjusted fiscal capacity—should apply universally. The success of the equalization regime should be judged against the standard that all provinces are placed in the position that they are potentially able to provide their residents with the same standard of services, measured in terms of results, while

imposing the same level of revenue burden on them.

Expenditure needs are not currently taken explicitly into account in the equalization program although some of the appendages to the basic program could be interpreted as being motivated by a concern over differences in needs. For example, the special Atlantic Accords might be in recognition of the higher than average debt burdens of Nova Scotia and Newfoundland and indeed, it is notable that the agreements suggest that the funds are to be applied to debt reduction. The “generic solution,” which under which Ottawa takes back only 70 cents in equalization for every dollar in energy royalties, may also be intended to help provinces with exceptional needs. The floor provision, which protects provinces from large declines in revenues, may be another example (see further discussion below). However, such ad hoc provisions lack a cohesive theoretical basis, and result in inequities among provinces.

The achievement of equality in needs-adjusted fiscal capacity among all provinces is a long-run goal. Catch-up over a number of years will undoubtedly be required because of limited overall fiscal resources and substantial existing inequality among provinces, as reflected in such things as differences in health, education, social, safety, justice and infrastructure standards, and accumulated debt levels. I think this catch-up should be incorporated as a formal element of the equalization model, for example, through explicit transparent caps on the needs indexes of the most needy provinces during the transition, coupled with a clearly articulated plan for eliminating differences over time. Thus, while there is one ultimate standard, interim standards that are not acceptable in long-run equilibrium will likely have to be accepted for the most needy provinces.

4. Can the exclusion of some natural resource revenues or user fees, under Equalization or TFF, be justified as consistent with the reasonably comparable treatment of receiving governments?

Natural Resource Revenues

Absolutely not. Some argue, as a basis for partial exclusion of non-renewable resource revenues from equalization, that such revenues constitute sale of a finite asset. However, this argument is defective on conceptual grounds. The existence of natural resources represents a windfall for a province since it constitutes potential future income and tax revenue. Granted, it would be unfair to require that the fiscal windfall be taken into account in a single year. Therefore, unsold inventory should be deducted at the end of the year. This achieves the same result as including in income the revenue from production in the year, which is at least in principle, what is attempted under the current RTS approach. In that sense—which is not the sense in which proponents of partial inclusion make their case—an element of exclusion is appropriate.

The unequal distribution of natural resources among provinces is analogous to the situation that would exist if some provinces were given huge bank accounts when provinces were created. In measuring fiscal capacity in a year, one would include any interest earned plus any withdrawals. On what conceivable ground would one exclude a portion of the windfall arising from the existence of the bank accounts, or by extension the windfall natural resources?

Moreover, although I don't think it is necessary to go further, all economic activity is subject to obsolescence and requires constant infusion of capital and adaptation to circumstances in order to remain viable. The economy is dynamic and revenues from natural resources are certainly no less permanent, a priori, than revenues accruing from other types of activities. For example, are Alberta's oil and gas revenues less permanent than New Brunswick's revenues from call centres, Newfoundland's revenues from fishing (a "renewable" resource), or Ottawa's technology-based industries?

User Fees

There is a general view held by many economists who support the RTS approach that cost-based user fees should be excluded from equalization since they do not result in net fiscal benefits to residents of a province. That is, they do not give rise to economic rent. In practice, however, the magnitude of economic rents arising from different services has proven impossible to quantify across diverse fee categories, widely differing fee-setting practices among provinces and frequent changes to procedures. The result has been ad hoc partial exclusion of gross fees. The quandary that confronts policy makers regarding user fees is merely one of many unresolvable quagmires that confront policy makers who adhere to the RTS approach.

As discussed below, I favour (strongly) a total taxable resources approach to measuring fiscal capacity. Under that approach it is, at a minimum, safe to assume that economic rents arising from user fees could be eliminated as a special focus of attention since they comprise only a trifling element of broad aggregate income flows—including both origin-based and destination-based flows—that would be selected to reflect potential fiscal capacity of provinces. Indeed, when one views fiscal capacity from the TTR perspective, the case for excluding cost-based user fees is weak to non-existent, even if it were empirically practical. The reason for this is that it seems reasonable to assume that two provinces with exactly the same TTR measures would have exactly the same potential to impose user fees that generated economic rent if they chose. Under the RTS approach, however, we can make no such (logical) assumption since, just as the RTS regime happily follows (in theory at least) provincial policy makers as they traipse through myriad fiscal labyrinths, it must follow them (at least again in theory) as they experiment with user fees.

5. Should Equalization take into account differences in expenditure need?

In order to meet the constitutional commitment, equalization must take differences in expenditure needs into account. Provinces cannot be placed in positions of potential fiscal equality if only the revenue side of the picture is considered, while ignoring potentially major factors on the expenditure side. The existence of a federal form of government in Canada should provide a framework for ensuring the attainment of national standards in public service provision in a flexible and innovative manner, not an excuse for inter-regional differences in standards. Incorporating expenditure needs into the equalization regime would permit achievement of the following concept of fiscal equality for any province:

Given its own fiscal resources, and the relevant factors affecting the demand and cost of public services, is the province potentially able to provide the national average standard of services, measured in terms of results attainable?

Assessment of expenditure needs should include all major factors that have a bearing on provinces' revenue requirements. These include major differences that arise because of: (a) population characteristics affecting the demand for such services as health, education, justice, policing, social services, etc.; (b) geographic characteristics that affect either the demand for specific services or uncontrollable input costs (for example, climate, remoteness, size and population density); (c) economies of scale and public goods features of different government services, (d) the condition of the public infrastructure; and (e) differences in the accumulated levels of public debt that reflect past inequities in the fiscal regime. If expenditure needs are addressed in part outside of the equalization program through specific purpose grants, capital grants and special tax point transfers, the effects of these should be taken into account in a consistent manner under the equalization program. As fiscal equality is achieved over time, measured interprovincial differences in expenditure needs should significantly diminish and, indeed, evidence of such convergence could serve as a check on the efficacy of the equalization program.

The measurement of expenditure needs is somewhat less studied than measurement of fiscal capacity, and as yet has barely been attempted in Canada. Therefore, considerable research and policy development will be required in this area to refine techniques. However, I don't think this should be an excuse for delaying the incorporation of needs within the equalization regime, utilizing the best techniques and evidence available. Rather, it should provide an impetus for a concerted research and policy development effort. Major unresolved theoretical and practical issues also centre around the measurement of fiscal capacity but this has not prevented policy action.

As discussed earlier, I think the objective of analysis relating to expenditure needs should be to derive relative provincial needs indices that can be used to modify the standard revenue target for each province. There are various approaches to estimating expenditure needs for different categories of government services.² These include the representative expenditure approach, which may involve a combination of expert judgement and econometric analysis, and the production and cost function approaches. Techniques used to estimate expenditure needs should not reward inefficiency and there are different approaches available for setting efficiency standards and for distinguishing true needs from inefficiency in service delivery.³

²MacNevin, (2004), chapter 5.

³MacNevin (2004), appendix 3.

6. Should the measurement of expenditure need under the TFF be updated, improved or entirely replaced?

As discussed above, the same equalization model should apply right across the country. Therefore, I think TFF should be abolished and the provinces should be integrated into a revamped equalization program.

TFF technically takes both revenue capacity and expenditure needs into account but there are problems with the current approaches. Simplifying considerably, the basic approach is based on a “gap filling” procedure that provides each territory with a per capita grant equal to the difference between its per capita Gross Expenditure Base (which is a proxy for its expenditure needs) and its per capita eligible revenues (which provides a proxy for its fiscal capacity).

Revenue capacity is assessed in a manner that is similar to but somewhat inconsistent with the procedures applied to the rest of Canada. The main difference is the extra compensation provided through the “tax effort adjustment factor,” which is apparently intended to reflect the fact that harsh conditions in the north hinder the territories from levying tax rates comparable to those that the provinces are assumed to be able to levy. I don’t see any justification for the different treatment, even under the RTS approach and certainly not under the TTR-based approach that I favour. The special hardship faced by individuals and firms locating in the north should be reflected in the financing formula through the expenditure needs variable, which is the procedure proposed for all of Canada.

The methodology applied in estimating expenditure needs, while expedient, is extremely weak, both from a technical perspective and in terms of the constitutional commitment of meeting the expenditure needs of northern residents. Expenditures needs are reflected in the Gross Expenditure Base (GEB). Ignoring the many bells and whistles that have been appended over the years, including various negotiated additions and bump ups in aggregate funding amounts, GEB is essentially derived by escalating territorial revenues for the year 1982/83 by provincial and local expenditure growth, adjusted for relative population growth of the territories. Thus, the GEB approach skirts the issue of truly assessing relative expenditure needs in the territories by assuming that the base-year funding was correct and that keeping up with average provincial/local public sector growth, adjusted for relative population growth, retains the correct funding over time. The allocation formula does not incorporate procedures for systematic assessment of how much extra revenue per capita the territories would actually need in order to potentially provide their residents with the national average standard of services, again measured in terms of results attainable, for the expenditure categories falling under their responsibility. Under the current approach, the territories would never be able to catch up to national public service achievement standards.

7. How can the measurement of revenue capacity from natural resources and property tax revenues be improved?

Natural Resources

Problems with the Current Treatment

In principle, consistent with the underlying philosophy of the RTS approach, measuring fiscal capacity from natural resources should involve modelling what the provinces actually do. Here again this has proven impossible because of the wide variety of natural resources and the myriad of procedures used by the provinces to tax them. There are currently fourteen natural resource categories in the representative regime (see the following table)⁴ but most of the categories—for example, “old oil revenue,” “new oil revenue,” “heavy oil revenue,” “mined oil revenue,” “light and medium third-tier oil revenues,” “heavy third-tier oil revenues”—are largely fictitious and have little meaning outside of the context of the equalization program.

| Natural Resource Categories in the RTS |
|--|
| 13. Forestry Revenues |
| 14. New Oil Revenues |
| 15. Old Oil Revenues |
| 16. Heavy Oil Revenues |
| 17. Mined Oil Revenues |
| 18. Light and Medium Third-tier Oil Revenues |
| 19. Heavy Third-tier Oil Revenues |
| 20. Natural Gas Revenues (Domestic and Exported) |
| 21. Sales of Crown Leases |
| 22. Other Oil and Gas Revenues |
| 23. Mineral Resources |
| 24. Water Power Rentals |
| 31. Shared Revenues: Offshore Activities/NFLD |
| 32. Shared Revenues: Offshore Activities/NS |

Despite the attempt at classification, defined tax bases and the tax rates applied to different types, vintages, and qualities of oil, natural gas, coal, and other natural resources apparently differ considerably within most of the individual resource categories.⁵ Economic rent is presumably the best measure of the fiscal benefit that the provinces derive from natural resources. However, this has proven impossible to estimate empirically and, moreover, the provinces do not attempt to tax

⁴See MacNevin (2004), chapter 6 for greater detail.

⁵MacNevin (2004), chapter 6.

economic rent in a consistent manner.⁶ As a compromise, the measured tax base for almost all resource categories is simply some measure of the value or volume of production. The result is that items are lumped together that in reality give rise to quite different (though difficult to measure) revenue potential. Alternatively, in some cases—for example categories 31 and 32 relating to offshore revenues for Nova Scotia and Newfoundland—the categories are defined so tightly that individual provinces have monopolies or near monopolies in the categories. This latter approach gives rise to its own problems. Specifically, in the absence of special offsetting provisions, there is a 100% base tax-back problem, which gives rise to significant distortions and opportunities for provinces to engage in strategic behaviour aimed at maximizing their long-run gains from equalization.⁷ With the relatively narrowly defined revenue bases that emerge under the RTS approach, there can also be significant rate tax-back distortions.

As just one example, consider how practices differ in the case of oil between Alberta and Newfoundland.⁸ The example highlights not only the disincentives that can arise but also the difficulty of measuring bases and revenue potential accurately under the RTS approach, even if resource categories are defined narrowly. In Newfoundland, there is only a 1-in-10 chance of striking oil, and it costs \$30 to \$100 million to find a producing well. In Alberta, on the other hand, a conventional oil well can be found for a cost of \$100,000-\$500,000 each or \$5 million-\$10 million for deep exploration. The Hibernia project cost \$7 billion, much like the Alberta oil sands, however, Alberta's royalty structure is far more favourable than Newfoundland's. In Alberta oil-sands projects, industry pays 1 per cent of gross revenues until they recover their costs, after which the royalty becomes 25 per cent of net revenues. In Newfoundland, industry pays royalties on a sliding scale of 1 to 7.5 per cent, based on the amount of production, until costs are recovered. It then increases to as high as 42.5 per cent, depending on profitability. Some energy analysts criticize Newfoundland's royalties as excessive and inhibiting to exploration and development.

An Alternative Approach

I support strongly, for several reasons articulated more fully later, a broad-based total taxable resources (TTR) measure of fiscal capacity over the RTS approach currently used. TTR consists of the unduplicated sum of the income flows produced within a province (gross provincial product, GPP) and the income flows received by its residents (provincial personal income, PPI) which a province can potentially tax. The first category covers source-based income and the second category covers destination or residence-based income. While it obviously would be

⁶This is another confusing and ultimately unanswerable issue associated with the RTS approach. For revenue categories such as user fees and natural resources is the relevant base economic rent or what the provinces actually tax?

⁷MacNevin (2004), chapters 3 and 6.

⁸“Williams Spooks his Golden Goose,” Toronto Star, 7 June 2005.

possible to construct a TTR regime that mixed asset values and income flows—since asset values can always be converted to income flows and vice versa—I think it is preferable to define the TTR regime on the basis of income flows alone. This permits the use of conventional, internally consistent national account income flows, which should enhance understanding, transparency and the perceived integrity of the program.

Unlike the RTS approach, which attempts to replicate what the provinces “on average” actually tax, based supposedly on statutory definitions of existing tax bases, the TTR approach attempts to measure what they realistically could tax. TTR is therefore not wedded to the fiscal choices actually made by provinces or to the statutory definitions of the myriad existing tax bases. Adoption of the TTR approach would essentially eliminate any rate tax-back problem, since a change in any particular tax rate in any province would have a negligible effect on the highly aggregated average national tax rate used under such an approach. It would also limit base tax-back to the amount of the overall average tax rate, which is significantly less than the 100 percent tax-back that can arise under the present approach for natural resources.

If one considers natural resources from the perspective of income flows that could be taxed (i.e., from the TTR perspective), they entail a comparative fiscal advantage over other income flows, and thus warrant special consideration, only to the extent that:

- (a) there are major institutional factors, such as a constitutional restriction, that results in other income flows inevitably being taxed less heavily than resource income; or
- (b) the burden of taxation in the case of natural resource income is borne disproportionately by residents of other provinces, or in other words that tax exporting is higher than average for this revenue source.

Even the first reason is weak as a justification for differentiating among different income flows in measuring fiscal capacity if, as is the case in Canada, provinces have access to other broad-based sources of revenue. This is so because provinces that have little or no natural resource revenues could presumably choose to tax more heavily other income streams (whether directly or through consumption, asset or other taxes) on which there are no tax restrictions. The fact that many natural resources give rise to large “rents” is of no particular consequence, assuming competitive rates of return across industries, since this would be reflected in the measurement of the national income flows, which are always measured “net”—i.e., after subtracting the value of inputs consumed in producing the income. Thus, a dollar income flow from high-rent resources is exactly the same as a dollar from low profit retail sales—both have inputs subtracted off. Personally, I would be inclined to start with a simple measure of TTR—like the simple sum of GPP and PPI—and would deviate from this only where research provided solid evidence that this provided major biases and could be improved upon through the addition of weights to specific income flows to better reflect their inherent “taxability.”

Consider next tax exporting. A dollar of TTR that comes from high-rent natural resources is

“better,” fiscally speaking, than a dollar from other sources of income—such as labour income, corporate income, or property income—if tax exporting is higher for resource income than for the other income flows. This is so because with high tax exporting any revenue raised would be extracted disproportionately from nonresidents. I am not aware of any empirical evidence proving that tax exporting in Canada is higher in the case of natural resources but that seems to be a common, at least implicit, view. What is required, therefore, is evidence on the degree of tax exporting associated with taxation of the different types of income flows. Evidence on this would then be factored into calculations of the overall tax burden imposed on the residents of a province (more on this below). Therefore, I think tax exporting should be an important focus for research. Perhaps a start could be made through interprovincial input-output analysis while downplaying complex issues of tax incidence..

In general, I think far too much attention has been paid in Canada to the “natural resource problem.” Revenues from natural resources would account in aggregate for only 5 percent of equalized revenues under a full 10-province standard and are only half that amount under the current 5-province standard.⁹ The principal question of interest that I see concerning natural resources is whether and to what extent tax exporting is higher for such income streams than for other income streams. But the current RTS approach does not attempt to measure this. Two other issues—the effect that substantial changes in resource prices can have on the revenues of both “have” and “have not” provinces and the revenue strain this can place on the federal budget—are really structural problems of the equalization regime that have little to do with natural resource revenues per se. They could be solved by a combined strategy involving the development of appropriate stabilization tools and either restructuring the equalization program as a net funded program or, if a gross funded program is kept, by ensuring that the federal government retains sufficient vertical fiscal balance leverage to equalize needs-adjusted fiscal potential across all provinces. Retaining fiscal balance leverage effectively involves a procedure of indirect revenue recapture as illustrated in example 1 presented earlier in this document.

Property Taxes

Problems with the Current Treatment

The treatment of property taxes is currently one of the messiest areas of the Canadian equalization regime. In reality, provinces use some variant of market-value assessment in levying property taxes, albeit typically with quite different definitions of taxable property, tax rates and valuation methodologies. An equalization regime based on the RTS philosophy should therefore use market-based assessment as the definition of the property tax base in the representative regime.

Instead, the property tax component of the Canadian equalization regime is currently based on a horrendously complex formula involving, among various other derived variables and computations, adjusted personal disposable income, an urbanization scaling factor and a

⁹MacNevin (2004), appendix 4, table A4.3.

demographic trend component.¹⁰ Similar procedures are used for three different categories of property. I am not aware of any explanation that justifies the use of the current property tax formulas, yet they account for the distribution of over a fifth of all equalization funds. Based on the discussion in the panel's issues paper, the complex approach to calculating the property tax base may in part reflect a lack of consensus about whether the property tax is fully a tax or partly a user fee. Having said this, it is difficult to see the justification for the current formula or, indeed, why an infinite variety of alternative formulas would not be just as defensible. This also highlights again the dilemma of whether the RTS should attempt to model current fiscal practices or second guess what the appropriate base should be. Why not use the same logic for any of the other taxes in the RTS regime?

There are indications—for example in the 2004 Budget documents and from other information available on the Finance Department's web site—that the government is experimenting with a move towards a market-value assessment basis for estimating property tax bases for equalization. Of course, in addition to the fundamental conceptual problems confronting the RTS approach, that raises the following standard practical questions: (1) what definition of representative base should one use, given the widely varying practices among provinces; (2) how does one justify any particular definition over other competing definitions; and (3) what is to prevent arbitrary changes to the definition of the base over time and associated redistributions of equalization funds.

An Alternative Approach

Under a TTR approach, fiscal potential from property, as from all other sources, would be reflected in an internally consistent manner in the relevant national accounts income streams. Research would be appropriate here to determine whether current national accounts measures could be improved upon, for example, by ensuring that all relevant forms of imputed income from property are included.

8. Should the "eligible revenue" calculations for TFF be updated, improved or entirely replaced?

I think the "eligible revenue" concept of TFF should be replaced with exactly the same concept of fiscal equality—that is needs-adjusted fiscal capacity—that is used for the provinces.

9. Would aggregated measurement approaches - such as macro-economic indicators - simplify Equalization and TFF and reduce perverse incentive effects, while preserving "reasonably comparable treatment" of all governments?

I support replacement of the current RTS approach with the TTR approach, which is derived from macro economic income components. I think the TTR approach would be conceptually sounder, less biased, more transparent and probably considerably simpler than the RTS approach.

¹⁰See MacNevin (2004), chapter 6.

Problems with the Current RTS Approach

In my view, the RTS suffers from significant conceptual and technical difficulties that seriously undermine it, including the following.¹¹

- The RTS approach lacks conceptual cohesiveness from an economic perspective. The components of the representative regime are very disparate, with some relating to income (personal income, corporate income and payroll taxes), some to assets (the property tax), some to consumption and even arbitrary differences in consumption choices (GST/HST), provincial sales and excise taxes, gambling levies, property taxes), some to economic rent (natural resource categories, user fees?, property taxes?), and some to revenues from sales of government goods and services (user fees?). Supporters argue that the disparate structure of an RTS regime is appropriate because it reflects what provinces actually tax. However, as discussed above and in the next point, this is largely not true so that we are left with a complex, structure that is detached from any unified metric of inter-regional equity.
- The “representativeness” of the RTS regime is largely a fiction since it does not replicate what any province actually does tax or could tax. This calls into question the very foundation upon which the RTS philosophy is based. In Canada, it reflects the fact that provinces have broad autonomy in how they choose to raise revenue, and that they do in fact impose widely different base and rate structures. Consider, the current treatment of many revenue categories (e.g., property taxes, natural resources, user fees, lottery revenues and other games of chance, business income revenues and general and miscellaneous sales taxes) where the reference regime is completely ad hoc and does not even attempt to replicates actual practices anywhere. In other cases (most notably the personal income tax) national statistical “average” practices are followed. In still other cases, practices in a subset of provinces are modelled (e.g., health premiums, payroll taxes).

What’s wrong with this? Quite a bit because it means that changes to entitlements can be effected by shadowy, non-transparent changes to the underlying reference regime. For example, if the reference T1 personal income tax model or the complex formula for estimating property taxes are administratively modified, provincial entitlements for those sources will change, assuming the modifications result in changes to measured disparities among provinces. Under the new fixed growth path it will be just relative entitlements that change, but under the previous approach and under a more developed and sophisticated framework that takes into account the full range of fiscal factors outlined in my example 1above, overall equalization entitlements could change. How can that be perceived as theoretically sound, fair or transparent?

¹¹ See also MacNevin (2004), chapters 4 and 6, and the references cited therein.

- The revenue sources that the provinces currently exploit might in part reflect ingrained bad fiscal habits or anomalies and might not accurately portray the revenue sources that they could potentially exploit. Empirical evidence shows that some income sources and economic activities are taxed more heavily than others, but the RTS approach simply accepts this as inherently correct. Use of the RTS approach for purposes of equalization might actually serve to perpetuate bad fiscal practices if it is seen to “certify” current procedures to a certain extent.
- The RTS approach suffers from significant potential distortions when large provinces, or provinces that dominate a particular revenue category, change their tax rates or bases.¹² While the new fixed growth path isolates the total equalization pool from such distortions, although not in a fully satisfactory manner (see example 1 above), the way in which the pool is distributed is not protected from such machinations.
- The equivalence in tax burdens is specified and measured incorrectly under the RTS approach. Fiscal equality between provinces is assumed to be achieved when average national tax rates applied to the tax bases of the representative revenue regime produce the same total per capita revenues. There are a number of problems with this. First, differences in the ability of provinces to export taxes are ignored. Second, all revenue sources in the representative regime are weighted by average national tax rates even though rates on revenue sources that are exported to non-residents would often be higher. Third, revenue capacity of a province is not assessed against a standard burden imposed on the incomes of the residents of a province, although achievement of horizontal equity among regions requires this.
- Implementation of the RTS approach imposes complex statistical demands, to the point where policy coherence and transparency are compromised. Its application in Canada involves the use of many hundreds of disparate fiscal and economic data series, as well as complex micro-simulation and input-output modelling.

An Alternative Approach: Equalized Burden, Export-Adjusted, Total Taxable Resources

Innovations in the public finance literature provide insights into how the above conceptual difficulties plaguing the RTS approach might be overcome.

The Measurement of Total Taxable Resources

One such innovation is the development of the total taxable resources (TTR) concept, variants of which have been applied by the U.S. treasury. Unlike the RTS approach, which models current tax practices and anomalies, the TTR approach measures the resources that provinces could potentially exploit based on internally-consistent national accounts concepts of source and

¹² See MacNevin (2004), chapter 3.

destination-based income flows. As discussed, TTR consists of the unduplicated sum of the income flows produced within a province (GPP) and the income flows received by its residents (PPI) that a province can potentially tax.

The TTR concept has a number of attractive features, including the following.

- Because TTR includes both source and destination-based income components, it is a much broader measure of fiscal capacity than are conventional macro measures such as GPP or PPI, which cover only one or the other of those types of flows but not both.
- Because TTR consists of broad-based income components, relates to potential sources of revenue and is not directly tied to the fiscal choices of provinces, it is much more stable and much less susceptible to manipulation and distortions.
- Third, the TTR approach is particularly appealing in contexts, such as in Canada, where provinces have a high degree of revenue autonomy and have the authority to tax major income flows in both the source and destination-based categories, as well as a hybrid of other economic bases such as assets, property, consumption, economic rent and so on. In such situations, designing an RTS regime that isn't a fiction is impossible.
- Fourth, a major advantage of the TTR approach, is that, because the TTR regime is based on national income components, it could be designed and maintained with the formal guidance and input of national income accountants (i.e. Statistics Canada). Thus TTR measures should potentially rate high in terms of objectivity, credibility, rigour and internal consistency.

Despite these attractive features, design and implementation of an effective TTR approach for Canada faces a number of challenges. One challenge is to reflect accurately the allocation of revenue authority between the central and provincial governments, particularly given inevitable limitations in the data. In designing the TTR regime so as to accurately reflect revenue potential of provinces, the constitutional allocation of revenue sources between the central and subcentral governments would have to be thoroughly reviewed and assessed against the source-based and destination-based national accounts data that are currently available, or that could be developed in the future. This would include analysis of the appropriateness and feasibility of applying weights to different income flows to better reflect their inherent "taxability" to the provinces. Because the objective nature of TTR is one of its strengths, such weights should only be used to reflect exogenous constraints that apply to all regional government units. In addition, analysis should explore any modifications to income components, such as imputed income, that might be appropriate to accurately reflect inter-provincial differences in income from assets and wealth, for example, in the case of the property tax.¹³ Such analysis could identify areas where Statistics

¹³National accounts income currently excludes imputed income from wealth, with the exception of owner-occupied housing.

Canada might introduce modifications to the underlying income components to improve the TTR measures in the future. I think the design of an interprovincial equalization regime is of sufficient importance that it should form a core element of Statistics Canada's compiled statistical series.

The Estimation of Export-Adjusted TTR Tax Capacity at a Standard Tax Burden

Research by Barro, Ladd and Yinger and others¹⁴ demonstrates three important additional concepts that should be taken into account in estimating fiscal capacity of subcentral government units. Like the RTS approach, the basic TTR approach does not address these issues so they would have to be incorporated within the TTR framework.¹⁵

Tax Exporting

The first concept is that a region that is able to export a large portion of its tax burden to residents of other regions has a higher potential fiscal capacity than does an otherwise similar region with a lower tax-export ratio. In light of this, the issue of tax exportation should be rigorously analyzed and export rates should be derived for each income component of TTR. Such analysis should be based on the existing theoretical and empirical literature,¹⁶ taking into account the TTR regime developed for Canada and the structure of the provincial economies.

Tax Burdens

A second concept is that fiscal capacity of a region should be assessed subject to the constraint that a specified tax burden is imposed on the comprehensively defined income of its residents, taking into account its ability to export a share of the tax burden. The reference burden could be either a single rate or a simple graduated tax structure designed to reflect central norms about vertical equity. This concept could be integrated within a TTR framework. An appropriate definition of comprehensive income should be developed to use as a standard for assessing equalized revenue burdens. This will involve adjustments being made to an appropriate national accounts measure of income to correct deficiencies such as the omission of various forms of imputed income. In addition, the appropriateness and feasibility of incorporating an estimated distribution parameter, designed to reflect interprovincial differences in the distribution of income, could be explored.

¹⁴ See, Barro (1985 and 1986), Ferguson and Ladd (1986) and Ladd and Yinger (1991 and 1994).

¹⁵ An existing analysis by Ladd and Yinger (1991) for U.S. cities focussed on a three tax RTS regime consisting of the property tax, the retail sales tax and the earnings tax.

¹⁶For example, Bradbury and Ladd (1985), Gade and Adkins (1990), Ladd and Yinger (1991 and 1994) and Chernick (1998).

Revenue Optimization

A third concept is that maximization of revenue at any specified burden on a region's income involves, at least in principle, an optimization process involving the use of tax-price elasticities for income components to determine the revenue maximizing tax rate structure. Research in this area is still in the formative stages.¹⁷ Existing RTS regimes do not incorporate this innovation but instead tend to use average tax rates, which reflects the underlying philosophy of the RTS approach of attempting to emulate "typical" or "representative" tax practices. However, this approach is flawed since the measured magnitude of tax bases is not independent of the tax rates actually used by a province. While the determination of optimal tax rates should be more straightforward under a TTR structure than under a comparatively more complex RTS structure, there have been no direct studies of this issue.

One important component of analysis should therefore entail rigorous review of the theoretical and empirical issues surrounding the choice of tax rates for the various income components of TTR. It may well be that a common unitary rate (or a common graduated rate structure) is appropriate but the possibility that differentiated tax rates should be applied to different income components at least warrants consideration.

Model Summary

The proposed model is summarized in the following equations, where as before FC_i is per capita own-source fiscal capacity of province i , where t_n and t_m are tax rates levied on different elements of, respectively, GPP and PPI, ω_n and θ_m are weights applied to the different components of these, e_n and e_m are export rates for the individual components, e_i is the average dollar-weighted export rate for the province, and t_s is the standard tax burden.

Equation 2 specifies that fiscal capacity of a province is TTR maximized across tax rates and weights for GPP and PPI income components. Equation 3 imposes the further constraint that the component of TTR falling on residents (i.e., net of tax exporting) is a specified percentage (or possibly a graduated rate structure) of comprehensive income.

$$\begin{aligned} FC_i &= \max_{t,\omega} \{TTR_i\} \\ &= \max_{t,\omega} \{t_1 \omega_1 GPP_1 + t_2 \omega_2 GPP_2 + \dots + t_n \omega_n GPP_n \\ &\quad + t_a \omega_a PPI_a + t_b \omega_b PPI_b + \dots + t_m \omega_m PPI_m\} \end{aligned} \quad (2)$$

$$\text{subject to } TTR_i(1 - e_i) / Y_i = t_s \quad (3)$$

¹⁷ Ladd and Yinger (1991) have considered this optimization process in the context of a simple RTS regime.

where,

$$e_i = (e_1 t_1 \omega_1 GPP_1 + e_2 t_2 \omega_2 GPP_2 + \dots + e_n t_n \omega_n GPP_n) + (e_a t_a \omega_a PPI_a + e_b t_b \omega_b PPI_b + \dots + e_m t_m \omega_m PPI_m) \quad (4)$$

If tax rates on individual components of TTR are all the same (t) and weights on the individual income components are all 1, then fiscal capacity would reduce simply to equation 5.

$$FC_i = t(GPP_1 + GPP_2 + \dots + GPP_n + PPI_a + PPI_b + \dots + PPI_m) \quad (5)$$

If tax export rates continued to differ among components of TTR, the tax burden constraint would remain as specified in equation 2. If, alternatively, export rates were homogeneous, equation 2 would further simplify to the following equation.

$$\text{subject to } TTR_i / Y_i = t_s \quad (6)$$

The following table presents a numerical example of the calculation of fiscal capacity for a given province in which income component weights and tax rates differ.

| Example 2 | | | | | | | |
|---|---------------|-------|-------|---------------|-------|-------|--------|
| | GPP Component | | | PPI Component | | | Total |
| | 1 | 2 | 3 | 1 | 2 | 3 | |
| 1. Province's comprehensive per capita income | | | | | | | 15,000 |
| 2. Target standard tax burden on income | | | | | | | 0.15 |
| 3. Province's per capita tax base | 2,600 | 4,100 | 3,000 | 1,400 | 2,400 | 6,000 | 19,500 |
| 4. Weight for income component | 1 | 0.8 | 0.6 | 1 | 1 | 0.9 | |
| 5. Revenue maximizing tax rates | 0.2 | 0.25 | 0.15 | 0.2 | 0.2 | 0.15 | |
| 6. Fiscal Capacity or maximum total taxable resources at target standard tax burden (row 3 x row 4 x row 5) | 520 | 820 | 270 | 280 | 480 | 400 | 2770 |
| 7. Component export rate | 0.2 | 0.3 | 0.5 | 0 | 0 | 0.1 | 0.20 |
| 8. Tax Burden on residents (row 6 x (1 - row 7)) | 416 | 574 | 135 | 280 | 480 | 360 | 2245 |
| 9. Actual tax burden on income (total row 8/ row 1) | | | | | | | 0.15 |

Comparative Simplicity

I don't think comparative simplicity is really the issue. The equalization regime should be no more complex than is necessary to achieve the constitutional commitment. The current regime is unfathomably complex, does not adhere to fundamental principles and cannot result in the

achievement of the constitutional commitment. A key component of future research should be on how best to achieve the objective in the simplest manner possible.

Other Issues

Naturally, with the adoption of a new framework, the various *ad hoc* add-on features that have become appended to the current regime over the years, including the “floor,” the generic solution, the Atlantic Accords and the five-province standard, would be abolished.

10. Should the RTS be retained in whole or in part? Could one combine RTS with macro measures in the same system?

As indicated in my answers to the previous questions, I would recommend complete elimination of the RTS approach. I do not recommend mixing a TTR-based approach and an RTS approach since this would reduce the theoretical cohesiveness of the latter. It might be necessary in a few instances, because of deficiencies in data, to supplement national accounts data with variables derived from taxation or other databases but that is a different matter from combining concepts.

11. Should Equalization and TFF payments be made more stable and predictable? What is the best way of doing so without undue effects on other desirable program objectives?

I don't think stabilization is the objective of the equalization program. That should be handled through other policy tools. An element of forecasting is required in making equalization allocations, however, because of inevitable delays in the production of final data used in the equalization formulas. I think this problem would be significantly lessened by a switch to the TTR approach because of its reliance on much more highly aggregated and systematically compiled national accounts data. Nevertheless, I think there should be an element of data smoothing—such as through the use of moving averages—preferably on the underlying data used in the formulas rather than on changes in allocations. The objective should be to reduce fiscal “shock” that arises from revisions in data. I think “floors” or “ceilings” should be avoided—provinces should get exactly what they are entitled to, no more and no less.

12. Would a permanent advisory commission on allocation and fiscal disparity trends (or some other mechanism) significantly improve transparency and accountability to Canadians? Is it needed?

I think a small advisory commission is a very good idea and if used effectively could significantly improve transparency and accountability. Perhaps it could report to parliament through the ministry of Finance. While I don't think there should be provincial representatives on the commission, its members could be approved jointly by the provinces, territories and the federal government. Its mandate might include: (a) coordinating research and data development and advising on the implications of these; (b) reporting on trends in inter-regional disparities, (c) organizing the release of periodic commentaries on the goals, design and effectiveness of the

equalization program; and (d) coordinating responses to public enquires about equalization.

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