

Territorial Formula Financing

Enid Slack
Enid Slack Consulting Inc.

Prepared for the
Expert Panel on Equalization and Territorial Formula Financing

August 8, 2005

Territorial Formula Financing (TFF) in its current form was first introduced in 1985. Although some modifications have been made since the initial agreement was signed, the basic structure of the formula has remained roughly the same up until 2004 when the *New Framework* was introduced. Under TFF, the territories receive an annual “block” grant from the federal government which is unconditional in that the territories can allocate the funds according to their own priorities. As part of its mandate, the Expert Panel on Equalization and Territorial Formula Financing is reviewing this formula and making recommendations to the federal Minister of Finance.

The purpose of this paper is to assist the Expert Panel by setting out a general model for equalization that incorporates expenditure needs and fiscal capacity and evaluating aspects of the territorial formula that existed prior to 2004 in the context of the general model. The first part of the paper sets out the objective of federal-territorial equalization and the implications of this objective for the design of an equalization formula. The second part focuses on the measure of expenditure needs in the formula. The third part addresses the role of fiscal effort in the formula. The fourth part evaluates the TFF (prior to 2004) in terms of its measures of expenditure need and fiscal effort. The fifth part provides some concluding comments about the design of Territorial Formula Financing.

It should be noted at the outset that it is not the intent of this paper to provide a comprehensive analysis of all of the issues and choices around the design of the territorial financing formula. Moreover, it does not review the *New Framework*. Rather, this paper sets out a general model for equalization and focuses on two specific issues: expenditure needs and fiscal effort. Both of these issues have been the source of debate over the last 20 years and both have been adjusted in the formula at various times.

1. General Model for Equalization

The objective of Territorial Formula Financing is the same as the objective for federal-provincial equalization, as stated in section 36(2) of the *Constitution Act, 1982*. This objective is to ensure that territorial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.

It may not be possible for some jurisdictions to achieve this objective in the absence of a federal transfer for at least three reasons. First, fiscal capacity or the ability to levy taxes (usually measured by the size of the tax base) differs across jurisdictions. This means that to collect the same amount of revenue, a jurisdiction with a small tax base will have to levy a higher tax rate than a jurisdiction with a large tax base. In simple terms, some jurisdictions are wealthier than others and thus have greater ability to levy taxes. Second, the cost of services varies across jurisdictions and thus, to provide a “comparable” level of services may require greater expenditures and higher tax rates in high-cost jurisdictions. For example, transportation costs to deliver a particular service will be higher in remote areas. Third, the need for public services differs across jurisdictions. For example, jurisdictions with a relatively older population may require greater expenditures for health care and social services, for example. A growing school-age population will require relatively greater expenditures on education.

For the three reasons set out above, it has been argued that, to provide a “comparable” level of service at “comparable” tax rates, there needs to be two parts to the equalization formula – one part based on expenditure need and one part based on fiscal capacity. As Courchene (1984) notes: “giving provinces equal access to revenue does not necessarily give them the ability to deliver comparable bundles of public services. Correcting for differential needs and differential costs is surely appropriate, conceptually.”

To ensure that any given jurisdiction can provide “comparable” levels of public services at “comparable” levels of taxation, equalization grants can be determined as the difference between “comparable” expenditures (or services) and “comparable” revenues:

$$(1) \quad GR = E^* - T^*$$

Where : GR = equalization grant

E^* = “comparable” expenditures

T^* = “comparable” revenues

One of the main challenges with this general formula is to understand what is meant by “comparable” expenditures and revenues and how they should be measured.

Comparable Revenues

“Comparable” revenues have generally been estimated by multiplying a “comparable” tax rate by the observed tax base for a variety of tax sources. The “average” tax rate is often used as a proxy for the “comparable” tax rate. The formula for “comparable” revenues is:

$$(2) \quad T^* = \sum_j t_j^* B_j$$

Where: t_j^* = “comparable” or average tax rate for revenue source j

B_j = tax base for revenue source j

In this formula, taxable capacity is calculated for each revenue source and then summed over all sources included in the formula to obtain “comparable” revenues.

This measure by itself may not truly capture “comparable” revenue-raising ability, however. Where tax bases are in dollar terms such as the income tax base, for example,¹ higher prices in one jurisdiction mean that it is necessary to earn a higher income in that jurisdiction just to be able attain a “comparable” standard of living with other jurisdictions. Because higher prices artificially increase the income tax base, the dollar value needs to be deflated by the price (or cost of living) differential to obtain a “comparable” level of taxation.

Comparable Expenditures

The expenditure side of the formula has generally been less well defined than the revenue side. One approach that is used is to define a “comparable” level of public services in any jurisdiction as the “comparable” (or average) per capita expenditure for a variety of expenditure categories which is then multiplied by the population of the jurisdiction as follows:

$$(3) \quad E^* = S_i (E/POP)_i * POP_i$$

Where: $S_i (E/POP)_i^*$ = “comparable” or average per capita expenditure for service category i

POP_i = population applicable to service category i

The observed population could vary by service so, for example, population could be the number of students for education expenditures, the number of seniors for seniors’ services, and so forth. Alternatively, the total population of the jurisdiction could be applied to the average total expenditures per capita.

Expenditure differences to provide public services reflect differences in cost and differences in need. Differences in the cost per unit of a “standardized” public service (input costs) may arise because of climatic conditions, geographic features, density or distance factors, or differences in labour costs across jurisdictions. As an example, per capita expenditures may be higher in a jurisdiction that has a cold climate because heating costs are higher. In this example, higher expenditures do not mean a higher level of service, however. They simply mean that the costs of providing the same level of service are higher. As on the revenue side of the grant formula, cost differences can be also be incorporated on the expenditure side of the formula. Average expenditures per capita can be “inflated” where costs are higher to reflect the provision of a “comparable” level of public services.

Need differences reflect differences in the number of units of standardized service required per capita and usually arise for demographic reasons such as the age structure of the population and different participation rates in social programs by persons of different ages (Vaillancourt and

¹ This argument does not apply to taxes that are not in dollar terms such as a fuel tax which is based on the number of litres, for example.

Bird, 2004: 7). Population characteristics that affect expenditure needs can be incorporated into the formula using a series of weighting factors which are multiplied by the population. In the Australian equalization grant, for example, need is measured by a series of scale factors, population-related factors, and environmental factors.

When price/cost differentials and weighting factors to reflect differential needs are introduced into the formula for equalization, the grant allows the recipient jurisdiction to provide a “comparable” level of services by levying a “comparable” tax rate. A general increase in prices relative to the standard, in this model, will lead to an increase in the grant both because service costs have risen and because “real” taxation bases have been lowered. This formula thus compensates for differences in fiscal capacity, needs, and costs.

The general formula for equalization is modified as follows:²

$$(4) \quad GR = pS_i (E/POP)_i w_i POP_i - (1/c) S_j t_j B_j$$

Where: p = input price (cost) differential

w_i = the weighting factor for service category i

c = cost-of-living differential

Federal-Provincial Equalization and Territorial Formula Financing

Under federal-provincial equalization, only revenues are included in the formula. Expenditures are not included in the formula. The implicit assumption in the federal-provincial equalization formula is that expenditure needs per capita are identical across provinces and the distribution of expenditure needs is based on the distribution of population (Bird and Slack, 1990: 919). There is no allowance for cost differentials and no allowance for factors that affect expenditure needs other than total population.

Although expenditure needs are not included in the formula for federal-provincial equalization, expenditures are included in territorial formula financing. This separate formula for the territories makes sense because the territories are unlikely to receive equalization payments under the federal-provincial program: unique circumstances and expenditure requirements in the territories mean that equalization would not work for them (TD Economics, 2003: 22). Moreover, the idea of a separate transfer for the three territories to recognize extreme cost and need differentials rather than attempting to incorporate every region into a uniform formula for all provinces and territories also makes sense (Vaillancourt and Bird, 2004: 20).

² In this formula, it is assumed that price differentials are the same overall service categories and taxation sources respectively.

2. Measuring Expenditure Needs

An important issue in an equalization formula that includes expenditure needs is how to measure “comparable” expenditure needs. As noted above, expenditures are different in different jurisdictions because of differences in costs and needs. Expenditures also reflect differences in tastes and preferences and higher expenditures in one jurisdiction may also reflect inefficient service delivery. A grant that permits a jurisdiction to provide a “comparable” level of service needs to be able to distinguish between expenditure differences that are based on cost and need, on the one hand, and expenditure differences that are based on differences in policy decisions, on the other hand (Shah, 1996: 103).

Expenditure need is sometimes measured in equalization formulas by the size of the population: the larger is the population, the greater is the need to make expenditures and the greater is the need for a grant. The problem with using only population as the measure of need is that, as noted earlier, it does not take into account all of the other factors that have an impact on expenditure needs and that result in differences in expenditures in per capita across jurisdictions. It also does not reflect differences in costs of providing services in different jurisdictions.

Cost differences may arise from a number of different sources (Vaillancourt and Bird, 2004: 7-8): climate (snowfall, rain), population density/degree of urbanization, frequency of natural disasters (floods, earthquakes), location (remoteness), topography (mountains, deserts). Other cost factors include: proportion of land occupied by public infrastructure (for example, national parks), fuel costs, and indicators of development level including general costs (for example, electricity consumption, number of telephone lines) and costs related to particular public services (road length and condition etc.). Costs may vary because labour or other inputs are more expensive in some jurisdictions than in others.

Differences in need (services required per capita) can result from a number of different factors such as: the share of the dependency ratio (the ratio of the non-working-age population to the working age population), the share of the population with special needs (such as recent immigrants), poverty indicators, single-parent families, illiteracy, infant mortality, life expectancy, elementary school enrolment rate, public transit, female labour force participation rate, population, unemployment rate, social assistance payments, corrective services, number of drug addicts, and other factors. The relevance of these indicators depends on the role played by the jurisdiction in delivering public services (Vaillancourt and Bird, 2004: 8). For example, many of the above factors will have an impact on social services expenditures. If the jurisdiction does not fund social services, these factors may not be relevant.

Measures of Expenditure Need

There are a number of different ways of measuring expenditure need in an equalization formula. This section reviews four general ways to measure expenditure need and describes the problems inherent in each approach.

In the general formula set out in section 1 of this paper, “comparable” expenditures were defined as “average” expenditures per capita. This is often the starting point for measuring “comparable”

expenditures in provincial-municipal equalization grant formulas. This measure ensures that all jurisdictions can provide at least the “average” level of expenditures by levying a tax rate that is no higher than the average tax rate. Any expenditures over and above the average have to be funded out of own-source revenues.³ The main problem with using average expenditures, however, is that the grant does not assist those jurisdictions that have greater than average needs or costs.

One way to address this problem is to adjust average expenditures by differences in costs and needs. Cost differentials can be applied to average expenditures per capita to reflect that costs are higher in a specific jurisdiction relative to the average (see equation 4). A general increase in prices in that jurisdiction relative to other “comparable” jurisdictions will lead to an increase in the grant to that jurisdiction. In New Brunswick, for example, a factor was incorporated into the provincial-municipal formula to account for differences in density (measured as population per kilometre of roads).⁴ If, for example, low density means higher costs, this factor would result in “comparable” expenditures per capita that are higher than the average for a jurisdiction with relatively low density. The grant would also be higher.

Average expenditures may also not adequately reflect “comparable” expenditures because of different needs among jurisdictions as a result of different characteristics of the population. This type of information can be incorporated into the grant formula using a series of weighting factors (see equation 4). When age is the most distinguishing characteristic of the group, dependency ratios can be used to calculate weighting factors. A weighting factor could be defined as the ratio of the dependency ratio in the jurisdiction to the average dependency ratio in the “comparable” jurisdictions. Weighting factors can also be thought of as a way to modify the average per capita service levels to reflect differential age structures and hence needs of the population in each service category.

An alternative measure of “comparable” expenditures is actual expenditures. The use of actual expenditures ensures that each jurisdiction can provide its current level of service by levying an average tax rate. Actual expenditures reflect the jurisdictions actual needs and costs. There are problems with using actual expenditures, however, mainly because expenditures do not give an accurate picture of need. The first problem is that, in addition to reflecting needs and costs, expenditures also reflect differences in tastes and preferences and different policy choices. For example, a territory may choose to make higher expenditures (and levy higher taxes) to meet local preferences for better services. High expenditures may also reflect inefficiency in service delivery. As noted earlier, equalization grants need to distinguish between differences in costs and needs from differences in policies.

³ For those jurisdictions spending less than the average, this measure means that it might receive more than its expenditure needs. An alternative formulation would be to use average expenditures for those jurisdictions spending the average or more and to use actual expenditures for those jurisdictions spending less than the average. The problem with this formulation, however, is that it creates an incentive for those jurisdictions spending less than the average to increase their expenditures.

⁴ New Brunswick also groups municipalities according to size, location, spending responsibilities and other characteristics. The rationale for grouping is to reflect similarities in needs and costs. For example, needs and costs will vary by whether a municipality is a large city, small city, rural area, etc.

A further problem with using actual expenditures is that it discourages expenditure restraint and revenue-raising effort because the jurisdictions with the largest expenditures and lowest taxes are rewarded by the formula. Moreover, if actual expenditures reflect inefficiency in service delivery, this measure would reward that inefficiency.

A variation on actual expenditures would be to use historical expenditures. The advantage of using past expenditures is that recipient jurisdictions cannot alter past expenditures to increase their transfer. As with current expenditures, however, past expenditures do not necessarily reflect current (or past) needs or costs.

A third way to measure expenditure needs is to use the representative expenditure system (RES) approach. This approach is similar to the representative tax approach (RTS) on the revenue side of the federal-provincial equalization formula. Using the RES approach, Shah (1996: 107) recommends following a number of steps:

- Disaggregate expenditures into major functional categories such as transportation and communications, health, education, etc. Estimate expenditure functions by considering appropriate need and cost factors and fiscal capacity variables.
- Determine the “hypothetical” per capita expenditures for each function. This involves evaluating the regression results for each jurisdiction by holding the fiscal capacity and non-need factors at national average values and substituting the jurisdiction’s values for need and cost variables. Hypothetical per capita expenditures reflect how much the jurisdiction would spend, given its needs and costs, for each expenditure category if it had “average” revenue.
- Determine the “standardized” per capita expenditure. This requires evaluating regression results at national mean values for all variables (need and fiscal capacity).
- Expenditure need is then calculated as the difference between “hypothetical” per capita expenditures and “standardized” per capita expenditures.

A fourth method is to estimate the cost of providing a standardized or mandated set of public services. This method requires a determination of what services are to be included and what standards should be met. For example, the standard for education expenditures might be a specified class size. The costs associated with the specified class size would include the compensation of teachers, the cost of classroom supplies, and other costs associated with meeting that standard. This measure of expenditure need would reflect differences in different jurisdictions of providing a mandated or standard level of service. This method (known as the resource cost model) has been used for provincial grants for education in British Columbia. It requires a lot of detailed knowledge of the price of inputs and the factors affecting the services being provided. It is challenging to estimate the cost of a standardized service for one expenditure category; it would be considerably more cumbersome to do this for a wide range of services.

3. Fiscal Effort

Fiscal effort is defined as the extent to which a province or territory makes use of its fiscal capacity.⁵ It is assumed that, if two jurisdictions have the same capacity and taxes are higher in one jurisdiction than the other, then the jurisdiction with the higher taxes has made a greater fiscal effort. The rationale for including a measure of fiscal effort in the formula is that the grant allocated to any jurisdiction should only increase if that jurisdiction is prepared to increase its own tax rates.⁶ This rationale implies that jurisdictions that try harder to raise revenues, but still cannot provide an adequate level of service, are more worthy of receiving grants than are jurisdictions that try less hard. Furthermore, when a measure of fiscal effort is included in the formula, jurisdictions receive no payment for taxes they do not levy.

To compare fiscal effort across provinces/territories, a jurisdiction's actual tax collections are compared to the taxes it would have collected if it had applied the national average tax rate to its tax base:

$$(5) \quad \text{Fiscal effort} = (t^* - t^i) B^i$$

Fiscal effort could be incorporated into an equalization formula in different ways. For example, the overall equalization grant could be multiplied by a measure of the fiscal effort of the jurisdiction. This measure or index could be, for example, the fiscal effort of that jurisdiction relative to the national average tax effort and it could be calculated as the ratio of the jurisdiction's percentage share of the actual revenues of all jurisdictions (from revenue sources to be equalized) relative to that jurisdiction's percentage share of the actual tax base of all jurisdictions. Incorporating fiscal effort in this way would ensure that a higher fiscal effort relative to the national average, other things being equal, would result in a larger grant. Fiscal effort could also be incorporated into the formula on the revenue side only. The index would be calculated as the reciprocal of the ratio of the tax effort in the jurisdiction relative to the national average tax effort. As above, a higher fiscal effort relative to the national average would result in a larger grant.

As with the use of average expenditures to reflect "comparable" expenditures in the formula, the simple measure of fiscal effort (taxes relative to income) may be different in different jurisdictions for reasons other than the effort they are making. First, if the system of taxation is progressive and if the measure of tax effort is assumed to be proportional, the resulting measure favours high-income jurisdictions. In a high-income jurisdiction, under a progressive tax system, taxes relative to income would generally be expected to be higher than in a low-income jurisdiction. The tax effort of high-income areas would then exceed that of low-income areas and

⁵ It should be noted that fiscal effort evaluates the efforts of one government to raise taxes relative to the efforts of other governments. It does not, however, measure the real burden of taxes on residents. A high tax effort, for example, does not necessarily mean a high tax burden on local residents if taxes are exported outside the jurisdiction.

⁶ It is assumed that if the tax base were taxed at the national average tax rate instead of the actual tax rate, the base would not change. This assumption is incorrect to the extent that taxes affect decisions at the margin. In other words, a higher sales tax rate may result in a reduction in sales and a reduction in sales tax revenues.

a grant based on fiscal effort would reward high-income areas. This result goes against the purpose of equalization.

Second, the cost of living is different in different jurisdictions. The combination of progressive tax rates and a higher cost of living means that the true effective tax rate may be different than the simple ratio of taxes to income would suggest. To determine an appropriate measure of tax effort, it is thus necessary to adjust the tax base for cost-of-living differences (the ratio of the cost of living in the jurisdiction relative to the cost of living in the country as a whole) and to adjust taxes to reflect progressivity.

Fiscal effort is not explicitly a part of the federal-provincial equalization formula. Under federal-provincial equalization, a grant received by any one province varies with the collective tax effort of all provinces selected as the criterion (for example, all provinces in the case where the national average is the standard). Although fiscal effort is not explicitly included in this system, a recipient province can indirectly affect its grant by altering its fiscal effort. If any province increases its tax effort, the collective revenues from that particular source increase and equalization payments to all recipients increase. A recipient province thus gains when it raises its tax rates both by the additional revenue received and by an increase in equalization payments. With the exception of this impact of fiscal effort on the grant, which is expected to be trivial, changes in fiscal effort do not affect the grant under the RTS approach. Even for recipient provinces, there is very little incentive to tax more than the national average and there is no penalty for taxing less than the standard.

Similarly, before a measure of fiscal effort was explicitly introduced into territorial formula financing in 1990/91, it was implicit in the grant formula. The revenue variable was measured by the tax rate in the base year times the tax base in the current year. This meant that any reductions in tax rates below the base year levels would have resulted in less revenue for the territories because their own-source revenues would have fallen and the grant would not have increased to compensate for the loss in revenues (at least until the next renewal period). Moreover, an increase in tax rates was not offset by a decrease in grant until the next renewal period. Thus, tax decreases were discouraged and tax increases encouraged.

The explicit inclusion of fiscal effort in an equalization grant poses a number of problems.⁷ First, it provides an incentive to recipient jurisdictions (who are generally poor in capacity terms) to increase their tax rates because fiscal effort is a variable that they can alter to affect the amount of grant they receive. Under an equalization grant program that does not include fiscal effort, the recipient jurisdiction can spend the funds on any expenditure item or it can use the grant to reduce taxes. Grants which equalize fiscal effort, however, are more concerned about rewarding jurisdictions that spend more on public services and increase their tax rates. To the extent that higher levels of fiscal effort do simply reflect higher levels of demand for government goods and

⁷ The inclusion of fiscal effort has been justified, in part, on the basis that it reflects differences in needs and costs across jurisdictions. In an equalization model that only equalizes fiscal capacity, actual tax rates can act as a proxy for differences in needs and costs. If expenditure needs are already included in the formula, however, the inclusion of fiscal effort may be unnecessary.

services, there seems to be little justification for giving more federal money to jurisdictions that exert greater fiscal effort. (Martinez-Vasquez and Boex, 1997: 5)

Second, the inclusion of fiscal effort in the formula compromises the unconditional nature of equalization grants. Rewarding fiscal effort makes these grants conditional (in terms of how much they receive though not necessarily in terms of how they spend the grant) in the sense that the grant increases with tax effort. Equalization payments are designed to permit recipient jurisdictions to lower taxes if they so choose; incorporating fiscal effort makes that a difficult option.

Third, including a measure of fiscal effort in the formula means that a jurisdiction would not receive equalization payments on taxes that it does not levy. Since the actual rate of tax is used in the formula rather than the “comparable” or average tax rate, a zero fiscal effort for a particular tax will result in a zero grant for that tax. When “comparable” or average tax rates are used in the formula, the jurisdiction will receive a grant if its base is less than the average even if it exerts no fiscal effort.

4. Territorial Formula Financing

The formula for territorial formula financing up until 2004, in general terms, was:

$$(6) \quad GR = GEB - ER$$

Where: GEB = gross expenditure base
 ER = eligible revenues

Gross Expenditure Base

The gross expenditure base (GEB) is a measure of expenditure needs (E^*); eligible revenues (ER) are a measure of the revenue-raising capacity of the territories (T^*). In general terms, this grant formula includes both expenditure needs and fiscal capacity and is similar to the general equalization formula in (1) above. It is designed, at least in theory, to allow the territories to provide a “comparable” level of services to those in the provinces by levying a “comparable” tax rate.

The gross expenditure base (GEB) estimates “comparable” expenditures using actual territorial expenditures in 1982/83 escalated by the growth in provincial-local spending and adjusted by territorial population growth relative to that of Canada as a whole.⁸ Thus the measure of expenditure need in this formula is historical expenditures.⁹ Weighting factors applied to historical expenditures are designed to reflect the growth in provincial-local expenditures over

⁸ There have been a series of other adjustments to the GEB to reflect program transfers, the economic development initiative, an overall reduction, and adjustments for establishment of Nunavut. These are not discussed in this paper.

⁹ Revenues in 1982/83 were actually used as a proxy for expenditures in 1982/83.

time and the differential growth in population between the territories and Canada as a whole. The territorial formula does not include a separate factor to reflect differentials in costs and needs between the territories and the rest of Canada because these differences are assumed to be implicit in the actual expenditure for 1982/83.

The use of a base year of territorial expenditures as the target level to be maintained rather than a measure of the national average reflects the very different (higher) expenditure needs in the north compared to the rest of the country. Although the use of actual expenditures in 1982/83 captures actual expenditures in that year, it does not necessarily capture expenditure needs. Given how expenditures were measured, they simply reflected the amount of resources available in that year to make expenditures. Different expenditures may also reflect different preferences for public services or inefficiency in service provision. Moreover, the formula assumes that estimate of territorial expenditures in 1982/83 reflects adequate expenditures in that year.

To update expenditures from the 1982/83 level, expenditures in that base year are escalated each year by the growth in provincial-local spending to reflect the growth in expenditures over time in other parts of the country.¹⁰ The underlying assumption in using this escalator is that the annual growth in territorial spending would be similar to the annual growth of spending in the rest of Canada. The provincial-local escalator increases the expenditure base over time but does not reflect differences among the territories or between the territories and the rest of Canada. The provincial-local escalator is arbitrary and does not take account of the different expenditure needs and costs in the north and the different development over time of these factors relative to the national average.

The population adjustment factor (ratio of population growth in the territory relative to the population growth of Canada as a whole) was introduced in 1990/91 to compensate for differences in population growth rates between the territories and the rest of Canada.¹¹ This factor is an important addition to the formula because expenditure needs in the north are expected to increase over time at a different rate than provincial-local expenditures. One of the reasons for this difference is that the rate of population growth is different and the population adjustment factor accounts for that difference. Other reasons for differences, as noted earlier in this paper, include differences in the age structure and other characteristics of the population. There are no weighting factors in the formula to account for these differences, however.

Eligible Revenues

Turning to the revenue side of the formula, eligible revenues include transfer payments from the federal government and own-source revenues. Own-source revenues mainly include taxes and fees charged for permits issued or services provided. Revenue-raising ability is measured by estimating the revenue a territory would have at its disposal if it exercised a tax effort similar to

¹⁰ A three-year moving average of annual provincial-local growth rates is used to smooth out annual fluctuations in the escalator.

¹¹ The population adjustment factor is also calculated using a three-year moving average.

that in other parts of the country adjusted, to some extent, to recognize the unique circumstances of the north.

The measure of “comparable” revenues in the territorial formula has four parts. The first part shows the revenues that a territory would receive if it applied its actual tax rate in the base year (1992/93) to its actual tax base for the current year.¹² The second part is the “catch-up” factor. It estimates the taxes that would have been collected by the territory in the base year at 85 percent of national average tax rates (calculated under the RTS approach) relative to the taxes that would have been collected in the base year at actual territorial tax rates.¹³ The third part is the “keep up” factor. It shows the revenues that would have been collected on the national average RTS base at national average tax rates in the current year relative to the base year. In other words, this part represents the growth in national average tax rates. The fourth part, introduced in 1999, reduces eligible revenues by 20 percent as part of an economic development initiative (EDI).

One of the problems with the measure of tax effort is that the “catch-up” factor is out of date because the base year is 1992/93. A second problem relates to the northern conditions discount factor. Although it is justifiable to apply a discount factor to national average tax rates to reflect that the territories cannot be expected to levy national average tax rates because of higher costs in the north, the factor of 85 percent is arbitrary. It has not been shown that costs are 17 percent (1/0.85) higher in the territories than in the rest of Canada. Moreover, there is no justification for a uniform discount factor for each of the territories. To the extent that the cost of living is different in each of the three territories, an arbitrary 85 percent that applies to all territories does not capture these differences.

The “keep up” factor updates the tax target set for the territories annually by the rate of growth in national average tax rates. If national average tax rates increase over time and territorial tax rates measured on the RTS basis are below national average tax rates, the territories have to increase their tax effort more quickly than the national average tax rates simply to prevent the transfer from declining.¹⁴ The territorial formula, in effect, encourages the territories to expand the relative size of their public sectors.

Before the EDI was incorporated into the formula, an increase in the size of the tax base resulted in a reduction in the grant. Although a reduction occurs in any equalization formula with an increase in the size of the tax base, the magnitude of the reduction was exacerbated by the tax effort element of the formula. Before EDI, an increase in actual revenue of \$1 meant the formula credited it with more than \$1 in potential revenue when tax effort was less than 85 percent of the national average. The 20 percent reduction introduced by EDI means that there would be no disincentive to increase the size of the tax base (through economic development) unless the territorial tax effort was less than 68 percent of the national average (calculated by the northern

¹² Other adjustments to territorial formula financing are not discussed in this paper. These include, for example, the 1988 ceiling on growth of the GEB; freezing of the grant in 1995-6 budget and a cut in 1996-7; and the exclusion of the increase in CHT/CST in 1999 and subsequent years.

¹³ The base in the second bracket is not the actual territorial tax base but rather the tax base redefined to be consistent with the RTS tax base.

¹⁴ This may not have been a serious problem in recent years with the decline in provincial tax rates.

discount factor of 0.85 multiplied by the EDI factor of 0.8). As in the case of the northern discount factor, the EDI factor appears to be arbitrary.

5. Concluding Comments

This paper has set out a general formula for equalization and evaluated two aspects of Territorial Formula Financing (prior to 2004) in the context of that model: the measure of expenditure needs and the inclusion of fiscal effort. In designing a new formula for the territories, it would be useful to go back to the overall purpose of equalization – to provide a reasonably “comparable” level of services at reasonably “comparable” levels of taxation – and then design a formula that meets this objective. A properly designed formula requires an understanding of the factors that determine expenditure needs and revenue-raising capability and how they differ between the territories and the rest of Canada.

The overall design of Territorial Formula Financing had become exceedingly complex with successive agreements and adjustments over the last 20 years. This increasing complexity has been at the expense of transparency, an important element of an intergovernmental transfer system: “equalization transfers may be an essential element of federal “glue” in some countries but in the long run, in this as in other aspects, transparency should trump complexity when it comes to such central political elements of the intergovernmental fiscal system” Vaillancourt and Bird (2004: 19). Going back to first principles, as set out in this paper, provides a starting point for a simpler and more transparent system.

References

Bird, Richard, M. and Enid Slack. 1990. "Equalization" The Representative Tax System Revisited." *Canadian Tax Journal*, 38(4): 913-927.

Courchene, Thomas. 1984. *Equalization Payments: Past, Present and Future*. Toronto: Ontario Economic Council.

Martinez-Vazquez and L.F. Jameson Boex. 1997. "Fiscal Capacity: An Overview of Concepts and Measurement Issues and Their Applicability to the Russian Federation." Working Paper 97-3, Atlanta: Andrew Young School of Policy Studies, Georgia State University.

Shah, Anwar. 1996. "A Fiscal Need Approach to Equalization." *Canadian Public Policy*. 22 (2): 99-115.

TD Economics. 2003. "Canada's Northwest Territories: Can Gas and Gems Bring Sustained Growth to the North?" Special Report, Toronto.

Vaillancourt, François and Richard M. Bird. 2004. "Expenditure-Based Equalization Transfers." Working Paper 04-10. Atlanta: Andrew Young School of Policy Studies, Georgia State University.