The Saskatchewan Institute of Public Policy

Public Policy Paper Series

Issues in Equalization: A Discussion

by Jim Marshall

October 2006
Public Policy Paper 45
$5.00; ISBN# 0-7731-0587-5

UNIVERSITY OF REGINA

SIPP
www.uregina.ca/sipp

Issues in Equalization: A Discussion

SIPP Public Policy Paper No. 45
October 2006

Jim Marshall[1]

ISBN #: 0-7731-0587-5
ISSN #: 1702-7802

Table of Contents

Preface

In October 2004, the federal government, faced with mounting criticism of the national Equalization program, announced an end to the methods used to calculate entitlements up until that point and created the "Expert Panel on Equalization and Territorial Formula Financing" to provide advice on the "allocation among provinces of the annual Equalization allotment set in legislation".[2]

Throughout 2005, the Expert Panel conducted its own research and public meetings to discuss the issues around Equalization and to develop possible solutions to problems identified within the system. The Saskatchewan Institute of Public Policy (SIPP) was invited to send representatives to one such meeting in June 2006 and, subsequently, to submit a paper to the Expert Panel, outlining the Institute's perspective on the issues around Equalization. In December 2005, a paper entitled *Seven Issues in Equalization: A Discussion* was submitted to the Expert Panel and, with the permission of the Institute, was posted on the Panel's website.

Since that time there have been a number of new developments.

In May 2006, the Expert Panel released its final report, *Achieving a National Purpose: Putting Equalization Back on Track*, which included the following recommendations:

1. A clear set of principles should be adopted to guide future development of the Equalization program in Canada.

2. A renewed Equalization formula should be developed and used to determine both the size of the Equalization pool and the allocation to individual provinces.

3. A 10-province standard should be adopted.

4. Equalization should continue to focus on fiscal capacity rather than assessing expenditure needs in individual provinces.

5. Equalization should be the primary vehicle for equalizing fiscal capacity among provinces.

6. The Representative Tax System (RTS) approach for assessing fiscal capacity of provinces should be retained.

7. Steps should be taken to simplify the Representative Tax System (RTS).

8. A new measure for residential property taxes should be implemented based on market value assessment for residential property.

9. User fees should not be included in Equalization.

---

[1] The author would like to express appreciation for the valuable comments and suggestions received in the preparation of this paper, especially from the two anonymous readers and Ian Peach and for the valuable assistance received from the Saskatchewan Department of Finance, Taxation and Intergovernmental Affairs Branch, especially Eric Johnson and Erin Brady, who provided very useful data for the analysis and many helpful comments. Of course, any remaining errors or omissions are the sole responsibility of the author.

[2] Expert Panel on Equalization and Territorial Formula Financing, *Terms of Reference*, http://www.fin.gc.ca/FEDPROV/etff_panele.html, accessed November 25, 2005.

10. In principle, natural resource revenues should provide a net fiscal benefit to provinces that own them.

11. Fifty percent of provincial resource revenues should be included in determining the overall size of the Equalization pool.

12. Actual resource revenues should be used as the measure of fiscal capacity in the Equalization formula.

13. All resource revenues should be treated in the same way.

14. A cap should be implemented to ensure that, as a result of Equalization, no receiving province ends up with a fiscal capacity higher than that of the lowest non-receiving province.

15. The current approach for determining Equalization entitlements and payments should be replaced with a one estimate, one entitlement, one payment approach.

16. Three-year moving averages combined with the use of two-year lagged data should be used to smooth out the impact of year-over-year changes.

17. The federal government should track and report publicly on measures of fiscal disparities across provinces.

18. A more rigorous process should be put in place to improve transparency, communications, and governance. This is preferable to setting up a permanent independent commission to oversee Equalization.[3]

Of these eighteen recommendations, twelve[4] address issues originally raised in the SIPP paper presented to the Panel. While the Panel received and considered a large number of submissions, some of the issues raised in the SIPP submission were uniquely raised by SIPP and were addressed in the recommendations of the Panel.

In March 2006, the Advisory Panel on Fiscal Imbalance, established by the Council of the Federation, independently released its report on fiscal imbalance issues and included a number of recommendations with respect to Equalization, as follows:

6.1 The Panel recommends that the Equalization program be based on a ten-province standard and comprehensive revenue coverage with inclusion of 100 percent of natural resource revenues.

6.2. The Panel also recommends a smoothing mechanism: a three-year moving average on all revenue bases, lagged two years, in order to provide provinces with single-point estimates for their equalization payments.

6.3 The Panel recommends that concerns about affordability on the part of the federal government be addressed by scaling back the standard

[3] Expert Panel on Equalization and Territorial Formula Financing, *Achieving a National Purpose: Putting Equalization Back on Track, Executive Summary*, 2006, pp. 5-6.

[4] Recommendations 1 through 7, 11 through 13 and 15 and 16.

established by Recommendations 6.1 and 6.2. The degree of scaling should be negotiated between the two orders of government.[5]

Of these three recommendations, the first two speak directly to issues raised in the SIPP submission of December 2005 and the paper's options for return to a Ten-Province Standard (albeit with, potentially, partial inclusion of resource revenue) and the need to address volatility in Equalization payments through a single-point estimate process.

In May 2006, the federal government's budget committed to further consultations on Equalization with an aim to produce "a transparent, principles-based Equalization program" and, "by the fall of 2006 to provide provinces and territories with long-term certainty in relation to Equalization and TFF for 2007-08 and subsequent years".[6] These commitments, as yet unclarified and unfulfilled, also reflect the proposals of the original SIPP paper, proposing a principles-based review and solution and certainty in operations for any replacement system.

Since this debate on revising Equalization continues and the reports issued so far have recognized the significance of issues raised in the paper originally submitted to the Expert Panel in December 2005, the Saskatchewan Institute of Public Policy has decided to re-release the paper that follows substantially in its original form, with the exception of a few clarifying editorial changes suggested by readers subsequent to the original submission. The Institute hopes the analysis and options of the original paper will help inform the public about the terms of the debate, increase the transparency of the Equalization program to citizens, and provide a meaningful and useful contribution to the ongoing intergovernmental and public discussions on a new, improved, and effective Equalization program for Canada.

[5] Advisory Panel on Fiscal Imbalance, *Reconciling the Irreconcilable, Addressing Canada's Fiscal Imbalance*, 2006, pp. 87-88.

[6] Department of Finance Canada, *Restoring Fiscal Balance in Canada; Focusing on Priorities, Budget 2006*, 2006, pp. 64-65.

Introduction

The Five-Province Standard, Representative Tax System for Equalization was fraught with difficulties and could only be held together through a series of arbitrary patches and stitches. The inequity of the impact of these "fixes" could not be denied and, soon enough, the failure of the system was obvious to even the most cursory of observers.

By October 2004, the federal government could no longer defend its own program and moved unilaterally to abandon the Five-Province Standard in favour of an arbitrary system of transfers designed not to meet any particular disparity in financial conditions among the provinces but, rather, to allocate a fixed pot of funds, determined by federal priorities, among the historically needy provinces. At the same time, a panel of experts was convened to provide advice on the future allocation of Equalization among the provinces.

It would be unwise to develop new approaches to Equalization without ensuring that they are free of the fundamental design flaws of the Five-Province Standard.

While the RTS Five-Province system may have died in October 2004, it would be unwise to observe its passing without examining its weaknesses and its strengths. It would also be unwise to develop new approaches to Equalization without ensuring that they are free of the fundamental design flaws that ultimately undermined the credibility of the Five-Province Standard. The most effective way to do this would be to compare any proposed system to the previous Five-Province system.

There has been much discussion of Equalization in the media and in federal-provincial fora but the specific issues involved are not widely understood and, as a result, they have not been discussed at a level of principle that would allow meaningful reform of the Equalization program.

To date, much of the discussion has focussed on two issues: the confiscatory nature of the Equalization formula as it "claws back" the benefits of development from under-developed provinces; and the inequity of certain "side deals" with certain provincial governments which seem to provide a privileged treatment to some while leaving others unprotected from the vagaries of Equalization.

A closer examination would reveal that Equalization entitlements do respond inversely to economic activity. One might expect, however, that any program which is intended to provide benefits to provincial governments with lower activity levels than others would also yield reduced benefits as activity levels caught up to some standard. In other words, if a provincial government has high benefits for being not as well off as some, then the corollary would be that provincial governments would have low benefits if they are relatively well off. For this to be the case, moving from not well off to well off would entail a reduction in benefits.

It will be seen, though, that the reduction in benefits that occurs with development is roughly at the rate at which other provincial governments tax the developing activity. Provinces that experience economic growth will lose Equalization benefits but only at a rate which could be displaced by their own revenues if they levied taxes in a fashion similar to the rates levied by other provincial governments on that activity.

The latter of the two issues, the "side deals" with some provincial governments, is really symptomatic of the true, more fundamental problems hidden in the Equalization formula which cannot be repaired through more, counterbalancing side deals.

This paper will discuss seven issues with the Equalization program. Three of these issues can be categorized as issues related to the Equalization formula and its treatment of changes in circumstances within recipient provinces. One of these, the so-called "**clawback" on revenues**, has been widely discussed in public fora. Another issue, the "**taxback" on policy or policy non-neutrality**, relates to the treatment of policy changes within provinces and has not been widely discussed.

A third issue with the formula involves the fact that the previous formula for Equalization, based on a Five-Province Standard, afforded **differential treatment to recipient provinces included in the calculation of the standard base** for Equalization compared to those provinces not included in the standard base calculation. Finally, there is a formulaic issue involving the **extent to which provincial revenues should be "equalized"** or, the standard to which Equalization should adjust provincial revenues.

There are another two issues related to the fluctuations in Equalization entitlements or payments and the difficulty they may represent from a fiscal management perspective. These two issues involve stability and predictability of the program and, as with the first two issues, involve a widely discussed problem and one less well known. The more widely discussed issue involves the **fluctuations in entitlements that occur for any given recipient province for any given year**. The lesser-discussed issue involves the **fluctuations in payments within any given fiscal year for recipient provinces** and reflects the administrative methods of adjustments to the calculations more than the formula itself. Finally, there is an issue with the **differential treatment of non-renewable resource revenue** within the Equalization formula relative to the treatment of other similar revenue bases available to provincial governments.

In addition to these issues, there are a number of concerns about a series of patches applied either within or in parallel to the Equalization formula. These patches have been the focus of some public discussion but the fact that they have come into being can be characterized as symptomatic of the issues outlined above, rather than issues in and of themselves.

Since it is not enough to identify problems without proposing solutions, this paper will examine two alternate approaches to Equalization to see if they can offer some help in resolving the true problems with the program while respecting its principles and preserving its integrity. These options for reform will be compared to the effectiveness of the Five-Province Standard approach to Equalization, the last functioning formulaic approach, and will be assessed for their potential to allow Equalization to fulfill its constitutional mandate "to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation".[7]

[7] *Constitution Act 1982*, Section 36.

Background

The formula-based approach to the federal Equalization program was first adopted in 1957. While the formula has been adjusted many times since then to include or redefine revenue bases and adjust the treatment of various bases, the formula has generally been consistent in a number of features since 1957. Section 36 of *The Constitution Act, 1982* enshrined Equalization payments "to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation".[8]

Equalization is revenue-based; there is no consideration in the formula for expenses faced by provincial governments or for differences in the cost structure of government operations among provinces. The basic operative principle has been to assume that all provincial governments face similar expenditure needs and, therefore, that Equalization should focus on adjusting revenues to a more equal footing. The program simply considers that in order to provide "reasonably comparable levels of service" provincial governments require reasonably comparable revenues.

Equalization payments ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services.

It is also notable that the Constitution refers to "reasonably comparable levels of taxation". In doing so, it recognizes the importance of Equalization in protecting against widely differing taxation levels among provinces, thereby guarding against the "tax Balkanization" of the country.

Another important feature of Equalization is that, while the program makes transfers from the federal government to eligible provincial governments, the so-called "have" provinces do not pay into the program in a direct way. A provincial government can receive Equalization payments but no provincial government has to "pay into" the program.

The Formula

Other important features of the program can be seen by examining the formula for calculating the Equalization entitlement for each province. In the Five-Province Standard approach, for each of the 33 tax bases included in calculating Equalization entitlements, a formula was applied as follows:[9]

$$EE = t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where:
EE is the per capita Equalization entitlement in respect of each base;
$BASE_{5P}$ is the per capita base in the five standard provinces;
$BASE_{PROV}$ is the provincial per capita tax base; and,
t_{NA} is the national average tax rate on the base.

[8] Some useful background information on Equalization is included in Expert Panel on Equalization and Territorial Formula Financing (TFF), "Key Issues for the Review of Equalization and Territorial Formula Financing", 31 March, 2005.

[9] Gary Tompkins, "The Equalization Quagmire: Where Do We Go From Here?", The Saskatchewan Institute of Public Policy, Public Policy Paper Series, Public Policy Paper No. 31, March, 2005, p.6.

The five standard provinces included British Columbia, Saskatchewan, Manitoba, Ontario, and Quebec. Alberta (the "richest" province) and the Atlantic Provinces (the "poorest" provinces) were excluded from the standard provinces in the early 1980s.

Prior to the introduction of the Five-Province Standard, a Ten-Province Standard was applied (that is, $BASE_{10P}$ could be substituted for $BASE_{5P}$) and, since 2004, the standard is set independent of any provincially-determined fiscal capacity.

In any case, once the per capita entitlement is determined for each base and for each province, it is multiplied by the population of the province to determine the entitlement (in dollars) for each base for each province. In the case of the Five-Province Standard:

$$TE = POP_{PROV} \times t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where:

TE is the Total Equalization Entitlement in respect of each base: and,
POP_{PROV} is the province's population.

Then, the entitlements (both positive and negative) are summed over all 33 bases to determine the Total Entitlement for each province. Provinces with an overall negative Total Entitlement (where the negative entitlements for some bases exceed the positive entitlements for others) receive no Equalization payments. These provinces, all in all, have per capita revenue bases larger than the standard and, therefore, are considered to be "have" provinces.

The provinces with an overall positive Total Entitlement (where the positive entitlements in some bases exceed the negative entitlements in others) receive Equalization payments equal to the shortfall of their entitlement. These provinces, all in all, have per capita revenue bases smaller than the standard and, therefore, are considered to be "have not" provinces. They are compensated for this shortfall to raise their revenue up to the level that would be achieved if they had the same size revenue bases as the standard and applied taxes at the national average tax rate.

What the Formula Means

In simpler terms, Equalization compares each provincial government's ability to raise revenue to the standardized ability. To be fair, since provinces are vastly dissimilar in population, this comparison is done on a per person basis. If a provincial economy has less activity in a revenue base than is the case in the standard, the government of that province is compensated for that shortfall. If all the shortfalls exceed all the excesses, there is an overall deficiency in the provincial government's ability to generate revenue and the federal government makes up that shortfall in a direct cash grant. For example, in the personal income tax base, the base is "personal income". If a province has less personal income per capita than is the case in the standard, the federal government compensates the provincial government for this smaller capacity to raise revenue ("fiscal capacity" in Equalization parlance) as if it had a standard base and taxed it at national average tax rates. This last point will be very important in examining a number of issues.

From this formula, several features of Equalization can be seen. First, the formula is applied over 33 revenue bases. Each represents a type of economic activity commonly "taxed" by

provincial governments. All provincial governments collect a personal income tax, for example, so there is a personal income tax base in Equalization. In this case the tax base is the total Personal Income earned in the province as measured by Statistics Canada. For another example, provincial governments collect royalties and taxes from mining activity, so there is a tax base for Mineral Resources that includes the profits of mining companies active within the province, as estimated by Statistics Canada.

This means that Equalization examines the economic base of each province in terms of activities normally used to generate revenue to a provincial government. By basing entitlements on the presence or absence of tax bases usually taxed by provincial governments, the Equalization system is said to employ a "Representative Tax System" (RTS) approach or one based on tax systems actually employed by provincial governments. If the economic activity is low (a province has a "deficiency") relative to the standard, a provincial government is compensated as if it had as much economic activity as in the standard.

The Equalization program functions on the principle that whatever a provincial government decides to do with its tax policy is up to the provincial government.

Since Equalization is an RTS system, it is also generally true that, if provincial governments do not usually derive revenue from an activity, it is not included in the Equalization formula. When provincial governments withdrew from the taxation of inheritances, the inheritance tax base was dropped from Equalization, even though some provincial governments continued to derive revenue from the base through "grandfathering" provisions.

Conversely, the growth of gaming revenues as a source of provincial government funding resulted in the addition of revenue bases for "Lottery Ticket Revenues" and for "Other Games of Chance Revenues" to the Equalization formula. Even when some provincial governments chose not to derive revenue from these activities or, more commonly, chose to divert the revenue to special purposes, the existence of the activity within the province (sales of lottery tickets, for example) was recognized in the Equalization calculation.

Second, whatever the actual tax rate applied by a provincial government, it is deemed to be taxing at the national average tax rate (t_{NA}) for the purposes of Equalization. This feature is intended to preserve the "policy neutrality" of Equalization, and ensure that, by and large, if a provincial government raises its tax rates, it is not penalized through Equalization losses. Conversely, a provincial government which reduces tax rates is not compensated by the Equalization program for lost revenue due to this policy decision.

There are some notable exceptions to this feature, but, in general, the Equalization program functions on the principle that, whatever a provincial government decides to do with its tax policy is up to the provincial government. Equalization payments are based on a national average tax system, regardless of the tax system employed in each province. Even if a provincial government chooses not to exploit a revenue base, the existence of that base within the province is recognized in the calculation of entitlements. A provincial government may exempt an activity from taxation but, if the activity is taxed in the standard provinces, the Equalization calculation will assume that the provincial government could have taxed the activity to generate revenue but chose to not.

It is also notable from the formula that, by comparing a province's base with the average base in the standard, Equalization raises a provincial government's revenue to the level that would be generated if it had the same per capita base as the standard and applied national average tax rates to that base. In effect, this guarantees that all provincial governments will have access

to at least the revenue that would be generated if each province had the same level of activity as occurs in the standard.

Prior to 2004, the standard was established as the per capita bases of the five provinces discussed above. In 2004, the federal government effectively ended the Five-Province Standard and set a fixed payment schedule for Equalization that yielded total payments of $10.9 billion for 2005-06 and $11.3 billion for 2006-07 for the (current) seven recipient provinces. In effect, the standard was changed from "the average per capita fiscal capacity of the five standard provinces" to an average of the shares of transfers that would have been paid out under the old Five-Province Standard but applied to a fixed total payout of $10.9 billion for 2005-06 and $11.3 billion for 2006-07.[10] This change and its implications will also be examined below.

The Administration

Some other features of Equalization can be seen in the administration of the program. The entitlements of each provincial government are determined on a fiscal year basis, but these estimates are revised several times. For the year 2001-02, for example, an estimate of Equalization entitlements was made prior to 2001-02, twice during 2001-02, twice during 2002-03 and once, finally, in 2003-04, 30 months after the close of 2001-02. This was done to ensure that the entitlements for a given fiscal year were ultimately determined using actual data on activity and tax rates occurring during that fiscal year. Unfortunately, for many of the revenue bases, the activity levels cannot be ascertained until after the fact.

This means that Equalization calculations for any given time period are based on actual activity levels and tax rates applied by the provincial governments within that time period. In this sense, this allows the federal program to be responsive to changes in activity levels as they actually occur and also to be policy neutral by reflecting provincial government revenue policy decisions year by year. On the other hand, this administrative arrangement means that, for any given fiscal year, the actual Equalization entitlement will not be certain until sometime in the second fiscal year after the close of that fiscal year.

This mechanism also means that, within any given fiscal year, the program will make revised calculations of Equalization entitlements for that fiscal year, the one preceding it and the one preceding that (or three fiscal years in total). While this ensures that the latest data on activity levels are always included in the calculation of payments, it also means that, within any given fiscal year, a province's Equalization receipts may be adjusted several times, not just for the year at hand but also for the previous two years.

To some extent, this lag issue has been temporarily resolved with the fixed payment schedule established for 2005-06, in which each recipient province's benefit is a fixed amount for the year and not subject to revision at a later date. As a more permanent solution is sought, however, the issues around re-estimation in the administration of an Equalization system will have to be addressed.

With that background, some of the issues in the federal Equalization program can be more fully examined.

---

[10] Department of Finance Canada, *Expert Panel on Equalization and Territorial Formula Financing Report: Minister Extends Deadline*, http://www.fin.gc.ca/news05/05-074e.html, accessed November 25, 2005.

Issues Related to the Formula for Equalization

The Clawback on Revenue

Much has been made of the so-called "clawback" of revenue within the Equalization program. The issue arises because, if a recipient province experiences an increase in activity level within any of its revenue bases, the Equalization system adjusts its entitlements as if it were to tax that activity at national average rates.

Mathematically, referring to the formula for a Five-Province Standard above, if $BASE_{PROV}$ rises, the difference between $BASE_{5P}$ and $BASE_{PROV}$ falls equally and that reduction in the shortfall in revenue (or fiscal) capacity reduces a province's entitlement by the national average tax rate (t_{NA}). This is true for any revenue base within Equalization, for every recipient province. In other words, if a recipient province has an increase in an economic activity in an area that generates revenue for provincial governments in general, the Equalization entitlement for that province is reduced at a rate equal to the national average tax rate, to reflect the fact that such activity increases the province's fiscal capacity.

As a provincial government's fiscal capacity increases, it's fiscal position is preserved, despite the withdrawal of Equalization support, as it generates its own revenue from the increased fiscal capacity.

Conversely, if a province sees its activity levels fall (that is, loses fiscal capacity), the $BASE_{PROV}$ falls, the difference between $BASE_{5P}$ and $BASE_{PROV}$ rises and the province's entitlement is increased at the rate of this change in the difference times the national average tax rate (t_{NA}). In other words, whenever a province has a decrease in economic activity in an area that generates revenue for the provincial governments, the Equalization entitlement for that province is increased to reflect the fact that such activity is generally taxed by provincial governments at the national average tax rate.

This is precisely the purpose of Equalization — to compensate provinces that have a lower fiscal capacity than the standard for that reduced fiscal capacity at a rate approximating the revenue the provincial government would have collected if it had the capacity and applied a typical tax effort against the economic activity at hand. It would be very difficult to design a system that compensates provincial governments for below-average activity and, therefore, lower than standard fiscal capacity that did not result in a reduction in compensation whenever there is an increase in activity levels. To do so would risk undermining the important design feature that Equalization compensates provincial governments for fiscal capacity shortfalls.

At the same time, as a provincial government's fiscal capacity increases and its Equalization entitlement is reduced, it is also true that the provincial government will, in general, experience an increase in its own-source revenue as it taxes the increased activity. Thus, the provincial government's fiscal position is preserved, despite the withdrawal of Equalization support, as it generates its own revenue from the increased fiscal capacity.

While some might regard this feature as discouraging activity within a province, it is true that provinces, in general, are better off for having increased activity. After all, the provincial government would be generating its own revenue from that activity and the residents of the province are benefiting from the activity itself in the form of employment and other economic benefits.

There is a situation, however, in which increased economic activity will lead to a reduction in total provincial fiscal resources. If a provincial government derives revenue from an activity at

a rate below the national average (that is, when $t_{PROV} < t_{NA}$), an increase in fiscal capacity (base activity) will result in its Equalization entitlement falling at a rate (t_{NA}) faster than the rate at which its revenue grows (t_{PROV}). In this case, rising activity levels will result in an overall reduction in the fiscal resources of the provincial government.

Thus, if a recipient province chooses to exploit its fiscal capacity at a rate below the national average for provinces, an increase in the activity at hand will generate less own-source revenue than the losses in Equalization entitlement caused by the activity increase.[11] Conversely, provincial governments that exploit their fiscal capacity at tax rates that exceed the national average for provincial taxes will experience an overall increase in revenue as the activity at hand increases and own-source revenue grows faster than Equalization falls. It can be argued, however, that the provincial government has chosen its tax rate (t_{PROV}) of its own accord and could just as readily adopt national average tax rates as a policy, leaving its fiscal resources whole. The policy neutrality of Equalization is based on the feature that, regardless of the tax policy choices of recipient provinces, the program assumes they could apply national average tax rates to the bases that are available to them.

Somewhat ironically, it is the recipient provinces with the below-average tax rates that experience the greatest net "clawback" from increases in economic activity through the Equalization program. However, their own tax rate choices are preserved as their own concern by the policy neutrality afforded by this approach. They could become net fiscal beneficiaries from increased activity by increasing their tax rates (even at the margin or on new activity only) if they wish to gain a net benefit (after Equalization adjustments) from new or expanded activity levels.

It is also true that this feature of the Equalization formula applies to all bases included in the calculation of entitlements, not just resource bases, as may have been implied by recent discussions, and affects any recipient province within the system in the same way.[12] If tobacco sales increase in Quebec (relative to the standard), Quebec loses Equalization at the national average tax rate on those tobacco sales. If retail sales increase in Nova Scotia (relative to the increase in the standard), Nova Scotia loses Equalization at the national average provincial tax rate on retail sales. It is also true in each of these cases that, if activity levels fall, the recipient province is compensated for that loss in fiscal capacity at the national average tax rate, regardless of the tax choices it has made on its own. It might be argued that a system that reduces fiscal resources in recipient provinces provides a strong disincentive to development within those provinces. There are strong arguments on both sides of this issue that warrant closer examination in another, separate paper.

There may also be a possibility, through an inappropriate base definition, for the clawback rate for some bases to be inappropriately high. If, for example, a base is defined in such a way that several provinces appear to have an equivalent base but they do not have similar capacities to exert tax effort on that base, it may be the case that a provincial government cannot tax at national average tax rates on its particular base. In this case, growth in the base will result in lost Equalization at a rate far in excess of the rate at which the provincial government could reasonably expect to recover revenue from its own-source tax effort.

---

[11] This is true as long as Equalization bases are relatively evenly distributed across jurisdictions. The case of uneven distribution will be discussed later.

[12] See: Boadway, Robin, "How Well is the Equalization System Reducing Fiscal Disparities," Paper Prepared for the Government of Prince Edward Island, October, 2004, p. 23.

Courchene[13] identified that, in Saskatchewan's case, "Sales of Crown Leases" (or revenue derived from the sale of oil and gas exploration rights) was subject to a clawback of 256.6 per cent in 1999-2000 and 235.9 per cent in 2000-01. While it is possible that Saskatchewan's rate of revenue collection on this base is only 38.9 per cent to 42.4 per cent of the national average tax rate (yielding the clawback rates seen above), the fact that this revenue base is driven by what is essentially a public auction might suggest that the revenue base in Saskatchewan may appear to be similar in nature to the bases which determine the national average tax rate (in this case, essentially Alberta) but is, in fact, significantly dissimilar as reflected in its dissimilar market treatment at auction. In other words, it may be that the base definitions which group Saskatchewan's and Alberta's "Sales of Crown Leases" together as if they were an identical revenue source to the two provincial governments may be overlooking some significant dissimilarity in the bases.

While the clawback rate is not proof of a non-homogeneous tax base across provinces, a significantly high (or low) clawback rate may suggest the need for further examination of the equivalency of defined bases among provinces. For the most part, though, to the extent that tax bases are evenly distributed and relatively homogeneous, it would appear that the so-called clawback of Equalization is not a significant issue, since provincial governments may lose Equalization as activity increases but they do receive offsetting own-source revenue. Whether the own-source revenue increase is more or less than the loss in Equalization revenue is almost entirely within the control of the provincial government itself.

The issues around the clawback are present regardless of the standard chosen to measure the adequacy of a provincial government's fiscal capacity: ten-province, five-province or the arbitrary $10.9 billion total standard established in 2004. The clawback does not exist in a fixed payments approach as employed for 2005-06 and 2006-07, however, since each recipient province's benefits are not subject to re-estimation or any subsequent change in "need".

The Taxback on Policy or Policy Non-Neutrality

There does appear to be a situation in which the policy neutrality of the Equalization formula has not been preserved, however. There is a specific and rare situation in which the formula approach can result in a "taxback" on policy[14] or a condition of policy non-neutrality. While this issue was partly addressed in 1994 through the application of a special provision called the "Generic Solution", the basic problem remained within the system's calculations up to the 2004 fixed-benefit approach. To illustrate this, one can examine the workings of Equalization under the Five-Province Standard in the absence of the Generic Solution.

As noted above, the Equalization formula uses the national average tax rate to determine the entitlements of provinces for each revenue base. It is generally assumed that this approach will result in policy neutrality because whatever the actual tax rate of a provincial government, the

[13] Courchene, Thomas J., "Confiscatory Equalization: The Intriguing Case of Sasklatchewan's Vanishing Energy revenues", *Choices*, Vol. 10, no. 2, March 2004, p.8.

[14] This "taxback" on policy must be distinguished from the "clawback" on revenue as discussed above. In the former, a province's Equalization entitlement may be affected by its own policy decisions with respect to tax effort (changes in tax rates). In the latter, a province's Equalization entitlement may be affected by changes in activity levels within the province, whether or not those activity levels are the result of provincial government fiscal policy decisions.

program assumes that provincial government could tax at the national average rate. If a recipient province raises its tax rate, its revenue will increase. But, unlike in the "clawback" example above, the province's Equalization entitlement will not be substantially altered by this policy change, as the base upon which the revenue is collected will be more or less unchanged, depending on the effect the tax change itself has on the activity. Assuming that effect to be minimal, the fact that the base is unchanged would mean that the entitlement, determined by the national average tax rate, rather than the provincial government's own tax rate, would be unchanged.

In this way, Equalization based on an RTS approach is said to be "policy neutral". The system does not penalize recipient provinces for raising their tax rates (increasing their "tax effort") because the calculation assumes each provincial government does or could tax at the national average rate. The same neutrality exists for reductions in tax rates in an RTS approach. If the government of a recipient province decides to reduce its tax rates, it will reduce its own-source revenue collections accordingly. Assuming this tax policy has little impact on the province's base or activity level, there will be no substantial change in the Equalization entitlement to the province since the national average tax rate will continue to be employed to assess the revenue capacity of the provincial government, as opposed to its own, now-reduced, tax rate.

Equalization is said to be "policy neutral". The system does not penalize recipient provinces for raising their tax rates because the calculation assumes each provincial government does or could tax at the national average rate.

In the examples above, it is noted that the entitlements would be "substantially unchanged" by policy changes because there is a slight indirect effect in each case. When any provincial government raises its tax rates, for example, that will affect the calculation of the national average tax rate by the fact that:

$$t_{NA} = \frac{\Sigma\, Rev_{PROV}}{\Sigma\, ACT_{PROV}}$$

where:

t_{NA} is the national average tax rate;

$\Sigma\, Rev_{PROV}$ is the sum of provincial government revenues from a base;

and,

$\Sigma\, ACT_{PROV}$ is the sum of the provinces' bases.

If a provincial government raises its tax rate on any base, it will increase the total revenue collected by the provincial governments ($\Sigma\, Rev_{PROV}$) and, potentially reduce the total base available to provincial governments ($\Sigma\, ACT_{PROV}$), depending on the impact of its tax increase on the activity that forms the base in question.

It could be possible for a provincial government to be compensated somewhat for policy changes in the following way. Assuming a province is deficient in a certain base (that is, it had a positive entitlement for that base), if it were to increase its tax rate, it could generate more own-source revenue from the base. But, in addition, its tax policy could lead to an increase in the calculated national average tax rate (t_{NA}), thereby increasing the rate at which it is compensated by Equalization for its deficiency. In effect, this would result in an increase in the extent to which total provincial revenue is increased through tax policy, providing an added incentive through the Equalization system to increase provincial tax rates.

This incentive is generally considered to be quite small, however, for at least two reasons. First, in raising its tax rates, the provincial government is very likely to affect the activity levels

in its own revenue base in a negative way. That is, a tax increase will reduce the activity being taxed and, therefore, lead to a tendency towards somewhat lower revenue collections within the province, depending on the extent to which the activity is affected by tax policy (the tax elasticity). While this tax effect on activity may be very low, it is generally at least enough to offset any Equalization incentive through the effect on national average tax rates. While Equalization may magnify slightly the revenue impact of a policy change, this would be more than offset by a behavioural impact on the tax base at hand. Second, by and large, no province's revenue base is large enough that a relatively small change in tax policy would have a large impact on the calculation of national average tax rates, once it is averaged with the tax rates of all other provinces.

These two mathematical factors, combined with the presumed political consideration that provincial governments are not likely to make tax policy decisions for such small incentives if the electorate would not support those decisions in any event, suggest that it is unlikely that provincial tax policy decisions are driven by second round Equalization effects. That having been said, however, there is one instance where the second round incentives in Equalization could become significant in an RTS approach, especially prior to the application of the Generic Solution in 1994.

If a province had a very large share of the total national tax base[15] ($\Sigma\ BASE_{PROV}$) within a particular base calculation, any tax policy change on the part of that provincial government would have a fairly significant impact on the total provincial revenue ($\Sigma\ Rev_{PROV}$) and on the national average tax rate (t_{NA}) used in the Equalization calculation. In the extreme case, if one recipient province had the entirety of a given revenue base, then the national average tax rate would equal the provincial government's tax rate on that base. In the case of the Five-Province Standard RTS approach, for example, if that province is not among the five standard provinces, it would have a fiscal capacity excess exactly equal to the size of its activity base, since $BASE_{5P} - BASE_{PROV}$ from the formula above would equal the $BASE_{PROV}$ times -1, as $BASE_{5P}$ would be equal to zero. This amount times the national average tax rate (also equal to the provincial government's tax rate on the base) would exactly equate to the amount of the provincial government's revenue from the base at hand.

In this case, if the provincial government were to eliminate its taxes on the base, its negative entitlement from that base would also be eliminated, by virtue of the revenues to be equalized and, the national average tax rate being reduced to zero. While its own-source revenue from the activity would be eliminated, its Equalization entitlement from all bases combined would be increased by an exactly equal amount, fully compensating the provincial government for a tax policy decision to eliminate its taxes. A mathematical proof of this effect is illustrated in Appendix A.

This impact is also true in reverse. That is, if a non-standard, recipient province chooses to increase its tax rate applied to a base unique to that province, it would find that its Equalization entitlement would be reduced by an offsetting and equal amount. There would be no net revenue gain from a tax increase on an after-Equalization basis.

If it is assumed that higher taxes generally lead to lower activity levels and lower taxes inspire higher activity levels, a province with a unique revenue base within the Equalization system

[15] As has been the case in Quebec's domination of asbestos mining, Saskatchewan's exclusive mining of potash and Newfoundland's and Nova Scotia's exploitation of "offshore oil and gas".

would be well served to lower (or eliminate) its taxes, thereby increasing its economic activity for the benefit of the citizenry, because any revenue forgone in the tax reduction would be compensated by the Equalization program. This same effect exists in the case of an arbitrary standard approach since, with the standard being fixed, any reduction in credited fiscal capacity on the part of any recipient province results in an equivalent increase in Equalization benefits.

The application of the Generic Solution reduced this policy taxback to a maximum of 70 per cent by removing from the calculation of entitlements up to 30 per cent of the revenue collected by all provincial governments whenever a single province represents more than 70 per cent of the base for the entire country. The effect of this "Solution" was to limit the taxback on policy decisions to 70 per cent, down from the 100 per cent calculated previously for a provincial government with all of one base that was also a non-standard province.

The application of the Generic Solution has occurred only in the case of non-renewable resources, which tend to be distributed by geology, not economics.

Nevertheless, in any RTS system, or any system equating fiscal capacity to a standard, the incentive remains fairly strong for provincial governments that receive Equalization and that dominate a base to give serious consideration to tax reductions in that revenue base. By using this strategy, they are compensated for as much as 70 per cent[16] of the costs of those policy decisions by the federal Equalization program while allowing their citizenry to capture any economic benefits spurred by a tax reduction. Very few other federal programs offer up to 70 per cent cost sharing on policy decisions.

To be fair, there are not many examples of situations in which a province has a unique revenue base for Equalization purposes. It has been noted, however, that the Generic Solution has applied in a number of circumstances: to Newfoundland for offshore oil revenues; to Nova Scotia for offshore gas revenues; to Quebec for asbestos revenues; and to Saskatchewan for both potash and heavy, third-tier oil revenues.[17] It is noteworthy that the application of the Generic Solution has occurred only in the case of revenue from non-renewable resources. This would seem appropriate because one might only expect to see a disproportionate distribution of revenue bases among provinces in the case of non-renewable or mineral resource bases, which tend to be distributed by geology, not economics. Other revenue bases such as income taxes or sales taxes are not as concentrated in any single province; they are distributed among provinces on a basis somewhat akin to the population distribution.

A provincial government in the unique base situation described above could be expected to at least consider the second round or post-Equalization effects of its policy decisions. While there may be compelling political pressure for a provincial government to levy taxes on activities even if it does not receive the full benefit from that taxation, it would seem unwise to construct a transfer system which provides such strong incentive for some provincial governments in some situations to develop policy in a perverse way.

While the fixed payment approach in place for 2005-06 and 2006-07 has done away with this problem temporarily, it will be a factor in the consideration of any RTS approach upon the renewal of Equalization.

[16] This assumes the Generic Solution remains a feature of a new Equalization program. Other RTS systems involving comparison to a standard fiscal capacity on a base-by-base basis could yield "taxbacks" at 100 per cent of revenue collected.

[17] Federal Provincial Relations Division, Department of Finance Canada, "The Equalization Program", October 2001, unpublished, p. 12.

Differential Treatment of Standard versus Non-Standard Provinces

The previous example discussed focussed on the extreme situation in which a province outside the five standard provinces could, in an extreme case, be compensated up to 100 per cent for policy decisions to reduce taxes (or conversely, penalized up to 100 per cent for tax increases) prior to the application of the Generic Solution. Even after the Generic Solution, this policy taxback could be as high as 70 per cent for these non-standard recipient provinces. The taxback (as opposed to the earlier-discussed "clawback" on activity increases) was different for recipient provinces that were in the Five-Province Standard, however, because not only could their tax policy measures affect the national average tax rate (as with non-standard provinces), their activity level determined the standard for calculating Equalization entitlements. While the Five-Province Standard approach appears to be dead, a replacement must be designed with full awareness of the pitfalls encountered in that program.

In such a case where a province[18] had the entire revenue base for Canada, the fact that it was within the standard would lead not only to the provincial government's tax policy determining the national average tax rate, but the activity within that province determining the standard against which it was equalized. In this case, a recipient province within the standard could face taxbacks of approximately 70 per cent on its policy decisions after the application of the Generic Solution, depending on its share of the population base in the five standard provinces. A mathematical proof of this is illustrated in Appendix B.

While the application of the Generic Solution, beginning in 1994, reduced this incentive effect of the program, the incentive still remained proportionately smaller on recipient provinces within the standard than on recipient provinces outside the standard, by a ratio of the population of the province in question to the population of the five standard provinces in total. Thus, a recipient standard province with a large population (such as Quebec, with 28.7 per cent of the population of the standard provinces in 2004) could face a much lower taxback on revenue from policy decisions to increase taxes where it had a unique revenue base. On the other hand, a smaller province such as Saskatchewan, with only 3.8 per cent of the population of the standard provinces, faced a taxback on policy decisions approaching, though still lower than, the 70 per cent that would be faced by non-standard, recipient provinces on a unique revenue base.

While this differential treatment of recipient provinces that were among the standard provinces may be small and confined to a few specific examples in a few revenue bases, the fact that there was a formulaic disparity in the treatment of recipient provinces suggests a fundamental flaw in the Five-Province Standard system. Since any Equalization design must stand up to the test of time and the emergence and redefinition of "bases" that comes over time, the mathematical fact that standard provinces could be treated differently from non-standard provinces illustrates a problem with standards that do not include all provinces.

The analysis above has identified a differential treatment of recipient provinces within the Five-Province Standard versus those outside of the standard provinces in the taxback on revenue (or tax) policy. In such a system, there is also a differential treatment of provinces with respect to the revenue "clawback" discussed at the beginning of this section, depending on whether a recipient province is within the Five-Province Standard or not.

[18] From 1982 to 1994, Saskatchewan (a standard province) had virtually all the potash production in Canada while potash was a distinct base for Equalization calculations.

Earlier, it was shown that, if activity levels rise in a recipient province, the province will lose Equalization entitlements at the national average tax rate times that change in activity, according to the provincial government's own tax rate. In a Five-Province Standard approach, if that province is one of the five standard provinces, however, an increase in activity will also raise the standard against which all provincial governments' fiscal capacity is measured. Thus, changing activity levels in those provinces will be treated differently from changes that occur in non-standard recipient provinces.

Whether it is in respect of the taxback on revenue policy or in respect of the clawback of revenue generated from changing activity levels, an Equalization formula based on a Five-Province Standard, provides differential treatment of provinces within the Five-Province Standard compared to those outside the standard.

As an aside, it is also interesting to note that, when a province is part of the Five-Province Standard and has all of the activity for a particular base, all recipient provinces receive a benefit from that activity in proportion to the ratio between their population and the population of the five standard provinces. Since these other recipient provinces have zero bases in the activity at hand, any revenue derived from that activity is shared on a per capita basis at the national average tax rate applied to the per capita base in the five provinces. This is unlike the example seen above where a province with all of a base outside the Five-Province Standard yields no benefit to other recipient provinces since the standard for that base would be zero. Thus, bases unique to standard provinces yield different results for recipient provinces than bases unique to non-standard provinces. Again, this is an inherent problem of any partial (e.g., Five-Province) standard.

Partial Equalization

Another issue arises from the application of a Five-Province Standard in the Equalization calculation: excluding the bases of five other provinces leads to a calculated standard for Equalization below the national average.

The exclusion of Alberta from the standard meant that Alberta's fiscal capacity was removed from the calculation of the standard. In 2000-01, if Alberta had taxed at national average rates, its tax bases would have yielded 69.1 per cent more revenue per capita than the average base of the ten provinces and 78.4 per cent more than the average per capita fiscal capacity of the five standard provinces.[19] While it is true that Alberta's exclusion was partially offset by the exclusion of the four Atlantic Provinces, which all had fiscal capacities below the national average and the average of the five standard provinces, the Atlantic Provinces' fiscal capacity shortfall did not offset the huge difference between Alberta and the rest of the country. As a result, in 2000-01, the per capita fiscal capacity of the five standard provinces averaged only 94.8 per cent of the national average.[20]

Since Equalization makes up the shortfall between any provincial government's actual fiscal capacity and this standard, moving to a Five-Province Standard resulted in an Equalization system in which having 94.8 per cent of the fiscal capacity of the provincial governments was

[19] Courchene, Thomas J., *op cit*, p. 27.

[20] *Ibid*. The percentage of actual national average fiscal capacity attained by the application of the Equalization formula using the Five-Province Standard base will vary from year to year depending on the activity levels in the provinces excluded from the standard and those included in the standard.

deemed to be acceptable. While it could be argued that Equalization assures only "reasonably comparable" levels of service at "reasonably comparable" rates of taxation, and that 94.8 per cent of the national average could qualify as "reasonably comparable", it could also be noted that the exclusion of the five non-standard provinces reduced the Equalization entitlements of the recipient provinces by 5.2 per cent or $593.5 million in 2000-01 alone. Since the Five-Province Standard tended to be less than the average of the ten provinces, it is generally the case that recipient provinces did not receive Equalization payments adequate for them to achieve national average levels of fiscal capacity.

Prior to the adoption of the Five-Province Standard, Equalization raised "have not" provinces' fiscal capacity to the calculated national average per capita fiscal capacity. Compared to that calculation, the Five-Province Standard reduced entitlements by hundreds of millions of dollars every year during its tenure.

The exclusion of the five non-standard provinces reduced the Equalization entitlements of the recipient provinces by 5.2 per cent or $593.5 million in 2000-01 alone.

While the move to the Five-Province Standard in 1982 may have moved Equalization one step away from "reasonable comparability", the introduction of a capped benefit total in 2004 and the fixed payment schedules for provincial governments introduced for 2005-06 and 2006-07 only exacerbate this situation. Now, Equalization payments bear no resemblance to a support for "reasonably comparable" levels of services at reasonably comparable levels of taxation among provinces but, rather, are determined solely by federal willingness to pay.

Issues in the Administration of Equalization

Fluctuations in Annual Entitlements

There is also evidence that, in an RTS system, Equalization entitlements are subject to significant fluctuations from year to year. A paper produced by the Department of Finance Canada in 2001 shows that, between 1957-58 and 2000-01, Equalization entitlements of the provinces as a whole grew by as much as 55.6 per cent in one year (in 1967-68) and fell by as much as 7.8 per cent in one year (in 1960-61).[21]

The year-to-year fluctuations for some recipient provinces have been even more dramatic.

Table 1: Extremes in Annual Growth Rates in Equalization Entitlements by Province, 1957 to 2001

	Highest Year-to-Year Growth Rate (%)	Lowest Year-to-Year Growth Rate (%)
Newfoundland	67.6	-8.1
Prince Edward Island	35.2	-6.7
Nova Scotia	50.1	-7.2
New Brunswick	43.9	-6.3
Quebec	77.6	-11.3
Manitoba	65.3	-10.9
Saskatchewan	459.6	-59.7
Alberta	83.1	-7.1
British Columbia	11.9	-8.2
Total Recipient Provinces	**55.6**	**-7.8**

Note: Ontario has not been a recipient province since 1957. Highs and lows exclude the year of introduction (infinite percentage increase) and years when a province's entitlements fell to zero (100 per cent decreases) or when a province re-qualified for entitlements (infinite percentage increase).
Source: The Equalization Program, Federal-Provincial relations Division, Department of Finance Canada, October 2001.

Some of these fluctuations in entitlements were because of changing conditions, such as economic growth (or, contrarily, recessions), and some were because there have been a number of revisions to the formula itself over this time period. Even in considering periods where there have not been dramatic changes in the formula, however, there have still been fairly dramatic changes in entitlements for some provinces. For example, from 1993-94 to 1998-99, Saskatchewan's entitlement fell in each of the first four years (in one year by as much as 36.1 per cent) and then, suddenly, grew by 142.5 per cent in the fifth year. Over the same period, New Brunswick's entitlement rose 16.3 per cent in one year after having fallen by 5.5 per cent the previous year. Quebec had an increase of 13.8 per cent in 1997-98 followed by a drop of 7.6 per cent in 1998-99.

[21] Federal-Provincial Relations Division, Department of Finance Canada, *op.cit.*, pp. 28-31.

It could be argued that this fluctuation in entitlements is only reflective of fluctuations in fiscal capacity within and among the provinces. When a provincial government experiences an increase in its fiscal capacity through an expansion in economic activity, its Equalization entitlement decreases. Conversely, if economic activity slows, the Equalization entitlement increases relative to a previous year. These activity fluctuations only need be relative to the standard. That is, a province experiencing greater growth in activity relative to the standard will experience a reduction in Equalization entitlements. Conversely, if the standard rises through economic activity that is not shared by a recipient province, the government of that province will receive greater Equalization payments. In this case, therefore, it could be argued that fluctuations in entitlements show that the program is responding to equalize provincial fiscal capacity as planned.

To the extent that entitlements reflect relative economic activity among the provinces, it also could be noted that such year-to-year fluctuations in entitlements would be matched by offsetting fluctuations in own-source revenue within each province. The extent that this offset matched changes in Equalization entitlements will depend on each provincial government's tax rate relative to the national average tax rate for each base. Thus, subject to the issues related to the formula discussed above, it could be argued that fluctuations in annual entitlements result from fluctuations in own-source revenues within provinces (at least in a relative sense) and, therefore, are evidence of the responsiveness of Equalization.

Paul Boothe examined the extent to which Equalization stabilized year-to-year fluctuations in provincial revenues in Saskatchewan and could not find evidence that revenue after Equalization was more stable than revenue before Equalization on a year-to-year basis.[22] But Boothe's study focussed on payments within fiscal years as opposed to final entitlements in respect of fiscal years; as such it may have missed some subsequent adjustments which may have been stabilizing on a lagged basis.

Nevertheless, one would expect that, after allowing for national economic trends, the Equalization entitlements of individual recipient provinces would move inversely to the relative performance of their provincial economy and, since own-source revenue would be expected to fluctuate in proportion to economic activity, the combination of own-source revenue and Equalization entitlements should vary less than either of the two on their own. Unfortunately, since there are large lags in calculating final entitlements, the timing of these counterbalancing factors may not coincide.

The introduction of fixed payments for 2005-06 and 2006-07 puts an end to this responsiveness. But, as it is only a stop-gap measure pending the development of a new allocation process, this is not of major concern. The design of a new process must proceed without undue concern over year-to-year fluctuations, as long as those fluctuations are reflective of changing absolute or relative fiscal capacity.

Fluctuations in Payments within a Year

Along with fluctuations in entitlements, prior to the introduction of fixed payments for 2005-06 and 2006-07, there were fluctuations in the rate of cash payments to recipient provinces within a fiscal year.

[22] Paul Boothe, "The Stabilization Properties of Equalization: Evidence from Saskatchewan", Institute of Intergovernmental Relations Working Paper 2002 (3).

As discussed above, Equalization entitlements have historically been recalculated using the latest available economic data on activity and the latest estimates of provincial revenue several times for each fiscal year, during the year prior to and the year subsequent to a given fiscal year. The conduct of this estimation and re-estimation process meant that, for any given fiscal year, there were several estimates and subsequent adjustments to both entitlements and payments, reflecting the recalculation of entitlements in respect of that year and at least two others.

It is also the case that, as data was updated, it affected all the "open" years for calculation purposes. As data on activity was used to recalculate the last fiscal year's entitlement, it would also be used to estimate the entitlement for the current fiscal year and, potentially the payments for the next fiscal year.

When base activity fluctuates from year to year and that very same data is used to estimate more than one year, pending the availability of final actual data, the result can be very dramatic fluctuations in payments within a single fiscal year. As a consequence, not only can fluctuations in annual entitlements be significant, fluctuations in payments from year to year and between estimates within a given fiscal year can be quite large. For example, a comparison of the 2001-02 entitlements by province published by the Department of Finance Canada in October 2001 (in the middle of the fiscal year) and the final entitlements for that year[23] reveals a substantial variance between mid-year estimates and final calculations for the same fiscal year.

Table 2: Equalization Entitlements for 2001-02 as Estimated in October 2001 Versus Final Actual

	Entitlement Estimated in October, 2001 ($ million)	**Final Actual Entitlement** ($ million)	**Difference** ($ million)	**Difference** (%)	**Difference as a % of Province's Revenue** (%)
NF	$ 1,095.9	$ 1,112.4	+ $ 16.5	1.5%	0.4%
PEI	$ 254.3	$ 269.3	+ $ 15.0	5.9%	1.5%
NS	$ 1,307.3	$ 1,403.7	+ $ 96.4	7.4%	2.1%
NB	$ 1,185.4	$ 1,260.7	+ $ 74.9	6.3%	1.4%
QC	$ 5,186.2	$ 5,379.7	+ $ 93.5	3.7%	0.2%
MB	$ 1,201.8	$ 1,314.4	+ $ 112.6	9.4%	1.6%
SK	$ 354.6	$ 208.1	- $ 146.5	41.3%	2.4%
Recipient Prov.	**$ 10,585.4**	**$10,947.9**	**+ $ 362.5**	**3.4%**	**0.5%**

Source: Department of Finance Canada and Thomas J. Courchene (2004).

As can be seen from Table 2, even for the same fiscal year, estimates varied significantly between the basis of payments at mid-year and the final actual entitlements as determined after the close of the fiscal year.

[23] Federal-Provincial relations Division, Department of Finance Canada, *op. cit.*, p. 28: Thomas J. Courchene, *op. cit.*, pp. 30-31: and Department of Finance Canada, *Fiscal Reference Tables*, 2005.

While an average change in estimates of 3.4 per cent may not seem very large, it must be remembered that, in this case, provincial governments already half way through their fiscal year were operating on the basis of estimated Equalization entitlements for that year which were wrong by up to 41.3 per cent. Only two of the recipient provinces were working with an estimate of final entitlements that was within 5 per cent of their actual entitlements as determined much later. While overall entitlement variances within the fiscal year amounted to about 0.5 per cent of the total provincial revenue, in four of the six recipient provinces, this in-year variance amounted to at least 1.5 per cent of their total revenue and as much as 2.4 per cent of provincial revenue in Saskatchewan's case, just ahead of the 2.1 per cent variance in Nova Scotia.

This variance in payments (as opposed to entitlements) can be seriously exacerbated when adjustments for a number of years can happen within the payments schedule in a given fiscal year. Data showing the interim estimates for Equalization entitlements are not publicly available to allow a comparison of the variation in payment schedules which happen within a fiscal year. Comparing entitlements for a given fiscal year with the payments made within that fiscal year can reveal a small portion of this variation. Keeping in mind that this reflects adjustments for years past as well as the year in operation, some of the impact of the re-estimation process is revealed.

Table 3: Saskatchewan Equalization Entitlements by Fiscal Year Compared with Payments made within the Fiscal Year, 1993-94 to 1998-99

	Equalization Entitlement ($ million)	**Equalization Payments** ($ million)	**Payments less Entitlements** ($ million)	**Payments to Entitlement Ratio** (%)
1993-94	$ 486.2	$ 537.5	+ $ 51.3	110.6%
1994-95	$ 413.3	$ 540.2	+ $ 126.9	130.7%
1995-96	$ 264.0	$ 215.5	- $ 48.5	81.6%
1996-97	$ 224.4	$ 175.9	- $ 48.5	78.4%
1997-1998	$ 195.6	$ 8.3	- $ 187.3	4.2%
1998-1999	$ 474.3	$ 441.9	- $ 32.4	93.2%

Source: Department of Finance Canada and Saskatchewan Public Accounts.

As shown in this examination, Equalization entitlements have fluctuated significantly from year to year but, due to the administrative structure of re-estimates, the fluctuation in payments from year to year could be even more significant.

If entitlements represent compensation for measured fiscal capacity in any given fiscal year, any divergence in payments within a fiscal year from entitlements for that fiscal year represents a divergence of Equalization payments from measured fiscal need. As can be seen from Table 3, over the period considered, actual payments average only 83.2 per cent of the entitlements and varied between a low of 4.2 per cent and a high of 130.7 per cent of the entitlements for Saskatchewan in any given fiscal year. Any administrative framework that involves a lag in determining final entitlements pending the availability of final base and

revenue data and a process whereby all open years' entitlements are adjusted for the latest available data will run the risk of adjustments that tend to "over-adjust". This is especially true in the case of recipient provinces, such as Saskatchewan, that experience wide fluctuations in fiscal capacity from year to year.

As noted above, a further level of fluctuations, fluctuation in payments within a fiscal year, is more difficult to examine since data on payments is not generally available to the public. It is therefore more difficult to see the extent to which any recipient province may receive adjustments to the payments schedule during the course of a fiscal year. This issue was somewhat revealed in Table 2, which shows how much estimates of entitlements can change over time, and somewhat revealed in Table 3, which shows how much payments can vary from year to year and, apparently, independently of entitlements. But data combining these effects, changes to the entitlements for all "open" years and their impact on expected payments in the course of a fiscal year, is more difficult to obtain. Nevertheless, it is clear that there has been a problem with the lack of stability and predictability of payments (as opposed to entitlements) in the course of the fiscal year. This instability can cause significant fiscal management problems for the recipient provinces.

Any administrative framework that involves a lag in determining final entitlements will run the risk of adjustments that tend to "over-adjust".

If entitlements vary inversely to activity levels, there is stability in the overall fiscal position of recipient provinces, since rising activity levels will generate rising own-source revenue to offset the resulting fall in Equalization entitlements. Similarly, if activity levels fall, own-source revenue will be lower than expected but will be offset by rising Equalization entitlements. With the current administrative structure, however, Equalization entitlements can be quite separate from Equalization payments. Payments may not act as an offset to variances in own-source revenue because of time lags. In fact, in the case of jurisdictions most likely to face variability in own-source revenue, the timing of payments is most likely to be asynchronous with variations in own-source revenue. This can be very destabilizing.

Especially in the face of legislated or political requirements for provincial governments to achieve "balanced budgets", either on a year-by-year basis or over a period of years, this variation in estimates of entitlements and, consequently, in payments during the course of a fiscal year may be of greater concern than the issue of fluctuations in the entitlements discussed above. The introduction of a "floor payment" to limit the extent to which a provincial government's Equalization entitlement can fall from year to year provides some temporary protection against such fluctuations. While there is a floor in place for declines in entitlements, there is not a floor in place to limit the extent to which a province's payments can change either between estimates within a fiscal year or between fiscal years.

Further complications can arise for provinces that have adopted accrual accounting techniques which require them to account for revenues as they are entitled, as opposed to when payments may actually be received. In such cases, adjustments to Equalization entitlements, which occur even after the close of a fiscal year, may be required to be included in revenues for the fiscal year, despite the fact that governments would not be able to react to such changes.

The floor provision was introduced in 1982 and was effective in increasing Saskatchewan's Equalization entitlements in three of the six years illustrated in Table 3. Despite this floor on entitlements, the dramatic variability in fiscal year payments illustrated in Table 3 continued to be an issue, complicating the task of fiscal management in the provincial government. While Saskatchewan, with its significant year-to-year variability in entitlements, may provide

an unusual case for examining the misalignment of payments to fiscal capacity, it nevertheless serves to illustrate the effect of an Equalization system in which the lags in the administrative structure may subvert the stabilizing feature originally intended for the system. While it is unclear whether a "floor payment" system will remain in any replacement program, the fact that it did not protect against the more bothersome in-year fluctuations in payments (as opposed to year-to-year fluctuations in entitlements) needs to be noted.

Issues in the Treatment of Non-Renewable Resource Revenue

Unique Characteristics of Non-Renewable Resource Revenue

There has been much discussion around the appropriate treatment of non-renewable resources within the Equalization system. The previous discussion on the "clawback" of revenue, the "taxback" on policy, and the instability of Equalization entitlements and payments have all been centred on either individual Equalization bases for non-renewable resources or recipient provinces with significant revenue bases in non-renewable resources. The 70 per cent ceiling on a province's contribution to the national revenue for any particular base (discussed above as the "Generic Solution" to the "clawback" and the "taxback") has only applied in the case of non-renewable resource revenue bases. This could lead to a suspicion that either there is something unique about non-renewable resource activity and revenue or something unique in the way it is treated in Equalization.

If a province is to have a unique revenue base, leading to high taxbacks on tax policy, it is much more likely that that revenue base will be built on a non-renewable resource than on any other type of activity available to a provincial government to tax.

Non-renewable resource activity and the revenue that flows from it to provincial governments do have some unique characteristics. First, the dispersion of the resources is neither across geographic locations, nor is it in the control of governments; it results from geologic conditions, not economic or political decisions. Thus, if a province is to have a unique revenue base, leading to high taxbacks on tax policy, it is much more likely that that revenue base will be built on a non-renewable resource than on any other type of activity available to a provincial government to tax.

By and large, all provincial governments have or could have access within their own jurisdiction to the same revenue bases, if they adopted the same policies as those of other provincial governments. All provincial governments, however, do not have equal control of or access to non-renewable resource revenue bases. Thus, it is more likely for a non-renewable resource revenue base to be unique to or concentrated in one or two provinces than is the case for any other source of provincial government revenue. As well, unlike other provincial government revenue bases, provinces not endowed with a non-renewable resource base cannot acquire one through policy decisions in response to changes in the economics of the resource.

While any provincial government may decide to allow or encourage increased activity in gaming or fuel consumption, for example, in response to the possibility of garnering more revenue from these activities, a province without an existing base in mineral or petroleum production cannot simply decide to develop these activities whenever commodity prices would suggest they are a lucrative revenue base. Thus, non-renewable resources are not as readily available to all provincial governments as a source of fiscal capacity as is the case with other, more renewable revenue bases.

This is not to say, however, that such revenues should be treated differently from any other provincial revenue base in the Equalization system. Indeed, if it is a feature of Equalization to adjust the fiscal capacity of provinces to yield a more even distribution of fiscal capacity, it is entirely appropriate that all revenues available to provincial governments should be considered, including revenues generated through the ability of provincial governments to levy indirect taxes on resources, as long as they are treated fairly in the measurement process.

Treatment of One-Time Revenue

There is, however, another feature of the Equalization calculation that needs to be considered in this evaluation, namely, the treatment of the sale of other assets. The Equalization calculation has excluded sales of assets (either real property or physical capital) by provincial governments, since such sales represent the conversion of previous expenditures, which have not been a consideration in Equalization, into revenues, which have been included in the formula. Also, sales of assets result in one-time revenue and, it could be argued, do not represent a continuing source of revenue on which "reasonably comparable levels of service at reasonably comparable levels of taxation" should be based.

It is equally true that provincial government revenue from non-renewable resources represents, to some extent, proceeds from the sale of an asset and one-time revenue to the provincial government.[24] Most non-renewable resource taxation schemes include a royalty, a payment to the holder of the mineral rights (in this case the provincial government) for surrendering the resource to the producing company. A similar royalty payment usually applies to resources extracted from land for which the mineral rights are privately held, in the form of a freehold royalty.

Often, provincial governments, as owners of the resource, levy additional taxes on non-renewable resource production beyond royalties collected. These additional production taxes are usually applied on production from Crown land and from freehold lands and represent the provincial governments' exercise of their constitutional powers to levy indirect taxes - taxes on commodities rather than on taxpayers - on resources. From an economic standpoint, the royalties on production from Crown land could represent payment for the resource and the additional production taxes could represent attempts to capture a portion of the economic rent from the resource extraction process.

While it might appear that a distinction in the Equalization system between royalty payments to the provincial government and special taxes levied on resource production or profits would separate the "sale of assets" component in non-renewable resource revenue from the "economic rent" component, the evolution of these taxation systems over a period of time may have blurred the distinction such an approach might imply. It could be argued that even the production and profits tax components of resource taxation represent a payment for the sale of an asset, either in the sense of prior collection of the proceeds of sale on behalf of future generations or in the sense of recognition of the true value of the past surrender of mineral rights to the current freeholders. Thus, the distinction between Crown royalties as proceeds from the sale of assets and production or profits taxes as the capture of economic rents is not as clear as it may seem on the surface.

If the distinction were clear, it could be argued that the former (Crown royalties) should be excluded from Equalization to be consistent with the treatment of other sales of assets while the latter (production and profits taxes) should be included in Equalization. This would effectively separate the province-as-asset-holder from the province-as-taxing-authority. In any event, the fact that at least a portion of resource revenue represents a payment for the

[24] This is true at least inasmuch as the resource itself is truly "non-renewable". Since even mineral resource deposits are the result of some geologic activity, it might be argued that deposition is recurring. In most practical discussions, non-renewable resources can be distinguished from renewable resources in terms of the rate at which they can be expected to be replaced in the planning horizon.

permanent surrender (or sale) of a resource would suggest that the full inclusion of resource revenue in the Equalization calculation would be inconsistent with the treatment of the sale of other types of assets.

While it may not be clear what proportion of the revenue from non-renewable resources represents "proceeds from the sale of assets", it is certain that all non-renewable resource revenue is one-time revenue. Each barrel of oil, tonne of potash, or pound of uranium produced can only be taxed once, whether that taxation is in the form of a production tax, a profits tax, or a Crown royalty. Once the commodity is extracted, taxed and sold, it is no longer available to the provincial government for taxation. The commodity may be replaced in the system by the extraction of another barrel of oil, tonne of potash, or pound of uranium but, in each case, there is a one-time-only opportunity to collect provincial revenue from the commodity extracted.

Thus, all non-renewable resource revenue is finite since, as a non-renewable source, there is a finite supply of the mineral base for these revenues. Provincial governments may appear to act as if these are ongoing revenue flows and it may be that, for some resources, the reserves are such that they would support many years of revenue flow. In the end, though, they are one-time revenues. As other such revenue has been excluded from the Equalization calculation, there has been an inequity in the treatment of non-renewable resource revenue.

An Issue of Patches

The Equalization system has either included or has been supplemented by a series of patches to adjust or compensate for real or perceived problems in the formula or its administration. Some of these patches have had minimal impact on total entitlements but significant value to individual recipient provinces, while others have had large impacts on overall entitlements without affecting individual recipients disproportionately. The common thread among these *ad hoc* measures is that they have been required as practical responses to correct for perceived anomalies and have been introduced out of expedience, rather than on the basis of principle.

The Floor

The Equalization system has either included or has been supplemented by a series of patches which have been introduced out of expedience, rather than on the basis of principle.

In 1982, a "Floor Payment" provision was added to the calculation of Equalization entitlements. Through this provision, there is a limit on the amount by which a recipient province's entitlement can decline from one year to the next. The Floor was determined each year such that no province's entitlement per capita could decline by more than 1.6 per cent of the per capita standard for Equalization. In 2000-01, as a result of this provision no province's entitlement could fall by more than $95 per capita relative to the year before.

As discussed above, the purpose of the Floor provision was to limit Equalization volatility, especially in the case of recipient provinces where substantial volatility in either revenue flow or base activity existed. In examining at least one such case (Saskatchewan) above, however, it can be seen that, even with the Floor provision, there is instability in the Equalization payments based on the historical approach to adjustments in entitlements. This has been particularly so with the timing of payments, as well as entitlements.

The Ceiling

Also in 1982, a "Ceiling" provision was added to the Equalization formula. With this provision, the total entitlements of recipient provinces was limited to an annual growth rate equal to the rate of growth in the national nominal Gross Domestic Product (GDP). If the calculated entitlements in total grew by more than this rate of growth, the per capita standard was reduced so that the growth in entitlements equalled the growth rate in nominal GDP. In this way, the imposition of a Ceiling affected all recipient provinces to the same extent, at least on a per capita basis. The current approach of setting a fixed total to Equalization payments has the effect of creating a "ceiling on entitlements".

On the positive side, the Ceiling ensures that the federal government is protected against untoward increases in the overall Equalization entitlement within the country. On the other hand, the imposition of a ceiling means that, in periods of very high growth limited to specific parts of the country (that is, uneven growth), the extent to which Equalization achieves its constitutional purpose is limited. The imposition of a ceiling provision only exacerbates the "partial equalization" issue discussed above. While the Ceiling lends stability to the federal budget by limiting the total growth in entitlements, except in the case of the temporary fixed benefits for 2005-06, it does not affect the stability of entitlements to any of the recipient provinces directly, because it does not confine changes in the distribution of entitlements among provinces. Neither does the Ceiling apply to payments to the provinces (as opposed to entitlements), which could fluctuate wildly from year to year, as seen above.

The Generic Solution

As discussed above, the "Generic Solution", introduced in 1994, was intended to apply whenever a single province dominates the calculation of the national average tax rate (t_{NA}) in the Equalization formula. In the case where a provincial government's revenue amounted to more than 70 per cent of the total revenue of provincial governments in calculating the national average tax rate, the contribution of that province to the total revenue was reduced to 70 per cent of the total. This "Solution" was intended to reduce the policy non-neutrality of the Equalization system, as discussed above. It is still true, however, that the RTS formula provided an incentive for certain policy decisions, by "cost-sharing" up to 70 per cent of the cost of forgone revenue from tax reductions or, conversely, by imposing a "taxback" of up to 70 per cent on revenue generated from decisions to raise taxes, in some specific instances.

The Generic Solution is a formulaic override, indicative of a failed formula that, in the face of certain, predictable circumstances, yields an unintended or undesireable outcome for Equalization entitlements. It does not respond to the root cause, however, and underscores the problems inherent in a Five-Province Standard that fully includes non-renewable resource revenue.

The Generic Solution does not respond to the root cause, however, and underscores the problems inherent in a Five-Province Standard.

The Atlantic Accords

In the 1980s, the federal government entered into two agreements with provincial governments to modify their Equalization entitlements outside of the Equalization formula. The *Newfoundland Accord of 1985* and the *Nova Scotia Offshore Resources Petroleum Accords of 1982* and *1986* each acted to ameliorate the impact on total provincial revenues if the provinces' resource bases (in this case, for offshore oil and gas) grew as expected and was met with a reduction in their Equalization entitlements of a similar amount. These two agreements attempted to ameliorate the impact of the "clawback" and "taxback" features of the Equalization formula, discussed above, by compensating two provinces for its effect outside the calculation of Equalization entitlements. As originally designed, the Accords were temporary measures, allowing a phase-in of Equalization offsets to resource development to allow time for the resources to flow and time for the provinces affected to adjust and catch up.

No other recipient provinces have been compensated for the clawback inside or outside of the Equalization provisions. In light of the original intent that these Accords be temporary provisions, their renewal in 2004-05 has generated a serious controversy over the special treatment of Atlantic offshore resources within the Equalization program.

While the replacement agreements have different specific provisions from the original accords, they have common provisions to reduce or offset the clawback provisions of Equalization, a special treatment not afforded to other provinces or other revenue bases in Equalization.[25]

[25] See: http://www.fin.gc.ca/FEDPROV/nae.html and http://www.fin.gc.ca/FEDFPROV/nsae.html accessed on October 16, 2006.

Patches as Symptoms

While there has been much discussion around the accumulation of patches on the Equalization formula (especially the Atlantic Accords), the existence of this network of patches, overrides, and side deals is not an issue in itself, but abundant evidence of the seriousness of the issues discussed earlier in this paper. By and large, these patches were intended to ameliorate or offset the effects of the unbridled working of the pure Equalization formula and base definitions. Generally, they offset clawbacks, limit taxbacks on policy, or reduce fluctuations in entitlements, either total entitlements or an individual province's entitlements. Thus, they are symptoms of the real issues raised above that need to be addressed by any new allocation formula.

Addressing the Issues: Possible Solutions

From the previous analysis, it is apparent that there are several critical issues in the historical Equalization program that would have to be addressed in any program renewal. The following section assesses two major Equalization allocation approaches for their ability to address these issues and improve upon the outcomes experienced under the Five-Province Standard RTS system abandoned in 2004. In addition, a discussion is included on a new approach to the administration of Equalization to lend greater stability to payments to recipient provinces and to support improved fiscal planning on the part of provincial governments.

Option 1: The RTS-20 Approach

One option proposed by the Province of Saskatchewan[26] and others in the early 1980s is the so-called RTS-20 Equalization formula.

In this case, Equalization would remain very similar to the system in place in the 1970s, using a Representative Tax System where the revenues to be equalized would be estimated for each base in use by provincial governments to determine a national average tax rate for each base. Then, each province's capacity to generate revenue from each base would be assessed relative to a national (Ten-Province) standard to determine its fiscal capacity deficiency or excess. As with the previous program, that discrepancy in capacity would then be compensated for at the national average tax rate.

In addition to the use of a national (Ten-Province) standard, this program differs in that non-renewable resource revenue is included at only 20 per cent of provincial revenue collected. In this case, the formula for each base would become:

$$EE = t_{NA} \times (BASE_{10P} - BASE_{PROV})$$

Where: EE is the per capita Equalization entitlement in respect of each base;
$BASE_{10P}$ is the per capita base in all the provinces;
$BASE_{PROV}$ is the provincial per capita tax base; and,
t_{NA} is the national average tax rate on the base.

As is currently the case, the national average tax rate would be:

$$t_{NA} = \frac{\Sigma\, Rev_{PROV}}{\Sigma\, ACT_{PROV}}$$

Where:
t_{NA} is the national average tax rate;
$\Sigma\, Rev_{PROV}$ is the sum of provincial government revenues from a base;
and,
$\Sigma\, ACT_{PROV}$ is the sum of the provinces' bases.

[26] Thomas J. Courchene, *Equalization Payments: Past, Present and Future*, Ontario Economic Council, 1984, pp. 322-326.

Except that, in the case of non-renewable revenue bases,

$$t_{NA} = \frac{\Sigma\, Rev_{PROV} \text{ X } .20}{\Sigma\, ACT_{PROV}}$$

Advantages of the RTS-20 Formula

The RTS-20 approach would eliminate the "taxback" problem because this issue only arises in the case of bases unique to standard provinces. Unique bases have always been in non-renewable resources, reflecting the fact that these bases are distributed by geology, not economics or social development. Discounting all non-renewable revenue by 80 per cent would reduce the incentives (or disincentives) to policy changes by 80 per cent from their previous levels. While there would remain a taxback on policy decisions, it would be only 20 per cent of the previous level and would, therefore, be significantly less of a factor in policy decisions.

The RTS-20 approach would make all provinces part of the standard and end the differential treatment of standard and non-standard provinces.

For example, an RTS-20 approach would have reduced the taxback on Saskatchewan potash tax decisions from the 96.2 per cent range calculated in Appendix B (prior to the application of the Generic Solution) to 19.4 per cent (using 2003 population shares). While there would remain some federal incentive to provincial governments with unique revenue bases to engage in policies of tax reduction, the reduction of this subsidy to less than 20 per cent for resource bases would significantly reduce this factor in decision making. The RTS-20 approach would also make all provinces part of the standard by moving to a Ten-Province Standard, standardizing the remaining, reduced taxback treatment for all recipient provinces and ending the differential treatment of standard and non-standard provinces. The inclusion of non-renewable resource revenues at a reduced rate of 20 per cent would recognize that much of this revenue represents one-time payments to provincial governments as owners of resources and, like the treatment of sales of assets, should not be considered as a basis for ongoing program spending by the provincial government owning the resource, nor by the Equalization recipient provinces.

The "Patches" added to the Equalization system were necessitated primarily by the full inclusion of resource revenues and the move to a Five-Province Standard. This change increased the chances of a unique revenue base adversely affecting a province's entitlement. The impositions of ceilings and floors also reflect the full inclusion of non-renewable resources, since these bases are far more susceptible to year-to-year fluctuations and (combined with the use of a Five-Province Standard) are far more likely to represent a base unique to a recipient province.

The inclusion of non-renewable resources at only 20 per cent and returning to a Ten-Province Standard would reduce the likelihood of a unique base and, in those remaining instances, would reduce their impact. It also would reduce the impact on entitlements of the wide fluctuations that tend to accompany resource revenue bases, reducing the need for either ceilings or floors in the system.

Impact of an RTS-20 Approach

Recalculating Equalization entitlements using the RTS-20 approach for the ten-year period 1994-95 to 2003-04 yielded the following results (summary tables for the calculation are included in Appendix C).

Table 4: Comparison of Total Equalization Payments to Recipient Provinces in RTS-20 Approach to Actual Entitlements, 1994-95 to 2003-04

	RTS-20 Entitlement of Recipient Provinces ($ million)	Previous Entitlement of Recipient Provinces ($ million)	Difference ($ million)
1994-95	$8,645.4	$8,606.9	$38.5
1995-96	$8,885.9	$8,764.6	$121.2
1996-97	$ 9,099.4	$ 8,959.1	$140.4
1997-1998	$ 10,036.0	$ 9,738.4	$ 297.6
1998-1999	$ 10,028.3	$ 9,602.5	$ 425.9
1999-2000	$11,007.8	$ 10,724.2	$283.6
2000-01	$11,943.4	$10,819.9	$1,123.5
2001-02	$12,451.9	$9,914.6	$2,537.3
2002-03	$11,175.4	$8,669.5	$2,505.9
2003-04	$11,301.5	$8,658.2	$2,643.2
Ten-Year Total	**$104,575.0**	**$94,458.0**	**$10,117.0**

These entitlements were calculated assuming the RTS-20 approach would not use the Generic Solution and that all non-renewable resource revenue (including the Atlantic offshore revenue) would be included at a rate of 20 per cent of actual revenue collected.

As can be seen from Table 4, the RTS-20 approach results in higher total entitlements from Equalization in the order of $10.1 billion (or 10.7 per cent) over the ten-year period considered. While reducing the value of non-renewable resource revenue included in the Equalization program reduces the value of entitlements, the expansion of the base to include all provinces (especially Alberta) in the standard increases the value of total entitlements to a more-than-offsetting degree.

It is also notable that, with the RTS-20 approach, the entitlements in 2003-04 would have been only $481.6 million (or 4.4 per cent) higher than they were when they peaked under the existing system in 2000-01. This is also an amount only $401.5 million (or 3.7 per cent) higher than the enhanced payments level ($10.9 billion) established for the existing program for 2005-06 by the federal government and only $19 million (or 0.2 per cent) higher than the level established for 2006-07.[27]

[27] Department of Finance Canada, Expert Panel on Equalization and Territorial Formula Financing Report: Minister Extends Deadline, http://www.fin.gc.ca/news/05/05-074e.html, accessed November 25, 2005.

The RTS Macro Base Approach

Another approach would be to retain the Representative Tax System feature of basing Equalization on actual revenue collected by provincial governments and returning to the Ten-Province Standard, but eliminate distinct tax bases from the calculation by designating a single macroeconomic variable as a proxy for the activity levels within provinces. In the macro-based option, Equalization entitlements would not be calculated on a base-by-base approach but, rather, the formula would adopt the principle that provincial revenues are derived variously from a set of taxes against the level of economic activity within the province, in whatever form that was manifest.

Michael Smart considered such a system using GDP as an indicator of fiscal capacity,[28] as did Julie Aubut and Francois Vaillancourt.[29] Stephen Barro, on the other hand, considered the use of personal income and the construct of broader, composite indicators, including a measure of Total Taxable Resources, which would include all income produced and/or received within a jurisdiction, and Export-Adjusted Income Indices, which would include allowances for tax exportations.[30] Barro found limitations in practical application of both the composite indices due to the availability of data. It may also be symptomatic that a composite index of fiscal capacity requires the development of weighting factors that must be based on some notional valuation of the relative importance of each indicator. The use of a single indicator avoids this significant complication.

In this approach, a macroeconomic indicator of economic activity (such as nominal GDP) would form the single base for revenue, with the total revenue divided by GDP forming the national average tax rate. A fiscal capacity deficiency (or excess) could then be determined on a per capita basis, with Equalization entitlements forming the residual between a provincial government's fiscal capacity and some national standard (probably also a RTS standard). A measure such as Provincial Gross Domestic Product (GDP) would serve as an indicator for the level of economic activity within each province and each provincial government's ability to generate revenue would be assumed relative to that indicator. Thus, provinces with lower GDP per capita would be assumed to have less revenue (fiscal) capacity than other provinces and would be compensated for that deficiency. The rate of compensation would be determined according to the rate at which all provincial governments collect revenue from their economic activity base, the ratio of revenue to GDP.

Thus, a provincial government's Equalization entitlement would be:

$$TE = POP_{PROV} \times \Sigma\, Rev_{10PROV} / \Sigma\, GDP_{10PROV} \times (GDP_{10PROV} / POP_{10PROV} - GDP_{PROV} / POP_{PROV})$$

[28] Michael Smart, "Redistribution, Risk and Incentives in Equalization: A Comparison of RTS and Macro Approaches", Institute of Intergovernmental Relations Working Paper 2002(1), 2002.

[29] Julie Aubut and Francois Vaillancourt, "Using GDP in Equalization Calculations: Are There Meaningful Measurement Issues", Institute of Intergovernmental Relations Working Paper 2002 (5).

[30] Stephen M. Barro, "Macroeconomic Versus RTS Measures of Fiscal Capacity: Theoretical Foundations and Implications for Canada", Institute of Intergovernmental Relations Working Paper 2002 (7).

Where,

POP_{PROV} is the population of the province;

$\Sigma\ Rev_{10PROV}$ is the sum of all provincial revenue from any base (excluding interest and sales of assets);

$\Sigma\ GDP_{10PROV}$ is the total Gross Domestic Product of all provinces;

POP_{10PROV} is the population of all ten provinces; and,

GDP_{PROV} is the Gross Domestic Product in the province.

In this case, a province with a below-average ratio of GDP per capita would be considered to have a capacity to generate revenue that was less than the national average, at a rate of the total provincial revenue to be equalized divided by the total GDP of all ten provinces.

An examination of that ratio from 1994-95 to 2003-04 indicates that the ratio of provincial government revenue to be equalized to GDP has been in the range of 16 per cent to 19 per cent, as seen below.

Table 5: Ratio of Revenue to be Equalized to Gross Domestic Product, 1994-95 to 2003-04

	Total 10-Province GDP ($ million)	Total 10-Province Revenue to be Equalized ($ million)	Ratio of Revenue to be Equalized to GDP (%)
1994-95	$767,303	$146,051	19.03%
1995-96	$806,735	$153,003	18.97%
1996-97	$832,954	$159,840	19.19%
1997-98	$878,662	$168,114	19.13%
1998-99	$910,948	$172,384	18.92%
1999-2000	$978,017	$184,843	18.90%
2000-01	$1,071,725	$203,204	18.96%
2001-02	$1,102,726	$192,571	17.46%
2002-03	$1,152,375	$192,086	16.67%
2003-04	$1,212,487	$195,818	16.15%

Source: Statistics Canada and Department of Finance Canada.

As with the historical approach, the RTS Macro approach would assume that a provincial government has a capacity to generate its own revenue based on the level of economic activity within the province and the propensity of other provinces to generate revenue from that same activity. Unlike the historical approach, however, a detailed examination of the provincial tax bases would be replaced with a single measure of a provincial government's capacity to generate revenue. Those provincial governments with less capacity (GDP per capita) would receive Equalization at the rate of 16 per cent to 19 per cent of their GDP shortfall, in line with what other provincial governments generate from economic activity.

Advantages of the RTS Macro Approach

The RTS Macro approach would eliminate the "taxback" problem because this issue only arises in the case of bases unique to standard provinces. By eliminating individual bases in favour of one overall base, there are no unique bases. With a common base to all, any provincial government's ability to affect national average tax rates would be reduced to that province's share of revenues to be equalized. Quebec, with the largest share of revenues to be Equalized among the recipient provinces, had only 23.7 per cent of the national revenues to be equalized in 2003-04, and this was derived from revenue from 21 of the 33 bases currently subject to Equalization. Thus, virtually any policy decision the provincial government were to take would have an insignificant impact on the national average tax rate and the rate of Equalization compensation.

The RTS Macro approach would make all provinces part of the standard and end the differential treatment of standard versus non-standard provinces.

As an example, an RTS Macro approach based on GDP per capita would have reduced the taxback on Saskatchewan potash tax decisions from the 96.2 per cent range calculated in Appendix B (prior to the application of the Generic Solution) to –0.2 per cent in 1998-99, the last year that potash appeared as a separate base. In other words, with an RTS Macro approach, a decision to eliminate potash taxes would actually reduce the national average tax rate on GDP and, since Saskatchewan is a recipient province, would actually reduce the province's entitlement accordingly. Any impact this policy decision had on activity levels would only exacerbate the situation. Reducing taxes on potash, for example, could raise potash activity and further reduce Saskatchewan's overall GDP per capita deficiency, thereby reducing the province's Equalization entitlement even further. A key feature of the RTS Macro approach is this policy neutrality for all provinces and all sources of revenue. The RTS Macro approach would also make all provinces part of the standard by moving to a Ten-Province Standard, standardizing the remaining, reduced taxback treatment for all recipient provinces and ending the differential treatment of standard versus non-standard provinces.

As noted above, the "Patches" added to the previous system were primarily caused by the inclusion of resource revenues and the move to a Five-Province Standard. This change increased the chances of a unique revenue base adversely affecting a province's entitlement. The impositions of ceilings and floors also reflect the full inclusion of non-renewable resources since these bases are far more susceptible to year-to-year fluctuations and (combined with the use of a Five-Province Standard) are far more likely to represent a base unique to a recipient province.

There is far less fluctuation in GDP or in the total value of provincial own-source revenue than there is in any particular revenue base for the provinces. An RTS Macro approach would be less subject to fluctuations and, therefore, less in need of constraints to achieve stability and predictability.

Impact of an RTS Macro Approach

Recalculating Equalization entitlements using the RTS Macro approach for the ten-year period 1994-95 to 2003-04 yielded the following results (detailed calculations are included in Appendix D).

Table 6: Comparison of Total Equalization Payments to Recipient Provinces in RTS Macro Approach to Actual Entitlements, 1994-95 to 2003-04

	RTS Macro Entitlement of Recipient Provinces ($ million)	Previous Entitlement of Recipient Provinces ($ million)	Difference ($ million)
1994-95	$8,372.9	$8,606.9	-$234.0
1995-96	$8,667.9	$8,764.6	-$96.7
1996-97	$8,854.4	$8,959.1	-$104.7
1997-98	$10,141.3	$9,738.4	$402.9
1998-99	$10,170.2	$9,602.5	$567.7
1999-2000	$11,421.3	$10,724.2	$697.1
2000-01	$13,439.4	$10,819.9	$2,619.5
2001-02	$12,564.0	$9,914.6	$2,649.4
2002-03	$11,571.5	$8,669.5	$2,902.0
2003-04	$11,757.6	$8,658.2	$3,099.4
Ten-Year Total	**$106,960.5**	**$94,458.0**	**$12,502.5**

As can be seen from Table 6, the RTS Macro approach results in higher total entitlements from Equalization in the order of $12.5 billion (or 13.2 per cent) over the ten-year period considered. The return to the Ten-Province Standard for the base predictably increases the total entitlements given the previous estimation that the current system only partially equalizes.

It is also notable that, with the RTS Macro approach, the entitlements in 2003-04 would have been only $937.7 million (or 8.7 per cent) higher than they were when they peaked under the existing system in 2000-01. This is also an amount only $857.6 million (or 7.9 per cent) higher than the enhanced payments level ($10.9 billion) established for the existing program for 2005-06 by the federal government and $476 million (or 4.2 per cent) higher than the level established for 2006-07.[31]

Remarkably, the RTS Macro approach and the RTS-20 approach discussed above yield strikingly similar results for Equalization benefits, with both systems peaking in benefits in 2001-02, as opposed to 2000-01 under the previous system, both systems diverging from the previous system most dramatically beginning in 2000-01, after the 1999-2000 reform of the system, and both systems yielding total benefits for the ten-year period in the same range. The RTS Macro approach benefits were only 2.3 per cent higher than the RTS-20 approach benefits.

[31] Department of Finance Canada, Expert Panel on Equalization and Territorial Financing Report: minister Extends Deadline, http://www.fin.gc.ca/news/05/05-074e.html, accessed November 25, 2005.

Redistributive Impacts

Either the RTS-20 or the RTS Macro approach would have a relatively minor impact on total payments under Equalization, resulting in increased entitlements which would have averaged $1.0 billion and $1.2 billion, respectively, between 1994-95 and 2003-04 (see Appendixes C and D). In each case, however, there would have been substantial changes in the payments to some provinces.

The fact that the Five-Province Standard approach resulted in benefits distribution significantly different from the more principled RTS-20 and the RTS Macro approaches may suggest political difficulties in adopting a more principled approach but, from a technical standpoint, merely provides further evidence of the failure of the Five-Province Standard approach on principle. This failure and its damage to the credibility of Equalization is a strong argument in favour of a more principled approach, regardless of the short-term political challenge that may present.

The fact that the Five-Province Standard approach resulted in benefits distribution significantly different from the more principled RTS-20 and the RTS Macro approaches may suggest political difficulties in adopting a more principled approach but, from a technical standpoint, merely provides further evidence of the failure of the Five-Province Standard approach on principle.

Restoring Stability and Predictability

Regardless of the approach adopted, the administrative process of re-estimation over a 30-month period would continue to cause significant fluctuations in the payments to provinces during any given year. To respond to this issue, another feature could be considered within the Equalization program: fixed payments. In this approach, a provincial government's entitlement for a forthcoming year could be estimated using the latest available economic and financial data. That entitlement would remain fixed and would represent the payments during that year and in respect of that year, never being subject to revision. Should subsequent data suggest a different economic and/or financial situation for a particular year, those data would be used to establish the entitlements for a subsequent year, without re-estimating the year at hand.

For example, preliminary GDP data for 2004 became available in April 2005. Statistics Canada produced final estimates of GDP by province in the fall of 2005. In addition, final financial results, in the form of Public Accounts for 2004-05 for each province, were available by the fall of 2005. If the RTS Macro approach were adopted, all the data necessary to produce an estimate of Equalization entitlements would have been available in the fall of 2005. These data could be used to calculate entitlements for the Fiscal Year 2006-07, several months prior to the beginning of that year, allowing all provincial governments to plan their annual budgets with a fixed payment for Equalization known in advance.

If, in the remainder of 2005-06 or 2006-07, it becomes clear that a province's entitlement will change for subsequent years, the affected provincial government can plan accordingly for that future adjustment. For example, as the entitlements for 2006-07 are being set with 2004-05 data in the fall of 2005, a provincial government may already know that it is having above-average economic growth in the course of 2005. This will ultimately reduce its Equalization payments but not until 2007-08. This will leave the remainder of 2005-06 and all of 2006-07 for that provincial government to prepare for reduced transfers in the future, either by phasing in higher taxes, phasing out program expenditures, or by saving funds generated by the enriched economy towards funding programs during the oncoming downturn in federal transfers.

On the other hand, having a slow economic year relative to the rest of the country will foreshadow an increase in transfers in the Fiscal Year after next. Provincial governments in this situation can plan ahead, either forestalling expenditures temporarily, introducing temporary tax measures, or (more likely) bridge financing through borrowing to avoid having to unnecessarily reduce program spending during the downturn. Thus, not only would fixed *a priori* payments provide greater certainty for financial management within a fiscal year, but the system would also support and encourage medium-term fiscal planning and true counter-cyclical fiscal management.

One of the claimed advantages of the old Equalization administrative structure was that it ensured accurate estimation of fiscal capacity and responsive re-estimation of entitlements. But, in practice, the evolution of the 30-month lag in final entitlement calculations, combined with the compounding effect of multi-year re-estimations using the same data, has resulted in a system in which the actual payments are mismatched to fluctuations in fiscal capacity, especially in the case of those provincial governments that have the greatest variability in fiscal capacity. The resulting instability in payments, amplifying any instability in entitlements, has been most destabilizing in some instances and discourages medium-term fiscal planning and management. A new approach involving *a priori* entitlement calculations with no *ex post* adjustments to entitlements would eliminate this effect and oblige provincial governments to engage in medium-term fiscal management using the tools already at their disposal.

Conclusion

As of this writing, the debate continues in political circles over an acceptable replacement system for the Five-Province Standard, Representative Tax System for Equalization which was effectively ended in October 2004. This debate will not be resolved on a technical basis, as there are many issues beyond mathematics at stake.

Nevertheless, it can be hoped that solutions can be found at a political level which are also technically and administratively feasible and which avoid the fundamental problems inherent in the Five-Province Standard approach. There is little benefit in the development of a "new" Equalization formula if it is also flawed, as Canadians deserve the certainty of a system which can be expected to continue to operate without controversy for the foreseeable future. A politically acceptable solution must be selected from the realm of technical feasibility if further political crises are to be avoided.

In this paper, the Five-Province Standard approach has been examined to separate the true problems with the program from the many claimed weaknesses. For example, the so-called "clawback" on revenue from economic growth is discounted as an issue in favour of the more damaging "taxback" on policy decisions made by recipient provinces. The former is compensated through offsetting own-source revenue while, in the case of the latter, some provincial governments may be encouraged to pursue perverse policies through their tax system. The uneven treatment of provinces in the standard against those outside the standard is an issue as are the inequitable treatment of non-renewable resource revenue, when compared to ongoing revenue and other forms of asset conversion and the issue of partial or incomplete Equalization. The issue of year-to-year variability of entitlement is discounted, however, because it is matched with variability in own-source revenue, unlike the significant variability in payments within a fiscal year, which cannot be accommodated in fiscal planning processes.

The paper also proposes two alternative approaches to determining Equalization entitlements that return to true national standards, while retaining the attractive aspect of the Representative Tax System as representing provincial needs based on collective provincial government fiscal decisions and fiscal behaviour. These both represent an improvement on the current *ad hoc* Equalization pool approach, in which the funding available is determined as a residual of the federal fiscal capacity rather than any attempt to "equalize" provincial government program or tax capacity, as required by the Constitution.

In addition, the paper proposes an alternative administration structure to eliminate the in-year instability in payments to the provinces, through a process of *a priori* entitlement determination. Along with increased stability, such a process would encourage (or oblige) greater fiscal planning and management on the part of recipient provinces and a longer–term view of the role of Equalization in supporting "reasonably comparable levels of public services at reasonably comparable levels of taxation".

Appendices

Appendix A: Calculation of Total Equalization Entitlement in the Case of a Province Outside the Standard Five Provinces which also has the Entire Canadian Revenue Base

Appendix B: Calculation of Total Equalization Entitlement in the Case of a Province within the Standard Five Provinces which also has the Entire Canadian Revenue Base

Appendix C: Comparison of RTS-20 Ten-Province Standard Outcomes to RTS Five-Province Standard Outcomes, 1994-95 to 2003-04

Appendix D: Comparison of RTS Macro GDP Ten-Province Standard Outcomes to RTS Five-Province Standard Outcomes, 1994-95 to 2003-04

Appendix A

Calculation of Total Equalization Entitlement in the Case of a Province Outside the Standard Five Provinces which also has the Entire Canadian Revenue Base

If,

$$EE = t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where: EE is the per capita Equalization entitlement in respect of each base;
$BASE_{5P}$ is the per capita base in the five standard provinces;
$BASE_{PROV}$ is the provincial per capita tax base; and,
t_{NA} is the national average tax rate on the base.

And,

$$TE = POP_{PROV} \times t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where:

TE is the Total Equalization Entitlement in respect of each base: and,
POP_{PROV} is the province's population.

And,

$$t_{NA} = \frac{\Sigma\, Rev_{PROV}}{\Sigma\, ACT_{PROV}}$$

Where:

t_{NA} is the national average tax rate;
$\Sigma\, Rev_{PROV}$ is the sum of provincial government revenues from a base; and,
$\Sigma\, ACT_{PROV}$ is the sum of the provinces' bases.

And,

$$BASE_{5P} = \frac{\Sigma\, ACT_{5P}}{\Sigma\, POP_{5P}}$$

Where:

$\Sigma\, ACT_{5P}$ is the sum of the bases in the five standard provinces; and,
$\Sigma\, POP_{5P}$ is the sum of the populations of the five standard provinces.

And,

$$BASE_{PROV} = \frac{ACT_{PROV}}{POP_{PROV}}$$

Where:

ACT_{PROV} is the base in the province.

Then, a Provincial government's Total Entitlement is calculated as:

$$TE = POP_{PROV} \text{ X } (\Sigma\, Rev_{PROV} / \Sigma\, ACT_{PROV}) \text{ X } (\Sigma\, ACT_{5P} / \Sigma\, POP_{5P} - ACT_{PROV}/POP_{PROV})$$

But, if the entire base is within one of the non-standard provinces, then the total national base is equal to the province's base and the base for the five standard provinces becomes zero, or:

$$\Sigma\, ACT_{PROV} = ACT_{PROV}$$

and,

$$ACT_{5P} = 0$$

And the total national provincial revenue is equal to the provincial government's revenue, or:

$$\Sigma\, Rev_{PROV} = Rev_{PROV}$$

And the provincial government's Total Entitlement becomes:

$$TE = POP_{PROV} \text{ X } (Rev_{PROV} / ACT_{PROV}) \text{ X } (0 / \Sigma\, POP_{5P} - ACT_{PROV}/POP_{PROV})$$

$$= POP_{PROV} \text{ X } (Rev_{PROV} / ACT_{PROV}) \text{ X } (0 - ACT_{PROV}/POP_{PROV})$$

$$= POP_{PROV} \text{ X } Rev_{PROV} \text{ X } (-1 / POP_{PROV})$$

$$= -1(Rev_{PROV})$$

Thus, under the RTS Five-Province Standard approach and prior to the application of the "Generic Solution", when a recipient, non-standard province had all of the activity in an Equalization base, it faced a "taxback" on revenue policy equal to 100 per cent of any change in revenue resulting from the revenue policy change. While the Generic Solution of 1994 limits the inclusion of revenues from a single provincial government to 70 per cent of the national total, and thereby limits this taxback on policy to 70 per cent of revenue collected by any one provincial government, it is still mathematically possible for a recipient, non-standard province to engage in tax policy with a 70 per cent federal cost sharing of any tax reduction effort and/or a 70 per cent federal taxback of any tax rate increase.

Appendix B

Calculation of Total Equalization Entitlement in the Case of a Province within the Standard Five Provinces which also has the Entire Canadian Revenue Base

If,

$$EE = t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where: EE is the per capita Equalization entitlement in respect of each base;
$BASE_{5P}$ is the per capita base in the five standard provinces;
$BASE_{PROV}$ is the provincial per capita tax base; and,
t_{NA} is the national average tax rate on the base.

And,

$$TE = POP_{PROV} \times t_{NA} \times (BASE_{5P} - BASE_{PROV})$$

Where:

TE is the Total Equalization Entitlement in respect of each base; and,
POP_{PROV} is the province's population.

And,

$$t_{NA} = \frac{\Sigma\, Rev_{PROV}}{\Sigma\, ACT_{PROV}}$$

Where:

t_{NA} is the national average tax rate;
$\Sigma\, Rev_{PROV}$ is the sum of provincial government revenues from a base; and,
$\Sigma\, ACT_{PROV}$ is the sum of the provinces' bases.

And,

$$BASE_{5P} = \frac{\Sigma\, ACT_{5P}}{\Sigma\, POP_{5P}}$$

Where:

$\Sigma\, ACT_{5P}$ is the sum of the bases in the five standard provinces; and,
$\Sigma\, POP_{5P}$ is the sum of the populations of the five standard provinces.

And,

$$BASE_{PROV} = \frac{ACT_{PROV}}{POP_{PROV}}$$

Where:

ACT_{PROV} is the base in the province.

Then, a provincial government's Total Entitlement is calculated as:

$$TE = POP_{PROV} \text{ X } (\Sigma\, Rev_{PROV} / \Sigma\, ACT_{PROV}) \text{ X } (\Sigma\, ACT_{5P} / \Sigma\, POP_{5P} - ACT_{PROV}/POP_{PROV})$$

But, if the entire base is within one of the standard provinces, then the total national base is equal to the province's base and the base for the five provinces, or:

$$\Sigma\, ACT_{PROV} = ACT_{PROV} = ACT_{5P}$$

And the total national provincial revenue is equal to the provincial government's revenue, or:

$$\Sigma\, Rev_{PROV} = Rev_{PROV}$$

And the provincial government's Total Entitlement becomes:

$$TE = POP_{PROV} \text{ X } (Rev_{PROV} / ACT_{PROV}) \text{ X } (ACT_{PROV} / \Sigma\, POP_{5P} - ACT_{PROV}/POP_{PROV})$$

$$= POP_{PROV} \text{ X } (Rev_{PROV} / ACT_{PROV}) \text{ X } ACT_{PROV}\, (1/\Sigma\, POP_{5P} - 1/POP_{PROV})$$

$$= POP_{PROV} \text{ X } Rev_{PROV}\, (1/\Sigma\, POP_{5P} - 1/POP_{PROV})$$

$$= Rev_{PROV} \text{ X } POP_{PROV}\, (1/\Sigma\, POP_{5P} - 1/POP_{PROV})$$

$$= Rev_{PROV} \text{ X } (POP_{PROV} / \Sigma\, POP_{5P} - POP_{PROV} / POP_{PROV})$$

$$= Rev_{PROV} \text{ X } (POP_{PROV} / \Sigma\, POP_{5P} - 1)$$

$$= (Rev_{PROV} \text{ X } POP_{PROV} / \Sigma\, POP_{5P}) - Rev_{PROV}$$

When a recipient, standard province forms a small proportion of the population base in the five standard provinces, its negative entitlement with respect to a change in revenue (or tax policy measures) becomes quite large. Saskatchewan, for example, has 3.8 per cent of the population in the five standard provinces. In this case, if Saskatchewan has all of a base for Equalization, any change in tax policy will result in an offsetting change in Equalization entitlement equal to 96.2 per cent of the own-source revenue change. The Generic Solution reduced this to 96.2 per cent of 70 per cent, or 67.3 per cent. Nevertheless, there was a substantial disincentive to raise taxes and a substantial incentive to lower taxes on a unique base.

In Quebec's case, with 28.7 per cent of the population in the five standard provinces, this taxback ratio is much less, at 71.3 per cent of revenue prior to the Generic Solution and a maximum of 49.9 per cent of revenue after the application of the Generic Solution. Also notable is the fact that, in comparison to the impact on recipient provinces that were not part of the Five-Province Standard (as examined in Appendix A), recipient provinces in the five standard provinces were subject to a lower taxback rate on tax policy.

Appendix C

Comparison of RTS-20 Ten-Province Standard Outcomes to RTS Five-Province Standard Outcomes, 1994-95 to 2003-04[32]

Equalization Entitlement Impact of RTS-20 System, 1994-95 to 2003-04

Previous Entitlement ($ 000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	$958,386	$191,972	$1,065,389	$927,487	$3,965,489	-$2,711,893	$1,084,915	$413,284	-$5,995,703	-$2,646,988	-$2,747,662	$8,606,922
1995-96	$932,948	$192,356	$1,137,776	$877,524	$4,308,622	-$3,133,183	$1,051,273	$264,136	-$5,339,371	-$2,490,843	-$2,198,762	$8,764,635
1996-97	$1,029,712	$208,347	$1,182,328	$1,019,376	$4,168,563	-$3,389,356	$1,126,363	$224,381	-$6,840,256	-$2,000,775	-$3,271,317	$8,959,070
1997-98	$1,092,832	$238,401	$1,301,546	$1,112,063	$4,744,595	-$4,576,146	$1,053,377	$195,616	-$7,150,141	-$1,417,441	-$3,405,298	$9,738,430
1998-99	$1,068,182	$237,504	$1,221,030	$1,112,181	$4,394,349	-$5,553,042	$1,092,400	$476,815	-$7,150,141	-$1,417,441	-$4,518,163	$9,602,461
1999-2000	$1,186,020	$247,756	$1,292,524	$1,166,173	$5,338,731	-$6,831,761	$1,195,354	$245,668	-$7,570,232	$52,010	-$3,677,757	$10,724,236
2000-01	$1,112,775	$268,955	$1,402,284	$1,266,973	$5,455,139	-$6,117,838	$1,254,765	$59,016	-$14,292,915	-$651,086	-$10,241,932	$10,819,907
2001-02	$889,134	$240,013	$1,200,330	$1,200,763	$4,600,438	-$6,384,368	$1,406,260	$204,214	-$12,423,193	$173,457	-$8,892,952	$9,914,609
2002-03	$817,823	$232,303	$1,125,912	$1,137,771	$4,050,301	-$5,306,031	$1,305,377	-$49,657	-$12,575,684	$16	-$9,261,869	$8,669,503
2003-04	$759,197	$226,749	$1,093,201	$1,158,476	$3,894,565	-$5,414,781	$1,351,434	-$5,826	-$13,285,321	$174,603	-$10,047,703	$8,658,225
Total Ten Years	**$9,847,009**	**$2,284,356**	**$12,022,320**	**$10,978,787**	**$44,920,792**	**-$49,418,399**	**$11,921,518**	**$2,027,647**	**-$92,622,957**	**-$10,224,488**	**-$58,263,415**	**$94,457,998**

RTS-20 Ten Province Standard Entitlement ($000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	$951,527	$187,083	$1,038,921	$916,947	$3,742,415	-$3,033,640	$1,064,088	$744,429	-$3,161,921	-$2,449,850	$0	$8,645,410
1995-96	$939,739	$187,017	$1,108,016	$869,764	$4,068,746	-$3,477,656	$1,030,039	$682,561	-$3,049,438	-$2,358,788	$0	$8,885,882
1996-97	$1,019,724	$202,726	$1,150,668	$1,004,926	$3,908,002	-$3,774,803	$1,101,306	$712,086	-$3,525,616	-$1,799,018	$0	$9,099,438
1997-98	$1,091,197	$234,283	$1,279,369	$1,110,142	$4,565,483	-$4,844,735	$1,042,607	$712,910	-$4,081,818	-$1,109,439	$0	$10,035,991
1998-99	$1,081,008	$237,241	$1,224,049	$1,124,248	$4,410,786	-$5,530,356	$1,104,258	$846,748	-$4,414,319	-$83,663	$0	$10,028,337
1999-2000	$1,155,601	$241,969	$1,235,536	$1,142,945	$4,943,120	-$7,300,614	$1,148,003	$918,872	-$3,707,186	$221,755	$0	$11,007,800
2000-01	$1,128,973	$263,891	$1,369,589	$1,236,961	$5,160,453	-$6,383,154	$1,263,858	$1,034,809	-$5,560,260	$484,882	$0	$11,943,415
2001-02	$1,020,863	$250,081	$1,225,249	$1,242,520	$5,002,017	-$5,810,509	$1,402,443	$957,165	-$6,641,384	$1,351,554	-$1	$12,451,892
2002-03	$937,347	$236,562	$1,165,738	$1,167,081	$4,274,851	-$4,782,230	$1,361,100	$862,186	-$6,393,165	$1,170,529	-$1	$11,175,394
2003-04	$865,020	$230,875	$1,143,172	$1,185,428	$4,114,596	-$4,935,406	$1,403,760	$873,871	-$6,366,051	$1,484,736	$0	$11,301,457
Total Ten Years	**10,190,997**	**2,271,728**	**11,940,307**	**11,000,961**	**44,190,468**	**-49,873,104**	**11,921,462**	**8,345,637**	**-46,901,157**	**-3,087,302**	**-$2**	**$104,575,017**

Impact of RTS-20 Ten Province Standard on Total Entitlements ($000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	-$6,859	-$4,889	-$26,468	-$10,540	-$223,074	-$321,747	-$20,827	$331,145	$2,833,782	$197,138	$2,747,662	$38,488
1995-96	$6,791	-$5,339	-$29,760	-$7,760	-$239,876	-$344,473	-$21,234	$418,425	$2,289,933	$132,055	$2,198,762	$121,247
1996-97	-$9,988	-$5,621	-$31,660	-$14,450	-$260,561	-$385,447	-$25,057	$487,705	$3,314,640	$201,757	$3,271,317	$140,368
1997-98	-$1,635	-$4,118	-$22,177	-$1,921	-$179,112	-$268,589	-$10,770	$517,294	$3,068,323	$308,002	$3,405,298	$297,561
1998-99	$12,826	-$263	$3,019	$12,067	$16,437	$22,686	$11,858	$369,933	$2,735,822	$1,333,778	$4,518,163	$425,876
1999-2000	-$30,419	-$5,787	-$56,988	-$23,228	-$395,611	-$468,853	-$47,351	$673,204	$3,863,046	$169,745	$3,677,757	$283,564
2000-01	$16,198	-$5,064	-$32,695	-$30,012	-$294,686	-$265,316	$9,093	$975,793	$8,732,655	$1,135,968	$10,241,932	$1,123,508
2001-02	$131,729	$10,068	$24,919	$41,757	$401,579	$573,859	-$3,817	$752,951	$5,781,809	$1,178,097	$8,892,951	$2,537,283
2002-03	$119,524	$4,259	$39,826	$29,310	$224,550	$523,801	$55,723	$911,843	$6,182,519	$1,170,513	$9,261,868	$2,505,891
2003-04	$105,823	$4,126	$49,971	$26,952	$220,031	$479,375	$52,326	$879,697	$6,919,270	$1,310,133	$10,047,703	$2,643,232
Total Ten Years	**$343,988**	**-$12,628**	**-$82,013**	**$22,174**	**-$730,324**	**-$454,705**	**-$56**	**$6,317,990**	**$45,721,800**	**$7,137,186**	**$58,263,413**	**$10,117,019**

[32] Data for these calculations and those in Appendix D were provided by the Taxation and Intergovernmental Affairs Branch of the Saskatchewan Department of Finance. The author is appreciative of their assistance in locating these data, especially for the help of Eric Johnson and Erin Brady, who, of course, bear no responsibility for any errors or omissions in my subsequent calculations.

Previous Payments ($000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	$958,386	$191,972	$1,065,389	$927,487	$3,965,489	$0	$1,084,915	$413,284	$0	$0	$8,606,922	$8,606,922
1995-96	$932,948	$192,356	$1,137,776	$877,524	$4,308,622	$0	$1,051,273	$264,136	$0	$0	$8,764,635	$8,764,635
1996-97	$1,029,712	$208,347	$1,182,328	$1,019,376	$4,168,563	$0	$1,126,363	$224,381	$0	$0	$8,959,070	$8,959,070
1997-98	$1,092,832	$238,401	$1,301,546	$1,112,063	$4,744,595	$0	$1,053,377	$195,616	$0	$0	$9,738,430	$9,738,430
1998-99	$1,068,182	$237,504	$1,221,030	$1,112,181	$4,394,349	$0	$1,092,400	$476,815	$0	$0	$9,602,461	$9,602,461
1999-2000	$1,186,020	$247,756	$1,292,524	$1,166,173	$5,338,731	$0	$1,195,354	$245,668	$0	$52,010	$10,724,236	$10,724,236
2000-01	$1,112,775	$268,955	$1,402,284	$1,266,973	$5,455,139	$0	$1,254,765	$59,016	$0	$0	$10,819,907	$10,819,907
2001-02	$889,134	$240,013	$1,200,330	$1,200,763	$4,600,438	$0	$1,406,260	$204,214	$0	$173,457	$9,914,609	$9,914,609
2002-03	$817,823	$232,303	$1,125,912	$1,137,771	$4,050,301	$0	$1,305,377	$0	$0	$16	$8,669,503	$8,669,503
2003-04	$759,197	$226,749	$1,093,201	$1,158,476	$3,894,565	$0	$1,351,434	$0	$0	$174,603	$8,658,225	$8,658,225
Total Ten Years	**$9,847,009**	**$2,284,356**	**$12,022,320**	**$10,978,787**	**$44,920,792**	**$0**	**$11,921,518**	**$2,083,130**	**$0**	**$400,086**	**$94,457,998**	**$94,457,998**

RTS-20 Ten Province Standard Payments ($000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	$951,527	$187,083	$1,038,921	$916,947	$3,742,415	$0	$1,064,088	$744,429	$0	$0	$8,645,410	$8,645,410
1995-96	$939,739	$187,017	$1,108,016	$869,764	$4,068,746	$0	$1,030,039	$682,561	$0	$0	$8,885,882	$8,885,882
1996-97	$1,019,724	$202,726	$1,150,668	$1,004,926	$3,908,002	$0	$1,101,306	$712,086	$0	$0	$9,099,438	$9,099,438
1997-98	$1,091,197	$234,283	$1,279,369	$1,110,142	$4,565,483	$0	$1,042,607	$712,910	$0	$0	$10,035,991	$10,035,991
1998-99	$1,081,008	$237,241	$1,224,049	$1,124,248	$4,410,786	$0	$1,104,258	$846,748	$0	$0	$10,028,337	$10,028,337
1999-2000	$1,155,601	$241,969	$1,235,536	$1,142,945	$4,943,120	$0	$1,148,003	$918,872	$0	$221,755	$11,007,800	$11,007,800
2000-01	$1,128,973	$263,891	$1,369,589	$1,236,961	$5,160,453	$0	$1,263,858	$1,034,809	$0	$484,882	$11,943,415	$11,943,415
2001-02	$1,020,863	$250,081	$1,225,249	$1,242,520	$5,002,017	$0	$1,402,443	$957,165	$0	$1,351,554	$12,451,892	$12,451,892
2002-03	$937,347	$236,562	$1,165,738	$1,167,081	$4,274,851	$0	$1,361,100	$862,186	$0	$1,170,529	$11,175,394	$11,175,394
2003-04	$865,020	$230,875	$1,143,172	$1,185,428	$4,114,596	$0	$1,403,760	$873,871	$0	$1,484,736	$11,301,457	$11,301,457
Total Ten Years	**$10,190,997**	**$2,271,728**	**$11,940,307**	**$11,000,961**	**$44,190,468**	**$0**	**$11,921,462**	**$8,345,637**	**$0**	**$4,713,456**	**$104,575,017**	**$104,575,017**

Impact of RTS-20 Ten Province Standard on Total Payments ($000)

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	Total All Provinces	Receiving Provinces
1994-95	-$6,859	-$4,889	-$26,468	-$10,540	-$223,074	$0	-$20,827	$331,145	$0	$0	$38,488	$38,488
1995-96	$6,791	-$5,339	-$29,760	-$7,760	-$239,876	$0	-$21,234	$418,425	$0	$0	$121,247	$121,247
1996-97	-$9,988	-$5,621	-$31,660	-$14,450	-$260,561	$0	-$25,057	$487,705	$0	$0	$140,368	$140,368
1997-98	-$1,635	-$4,118	-$22,177	-$1,921	-$179,112	$0	-$10,770	$517,294	$0	$0	$297,561	$297,561
1998-99	$12,826	-$263	$3,019	$12,067	$16,437	$0	$11,858	$369,933	$0	$0	$425,876	$425,876
1999-2000	-$30,419	-$5,787	-$56,988	-$23,228	-$395,611	$0	-$47,351	$673,204	$0	$169,745	$283,564	$283,564
2000-01	$16,198	-$5,064	-$32,695	-$30,012	-$294,686	$0	$9,093	$975,793	$0	$484,882	$1,123,508	$1,123,508
2001-02	$131,729	$10,068	$24,919	$41,757	$401,579	$0	-$3,817	$752,951	$0	$1,178,097	$2,537,283	$2,537,283
2002-03	$119,524	$4,259	$39,826	$29,310	$224,550	$0	$55,723	$862,186	$0	$1,170,513	$2,505,891	$2,505,891
2003-04	$105,823	$4,126	$49,971	$26,952	$220,031	$0	$52,326	$873,871	$0	$1,310,133	$2,643,232	$2,643,232
Total Ten Years	**$343,988**	**-$12,628**	**-$82,013**	**$22,174**	**-$730,324**	**$0**	**-$56**	**$6,262,507**	**$0**	**$4,313,370**	**$10,117,019**	**$10,117,019**

Appendix D

Comparison of RTS Macro GDP Ten-Province Standard Outcomes to RTS Five-Province Standard Outcomes, 1994-95 to 2003-04

GDP Macro Base

Calculation of Equalization Entitlements using Per Capita GDP for 1994-95

	1994 GDP	1994 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1994-95 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$10,264	581.4	$17,654	$8,675	$5,044	$1,914.6	$960.0	$958.4	$1.7	18.7%	$960.0	$958.4	$1.7
PEI	$2,521	134.5	$18,743	$7,586	$1,020	$448.7	$194.2	$192.0	$2.2	17.8%	$194.2	$192.0	$2.2
NS	$18,667	933.9	$19,988	$6,341	$5,922	$3,230.8	$1,127.2	$1,065.4	$61.8	17.3%	$1,127.2	$1,065.4	$61.8
NB	$15,286	757.5	$20,180	$6,150	$4,658	$2,723.0	$886.7	$927.5	-$40.8	17.8%	$886.7	$927.5	-$40.8
QUE	$170,478	7,288.0	$23,392	$2,938	$21,409	$34,629.6	$4,075.1	$3,965.5	$109.6	20.3%	$4,075.1	$3,965.5	$109.6
ONT	$311,096	10,928.7	$28,466	-$2,137	-$23,352	$56,617.9	-$4,445.0	-$2,711.9	-$1,733.1	18.2%	$0.0	$0.0	$0.0
MB	$25,958	1,129.0	$22,992	$3,337	$3,768	$4,889.8	$717.1	$1,084.9	-$367.8	18.8%	$717.1	$1,084.9	-$367.8
SK	**$24,480**	1,012.1	$24,187	$2,142	$2,168	$5,384.1	$412.6	$413.3	-$0.7	22.0%	$412.6	$413.3	-$0.7
AB	$88,041	2,713.9	$32,441	-$6,112	-$16,586	$15,430.9	-$3,157.1	-$5,995.7	$2,838.6	17.5%	$0.0	$0.0	$0.0
BC	$100,512	3,663.7	$27,435	-$1,105	-$4,050	$20,781.5	-$770.9	-$2,647.0	$1,876.1	20.7%	$0.0	$0.0	$0.0
10-Prov	$767,303	29,142.7	$26,329			$146,051.0	$0.0	-$2,747.7	$2,747.7		$8,372.9	$8,606.9	-$234.0

National Average Tax Rate (RTBE/GDP)
19.03%

Calculation of Equalization Entitlements using Per Capita GDP for 1995-96

	1995 GDP	1995 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1995-96 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	10,652	575.8	$18,499	$8,861	$5,102	2,098.3	$967.7	$932.9	$34.8	19.7%	$967.7	$932.9	$34.8
PEI	2,662	135.2	$19,687	$7,672	$1,037	487.5	$196.7	$192.4	$4.4	18.3%	$196.7	$192.4	$4.4
NS	19,296	936.2	$20,610	$6,749	$6,319	3,212.6	$1,198.4	$1,137.8	$60.6	16.6%	$1,198.4	$1,137.8	$60.6
NB	16,380	758.3	$21,601	$5,759	$4,367	2,846.7	$828.3	$877.5	-$49.3	17.4%	$828.3	$877.5	-$49.3
QUE	177,331	7,344.5	$24,145	$3,215	$23,610	36,971.2	$4,477.8	$4,308.6	$169.2	20.8%	$4,477.8	$4,308.6	$169.2
ONT	329,317	11,104.3	$29,657	-$2,297	-$25,509	60,493.6	-$4,837.9	-$3,133.2	-$1,704.7	18.4%	$0.0	$0.0	$0.0
MB	26,966	1,131.6	$23,830	$3,530	$3,995	5,114.5	$757.6	$1,051.3	-$293.7	19.0%	$757.6	$1,051.3	-$293.7
SK	**26,425**	1,012.4	$26,102	$1,257	$1,273	5,646.6	$241.4	$264.1	-$22.7	21.4%	$241.4	$264.1	-$22.7
AB	92,036	2,742.0	$33,566	-$6,206	-$17,017	15,103.7	-$3,227.4	-$5,339.4	$2,112.0	16.4%	$0.0	$0.0	$0.0
BC	105,670	3,746.1	$28,208	-$848	-$3,178	21,028.2	-$602.7	-$2,490.8	$1,888.1	19.9%	$0.0	$0.0	$0.0
10-Prov	$806,735	29,486.4	$27,360			$153,002.8	$0.0	-$2,198.8	$2,198.8		$8,668.0	$8,764.6	-$96.7

National Average Tax Rate (RTBE/GDP)
18.97%

Calculation of Equalization Entitlements using Per Capita GDP for 1996-97

	1996 GDP	1996 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1996-97 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	10,417	561.0	$18,568	$9,630	$5,403	$2,106.6	$1,036.8	$1,029.7	$7.1	20.2%	$1,036.8	$1,029.7	$7.1
PEI	2,823	136.0	$20,758	$7,440	$1,012	$488.8	$194.1	$208.3	-$14.2	17.3%	$194.1	$208.3	-$14.2
NS	19,512	930.4	$20,973	$7,225	$6,722	$3,407.8	$1,290.0	$1,182.3	$107.6	17.5%	$1,290.0	$1,182.3	$107.6
NB	16,626	753.1	$22,078	$6,120	$4,609	$3,060.6	$884.4	$1,019.4	-$135.0	18.4%	$884.4	$1,019.4	-$135.0
QUE	180,526	7,270.3	$24,831	$3,367	$24,481	$37,410.4	$4,697.7	$4,168.6	$529.2	20.7%	$4,697.7	$4,168.6	$529.2
ONT	338,173	11,084.9	$30,508	-$2,310	-$25,602	$62,748.5	-$4,912.9	-$3,389.4	-$1,523.5	18.6%	$0.0	$0.0	$0.0
MB	28,434	1,133.5	$25,084	$3,114	$3,530	$5,237.2	$677.3	$1,126.4	-$449.0	18.4%	$677.3	$1,126.4	-$449.0
SK	**28,944**	1,019.1	$28,402	-$204	-$208	$5,965.3	-$39.9	$224.4	-$264.3	20.6%	$0.0	$224.4	-$224.4
AB	98,634	2,776.8	$35,520	-$7,322	-$20,332	$17,251.3	-$3,901.7	-$6,840.3	$2,938.6	17.5%	$0.0	$0.0	$0.0
BC	108,865	3,874.4	$28,098	$100	$386	$22,163.1	$74.2	-$2,000.8	$2,074.9	20.4%	$74.2	$0.0	$74.2
10-Prov	$832,954	29,539.4	$28,198			$159,839.6	$0.0	-$3,271.3	$3,271.3		$8,854.5	$8,959.1	-$104.6

National Average Tax Rate (RTBE/GDP)
19.19%

Calculation of Equalization Entitlements using Per Capita GDP for 1997-98

	1997 GDP	1997 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1997-98 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$10,533	554.5	$18,997	$10,430	$5,783	$1,980.0	$1,106.45	$1,092.8	$13.7	18.8%	$1,106.45	$1,092.8	$13.7
PEI	$2,800	136.7	$20,489	$8,939	$1,222	$501.6	$233.72	$238.4	-$4.7	17.9%	$233.72	$238.4	-$4.7
NS	$20,368	934.0	$21,807	$7,620	$7,118	$3,451.0	$1,361.79	$1,301.5	$60.3	16.9%	$1,361.79	$1,301.5	$60.3
NB	$16,845	754.2	$22,335	$7,092	$5,349	$2,914.6	$1,023.43	$1,112.1	-$88.7	17.3%	$1,023.43	$1,112.1	-$88.7
QUE	$188,424	7,301.4	$25,807	$3,621	$26,435	$40,190.6	$5,057.85	$4,744.6	$313.2	21.3%	$5,057.85	$4,744.6	$313.2
ONT	$359,353	11,234.4	$31,987	-$2,560	-$28,758	$66,276.1	-$5,502.20	-$4,576.1	-$926.1	18.4%	$0.00	$0.0	$0.0
MB	$29,751	1,136.3	$26,182	$3,245	$3,687	$5,338.9	$705.49	$1,053.4	-$347.9	17.9%	$705.49	$1,053.4	-$347.9
SK	**$29,157**	1,021.6	$28,541	$886	$905	$6,195.1	$173.21	$195.6	-$22.4	21.2%	$173.21	$195.6	-$22.4
AB	$107,048	2,831.5	$37,806	-$8,378	-$23,724	$18,167.5	-$4,539.10	-$7,150.1	$2,611.0	17.0%	$0.00	$0.0	$0.0
BC	$114,383	3,954.4	$28,926	$501	$1,983	$23,099.1	$379.35	-$1,417.4	$1,796.8	20.2%	$379.35	$0.0	$379.4
10-Prov	$878,662	29,858.9	$29,427			$168,114.4	$0.0	-$3,405.2	$3,405.2		$10,041.3	$9,738.4	$302.9

National Average Tax Rate (RTBE/GDP)
19.13%

Calculation of Equalization Entitlements using Per Capita GDP for 1998-99

	1998 GDP	1998 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1998-99 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$11,176	545.9	$20,473	$9,767	$5,332	$2,004.0	$1,009.0	$1,068.2	-$59.2	17.9%	$1,009.0	$1,068.2	-$59.2
PEI	$2,981	136.7	$21,808	$8,431	$1,152	$518.9	$218.1	$237.5	-$19.4	17.4%	$218.1	$237.5	-$19.4
NS	$21,401	935.8	$22,869	$7,371	$6,898	$3,627.6	$1,305.4	$1,221.0	$84.4	17.0%	$1,305.4	$1,221.0	$84.4
NB	$17,633	753.5	$23,403	$6,837	$5,151	$2,844.6	$974.8	$1,112.2	-$137.4	16.1%	$974.8	$1,112.2	-$137.4
QUE	$196,258	7,322.6	$26,802	$3,438	$25,175	$43,057.9	$4,764.1	$4,394.3	$369.8	21.9%	$4,764.1	$4,394.3	$369.8
ONT	$377,897	11,372.3	$33,230	-$2,990	-$34,001	$68,187.4	-$6,434.1	-$5,553.0	-$881.1	18.0%	$0.0	$0.0	$0.0
MB	$30,972	1,137.4	$27,230	$3,010	$3,424	$5,852.5	$647.9	$1,092.4	-$444.5	18.9%	$647.9	$1,092.4	-$444.5
SK	**$29,550**	1,024.2	$28,853	$1,387	$1,420	$6,203.6	$268.8	$476.8	-$208.0	21.0%	$268.8	$476.8	-$208.0
AB	$107,439	2,900.0	$37,047	-$6,808	-$19,743	$17,354.8	-$3,736.0	-$6,444.8	$2,708.8	16.2%	$0.0	$0.0	$0.0
BC	$115,641	3,995.8	$28,941	$1,299	$5,190	$22,732.4	$982.1	-$410.5	$1,392.6	19.7%	$982.1	$0.0	$982.1
10-Prov	$910,948	30,124.1	$30,240			$172,383.7	$0.0	-$2,805.9	$2,805.9		$10,170.1	$9,602.4	$567.7

National Average Tax Rate (RTBE/GDP)
18.92%

Calculation of Equalization Entitlements using Per Capita GDP for 1999-2000

	1999 GDP	1999 Pop	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 1999-2000 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$12,184	540.8	$22,529	$9,671	$5,230	$2,163.8	$988.4	$1,168.5	-$180.1	17.8%	$988.4	$1,168.5	-$180.1
PEI	$3,159	137.6	$22,957	$9,242	$1,272	$567.5	$240.4	$255.1	-$14.7	18.0%	$240.4	$255.1	-$14.7
NS	$23,059	939.0	$24,558	$7,642	$7,176	$3,752.4	$1,356.2	$1,290.3	$65.9	16.3%	$1,356.2	$1,290.3	$65.9
NB	$19,041	754.1	$25,251	$6,949	$5,240	$3,040.9	$990.3	$1,182.8	-$192.5	16.0%	$990.3	$1,182.8	-$192.5
QUE	$210,809	7,348.8	$28,686	$3,513	$25,819	$44,653.8	$4,879.7	$5,280.1	-$400.3	21.2%	$4,879.7	$5,280.1	-$400.3
ONT	$409,020	11,506.0	$35,548	-$3,349	-$38,531	$74,731.5	-$7,282.3	-$6,939.1	-$343.2	18.3%	$0.0	$0.0	$0.0
MB	$31,966	1,141.8	$27,997	$4,203	$4,799	$5,849.4	$907.0	$1,218.5	-$311.6	18.3%	$907.0	$1,218.5	-$311.6
SK	**$30,778**	1,025.5	$30,013	$2,187	$2,243	$6,205.1	$423.9	$379.1	$44.7	20.2%	$423.9	$379.1	$44.7
AB	$117,080	2,955.9	$39,609	-$7,409	-$21,900	$19,967.7	-$4,139.1	-$7,688.2	$3,549.2	17.1%	$0.0	$0.0	$0.0
BC	$120,921	4,024.1	$30,049	$2,150	$8,654	$23,910.7	$1,635.5	$125.3	$1,510.2	19.8%	$1,635.5	$125.3	$1,510.2
10-Prov	$978,017	30,373.5	$32,200			$184,842.7	$0.0	-$3,727.7	$3,727.7		$11,421.4	$10,899.7	$521.7

National Average Tax Rate (RTBE/GDP)
18.90%

Calculation of Equalization Entitlements using Per Capita GDP for 2000-01

	2000 GDP	2000 pop.	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 2000-01 Entitlement **	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$13,922	528.0	$26,367	$8,667	$4,576	$2,207.5	$867.7	$1,112.4	-$244.7	15.9%	$867.7	$1,112.4	-$244.7
PEI	$3,366	136.5	$24,659	$10,375	$1,416	$577.0	$268.5	$269.3	-$0.8	17.1%	$268.5	$269.3	-$0.8
NS	$24,658	933.9	$26,403	$8,631	$8,061	$4,117.2	$1,528.3	$1,403.7	$124.7	16.7%	$1,528.3	$1,403.7	$124.7
NB	$20,085	750.5	$26,762	$8,272	$6,208	$3,204.6	$1,177.1	$1,260.3	-$83.1	16.0%	$1,177.1	$1,260.3	-$83.1
QUE	$224,928	7,357.0	$30,573	$4,461	$32,820	$47,565.1	$6,222.9	$5,379.7	$843.3	21.1%	$6,222.9	$5,379.7	$843.3
ONT	$440,759	11,685.4	$37,719	-$2,684	-$31,367	$76,927.2	-$5,947.4	-$6,109.9	$162.5	17.5%	$0.0	$0.0	$0.0
MB	$34,057	1,147.4	$29,682	$5,353	$6,142	$6,279.4	$1,164.5	$1,314.4	-$150.0	18.4%	$1,164.5	$1,314.4	-$150.0
SK	$33,828	1,007.8	$33,566	$1,468	$1,480	$7,657.0	$280.6	$208.1	$72.4	22.6%	$280.6	$208.1	$72.4
AB	$144,789	3,004.9	$48,184	-$13,150	-$39,514	$28,264.0	-$7,492.0	-$14,274.2	$6,782.2	19.5%	$0.0	$0.0	$0.0
BC	$131,333	4,039.2	$32,515	$2,520	$10,178	$26,405.5	$1,929.8	-$698.1	$2,627.9	20.1%	$1,929.8	$0.0	$1,929.8
10-Prov	$1,071,725	30,590.6	$35,034			$203,204.5	$0.0	-$10,134.3	$10,134.3		$13,439.5	$10,947.9	$2,491.6

National Average Tax Rate (RTBE/GDP)
18.96%

**Adjusted for phase-in of new regs and for floor and ceiling provisions.

Calculation of Equalization Entitlements using Per Capita GDP for 2001-02

	2001 GDP	2001 pop.	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 2001-02 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$14,221	522.0	$27,243	$8,418	$4,394	$2,299.9	$767.4	$1,055.5	-$288.1	16.2%	$767.4	$1,055.5	-$288.1
PEI	$3,439	136.7	$25,157	$10,504	$1,436	$585.4	$250.8	$256.3	-$5.5	17.0%	$250.8	$256.3	-$5.5
NS	$25,942	932.4	$27,823	$7,839	$7,309	$4,275.3	$1,276.3	$1,314.9	-$38.6	16.5%	$1,276.3	$1,314.9	-$38.6
NB	$20,689	749.9	$27,589	$8,072	$6,053	$3,240.7	$1,057.1	$1,202.2	-$145.0	15.7%	$1,057.1	$1,202.2	-$145.0
QUE	$230,734	7,397.0	$31,193	$4,469	$33,054	$45,882.7	$5,772.2	$4,679.3	$1,092.9	19.9%	$5,772.2	$4,679.3	$1,092.9
ONT	$453,931	11,897.6	$38,153	-$2,492	-$29,646	$76,189.7	-$5,177.1	-$6,443.8	$1,266.7	16.8%	$0.0	$0.0	$0.0
MB	$35,137	1,151.3	$30,519	$5,142	$5,920	$6,048.3	$1,033.8	$1,362.3	-$328.5	17.2%	$1,033.8	$1,362.3	-$328.5
SK	$33,267	1,000.1	$33,264	$2,398	$2,398	$6,332.5	$418.8	$199.7	$219.0	19.0%	$418.8	$199.7	$219.0
AB	$151,306	3,056.7	$49,500	-$13,838	-$42,300	$22,639.8	-$7,386.9	-$12,292.9	$4,906.0	15.0%	$0.0	$0.0	$0.0
BC	$134,060	4,078.4	$32,871	$2,791	$11,382	$25,077.2	$1,987.6	$239.7	$1,747.9	18.7%	$1,987.6	$239.7	$1,747.9
10-Prov	$1,102,726	30,922.1	$35,661			$192,571.4	$0.0	-$8,426.8	$8,426.8		$12,564.0	$10,309.9	$2,254.0

National Average Tax Rate (RTBE/GDP)
17.46%

Calculation of Equalization Entitlements using Per Capita GDP for 2002-03

	2002 GDP	2002 pop.	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 2002-03 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$16,615	519.4	$31,989	$4,861	$2,525	$2,512.7	$420.9	$874.6	-$453.8	15.1%	$420.9	$874.6	-$453.8
PEI	$3,747	136.9	$27,370	$9,480	$1,298	$611.3	$216.3	$230.8	-$14.4	16.3%	$216.3	$230.8	-$14.4
NS	$27,247	934.5	$29,157	$7,693	$7,189	$4,376.6	$1,198.4	$1,120.9	$77.4	16.1%	$1,198.4	$1,120.9	$77.4
NB	$21,168	750.3	$28,213	$8,637	$6,481	$3,338.1	$1,080.2	$1,136.4	-$56.2	15.8%	$1,080.2	$1,136.4	-$56.2
QUE	$243,763	7,445.7	$32,739	$4,111	$30,611	$44,908.7	$5,102.5	$4,023.9	$1,078.6	18.4%	$5,102.5	$4,023.9	$1,078.6
ONT	$479,556	12,102.0	$39,626	-$2,776	-$33,597	$75,985.1	-$5,600.1	-$5,279.2	-$320.9	15.8%	$0.0	$0.0	$0.0
MB	$36,832	1,155.6	$31,873	$4,977	$5,752	$5,982.5	$958.8	$1,312.5	-$353.7	16.2%	$958.8	$1,312.5	-$353.7
SK	$34,419	995.9	$34,561	$2,289	$2,280	$7,080.3	$380.0	$106.5	$273.6	20.6%	$380.0	$106.5	$273.6
AB	$150,660	3,116.3	$48,346	-$11,496	-$35,824	$23,949.3	-$5,971.4	-$12,591.7	$6,620.2	15.9%	$0.0	$0.0	$0.0
BC	$138,368	4,115.4	$33,622	$3,228	$13,285	$23,341.1	$2,214.4	-$13.5	$2,227.9	16.9%	$2,214.4	$0.0	$2,214.4
10-Prov	$1,152,375	31,272.0	$36,850			$192,085.7	$0.0	-$9,078.8	$9,078.8		$11,571.5	$8,805.6	$2,766.0

National Average Tax Rate (RTBE/GDP)
16.67%

Calculation of Equalization Entitlements using Per Capita GDP for 2003-04

	2003 GDP	2003 pop.	Per Capita GDP	Per Capita Deficiency (Excess)	Total GDP Deficiency (Excess)	Revenues to be Equalized	Fiscal Deficiency (Excess)	Previous 2003-04 Entitlement	Difference	RTBE to GDP Ratio	New Payments	Previous Payments	Difference
	($ million)	*(thousand)*	*($)*	*($)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*($ million)*	*(%)*	*($ million)*	*($ million)*	*($ million)*
NFLD	$18,268	518.4	$35,239	$3,181	$1,649	$2,697.3	$266.3	$759.2	-$492.9	14.8%	$266.3	$759.2	-$492.9
PEI	$3,858	137.3	$28,099	$10,321	$1,417	$629.6	$228.9	$226.7	$2.1	16.3%	$228.9	$226.7	$2.1
NS	$28,912	936.2	$30,882	$7,538	$7,057	$4,660.9	$1,139.7	$1,093.2	$46.5	16.1%	$1,139.7	$1,093.2	$46.5
NB	$22,452	750.9	$29,900	$8,520	$6,398	$3,503.5	$1,033.2	$1,158.5	-$125.2	15.6%	$1,033.2	$1,158.5	-$125.2
QUE	$253,657	7,492.3	$33,856	$4,564	$34,198	$46,362.6	$5,523.1	$3,894.6	$1,628.5	18.3%	$5,523.1	$3,894.6	$1,628.5
ONT	$494,501	12,256.6	$40,346	-$1,926	-$23,600	$74,628.4	-$3,811.5	-$5,414.8	$1,603.3	15.1%	$0.0	$0.0	$0.0
MB	$37,992	1,161.6	$32,707	$5,714	$6,637	$6,076.2	$1,071.9	$1,351.4	-$279.6	16.0%	$1,071.9	$1,351.4	-$279.6
SK	$36,544	994.4	$36,750	$1,670	$1,661	$7,186.8	$268.3	-$5.8	$274.1	19.7%	$268.3	-$5.8	$274.1
AB	$170,803	3,158.6	$54,076	-$15,655	-$49,449	$24,482.0	-$7,986.1	-$13,285.3	$5,299.2	14.3%	$0.0	$0.0	$0.0
BC	$145,500	4,152.3	$35,041	$3,379	$14,032	$25,591.0	$2,266.2	$174.6	$2,091.6	17.6%	$2,266.2	$174.6	$2,091.6
10-Prov	$1,212,487	31,558.6	$38,420			$195,818.3	$0.0	-$10,047.7	$10,047.7		$11,797.6	$8,652.4	$3,145.2

National Average Tax Rate (RTBE/GDP)
16.15%

Impact of Change by Province ($ million)

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	Total Impact	Average Impact
NFLD	$1.7	$34.8	$7.1	$13.7	-$59.2	-$180.1	-$244.7	-$288.1	-$453.8	-$492.9	-$1,661.6	-$166.16
PEI	$2.2	$4.4	-$14.2	-$4.7	-$19.4	-$14.7	-$0.8	-$5.5	-$14.4	$2.1	-$65.1	-$6.51
NS	$61.8	$60.6	$107.6	$60.3	$84.4	$65.9	$124.7	-$38.6	$77.4	$46.5	$650.7	$65.07
NB	-$40.8	-$49.3	-$135.0	-$88.7	-$137.4	-$192.5	-$83.1	-$145.0	-$56.2	-$125.2	-$1,053.2	-$105.32
QUE	$109.6	$169.2	$529.2	$313.2	$369.8	-$400.3	$843.3	$1,092.9	$1,078.6	$1,628.5	$5,733.9	$573.39
ONT	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.00
MB	-$367.8	-$293.7	-$449.0	-$347.9	-$444.5	-$311.6	-$150.0	-$328.5	-$353.7	-$279.6	-$3,326.2	-$332.62
SK	-$0.7	-$22.7	-$224.4	-$22.4	-$208.0	$44.7	$72.4	$219.0	$273.6	$274.1	$405.7	$40.57
AB	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.00
BC	$0.0	$0.0	$74.2	$379.4	$982.1	$1,510.2	$1,929.8	$1,747.9	$2,214.4	$2,091.6	$10,929.5	$1,092.95
10-Prov	-$234.0	-$96.7	-$104.6	$302.9	$567.7	$521.7	$2,491.6	$2,254.0	$2,766.0	$3,145.2	$11,613.8	$1,161.38

References

Advisory Panel on Fiscal Imbalance. *Reconciling the Irreconcilable: Addressing Canada's Fiscal Imbalance.* The Council of the Federation. 2006.

Aubut, Julie and Vaillancourt, Francois. "Using GDP in Equalization Calculations: Are there Meaningful Measurement Issues?" Institute of Intergovernmental Relations Working Paper 2002 (5).

Barro, Stephen. "Macroeconomic versus RTS Measures of Fiscal Capacity: Theoretical Foundations and Implications for Canada". Institute of Intergovernmental Relations Working Paper 2002 (7).

Black, Errol and Silver, Jim. "Equalization: Financing Canadians' Commitment to Sharing and Social Solidarity". Canadian Centre for Policy Alternatives, March, 2004.

Boadway, Robin. "How Well is the Equalization System Reducing Fiscal Disparities?" Paper prepared for the Government of Prince Edward Island. October, 2004.

Boadway, Robin. "Revisiting Equalization Again: RTS vs Macro Approaches". Institute of Intergovernmental Relations Working Paper 2002 (2).

Boothe, Paul. "The Stabilization Properties of Equalization: Evidence from Saskatchewan". Institute of Intergovernmental Relations Working Paper, 2002 (3).

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

Courchene, Thomas J. "Confiscatory Equalization: The Intriguing Case of Saskatchewan's Vanishing Energy Revenues". *Choices*, vol. 10, no. 2, Institute for Research on Public Policy, March, 2004.

Department of Finance Canada. "The Fiscal Balance in Canada: The Facts" Department of Finance Canada Website. October, 2004.

Department of Finance Canada, Federal-Provincial Relations Division. "The Equalization Program". Unpublished, October, 2001.

Department of Finance Canada, *Fiscal Reference Tables*, *2005*. September, 2005.

Department of Finance Canada. *Restoring Fiscal Balance in Canada: Focusing on Priorities. Budget 2006*. 2006.

Expert Panel on Equalization and Territorial Formula Financing, "Key Issues for the Review of Equalization and Territorial Formula Financing". 31 March, 2005.

Expert Panel on Equalization and Territorial Formula Financing, *Achieving a National Purpose: Putting Equalization Back on Track*. Department of Finance Canada. May, 2006.

Government of Saskatchewan. "Equalization Reform: A Fair Deal for Saskatchewan". Presented to the Expert Panel on Equalization and Territorial Formula Financing, June, 2005.

Hobson, Paul A.R. "Equalization and the Treatment of Non-renewable Resources". Prepared for the Conference on "Equalization: Welfare Trap or Helping Hand". Sponsored by the Atlantic Institute for

Market Studies, the Montreal Economic Institute and the Frontier Centre for Public Policy, Montreal, October 25, 2001.

Locke, Wade and Hobson, Paul. "An Examination of the Interaction between Natural Resource Revenues and Equalization Payments: Lessons for Atlantic Canada." Institute for Research on Public Policy Working Paper Series no. 2004-10. October, 2004.

Smart, Michael. "Redistribution, Risk and Incentives in Equalization: A Comparison of RTS and Macro Approaches". Institute of Intergovernmental Relations Working Paper 2002 (1).

Palmer, John. "Equalization at a Crossroads". ACEA Conference, Mount Allison University, October 15, 2004.

Tompkins, Gary. "Equalization." *Saskatchewan Notes*, Volume 3 Issue 6. Canadian Centre for Policy Alternatives – Sk. May, 2004.

Tompkins, Gary. "The Equalization Quagmire: Where do We Go From Here?" Saskatchewan Institute of Public Policy, Public Policy Paper 31, March 2005.

Van Mulligen, Harry, Saskatchewan's Minister of Finance. "The Road to Fairness and Equity: Saskatchewan's Perspectives on the Equalization Program and the Roadblocks that Must be Overcome". Presentation to The Standing Committee on National Finance, April 28, 2004.

Usher, Dan. "The Case for Switching to a Macro Formula". Institute of Intergovernmental Relations Working Paper 2002 (4).

About the Author

Jim Marshall is the Chief Economist at the Saskatchewan Institute of Public Policy. In his 29 years of government service, Jim Marshall has held many positions, such as Assistant Deputy Minister, Economic and Resource Policy Saskatchewan Industry and Resources; Senior Project Manager, Crown Investments Corporation of Saskatchewan; Executive Director, Economic and Fiscal Policy Branch, Department of Finance; and, Senior Economist, Taxation and Economic Policy Branch, Department of Finance.

After finishing his Masters of Arts (Economics) at the University of Calgary, Jim Marshall taught at the Department of Economics, Brandon University, Manitoba and conducted research for the Library of Parliament in Ottawa before starting with the Government of Saskatchewan.

SIPP Public Policy Papers

Through **SIPP Public Policy Papers**, the Institute aims to provide background information, encourage discussion and contribute to the debate on policy-related issues. The opinions and views expressed in the papers are those of the authors. Other works in the SIPP Public Policy Papers series:

No. 1 *Debt Accumulation, Debt Reduction, and Debt Spillovers in Canada, 1974-98* by Ron Kneebone and John Leach (October 2000).

No. 2 *The West and the Liberal government at the beginning of the new mandate: the need to work better together* by The Honourable Stéphane Dion, PC, MP (March 2001).

No. 3 *Saskatchewan's Commission on Medicare: Five Commentaries* by Tom McIntosh, Michael Rushton, Denise Kouri, Martha E. Horsburgh, Ronald Labonte and Nazeem Muhajarine (April 2001).

No. 4 *Public-Private Partnerships: A Review of Literature and Practice* by Dr. John R. Allan (June 2001).

No. 5 *Should Canadians Be Concerned? Food Safety in Canada* by Dr. Louise Greenberg (December 2001).

No. 6 *On the Concept and Measurement of Vertical Fiscal Imbalances* by G.C. Ruggeri and R. Howard (December 2001).

No. 7 *Economics, Equity and Urban-Rural Transfers* by Michael Rushton (November 2001).

No. 8 *Changes in the Prairie Economy, 1980 to 2000: With Emphasis on Agriculture and Some Implications for Prairie Transportation Policies* by Peter Arcus and Graham Parsons (February 2002).

No. 9 *Equalization Reform in Switzerland: Ideal Solutions, Unpredictable Outcomes* by Anne-Béatrice Bullinger (March 2002).

No. 10 *Responding to Wife Abuse in Farm and Rural Communities - Searching for Solutions that Work* by Jennie Hornosty and Deborah Doherty (March 2002).

No. 11 *Value-for-Money in Saskatchewan K-12 Educational Expenditures* by Dr. John R. Allan (2002).

No. 12 Higher *Education Policy in Saskatchewan and the Legacy of Myth* by Dr. James M. Pitsula (February 2003).

No. 13 Self-*determination, Citizenship, and Federalism: Indigenous and Canadian Palimpsest* by Dr. Joyce Green (March 2003).

No. 14 *Productivity and Popular Attitudes Toward Social Welfare recipients in Saskatchewan, 1970-1990* by Dr. Robert Wardhaugh (April 2003).

No. 15 *Saskatchewan's Universities – A Perception of History* by Dr. Michael Hayden, Dr. James Pitsula, and Dr. Raymond Blake (May 2003).

No. 16 *A Survey of the GM Industry in Saskatchewan and Western Canada* by Dr. Cristine de Clercy, Dr. Louise Greenberg, Dr. Donald Gilchrist, Dr. Gregory Marchildon, and Dr. Alan McHughen (May 2003).

No. 17 *Should Saskatchewan Adopt Retail Competition for Electricity?* by Dr. Michael Rushton (June 2003).

No. 18 *Labour Issues in the Provision of Essential Services* by Pavel Peykov (September 2003).

No. 19 *Demographic Trends and Socio-Economic Sustainability in Saskatchewan: Some Policy Considerations* by Janice Stokes (October 2003).

No. 20 *Youth Justice Policy and the Youth Criminal Justice Act* by Ross Green (November 2003).

No. 21 *Righting Past Wrongs: The Case for a Federal Role in Decommissioning and Reclaiming Abandoned Uranium Mines in Northern Saskatchewan* by Ian Peach and Don Hovdebo (December 2003).

No. 22 *Weathering the Political and Environmental Climate of the Kyoto Protocol* by Raymond B. Blake, Polo Diaz, Joe Piwowar, Michael Polanyi, Reid Robinson, John D. Whyte, and Malcolm Wilson (January 2004).

No. 23 *Performance Measurement, Reporting and Accountability: Recent Trends and Future Directions* by Dr. Paul G. Thomas (February 2004).

No. 24 *The Charter of Rights and Off-Reserve First Nations People: A Way to Fill the Public Policy Vacuum* by Ian Peach (March 2004).

No. 25 *Standing on Guard Canadian Identity, Globalization and Continental Integration* by Raymond B. Blake (June 2004).

No. 26 *The Death of Deference: National Policy-Making in the Aftermath of the Meech Lake and Charlottetown Accords* by Ian Peach (September 2004).

No. 27 *Immigrant Skilled Workers: Should Canada Attract More Foreign Students?* by Pavel Peykov (November 2004).

No. 28 *Rethinking the Jurisdictional Divide: The Marginalization of Urban Aboriginal Communities and Federal Policy Responses* by Janice Stokes, Ian Peach and Raymond B. Blake (December 2004).

No. 29 *This "New Europe": Historic Policy Opportunities for Canada* by Dr. Karl Henriques (January 2005).

No. 30 *Legitimacy on Trial: A Process for Appointing Justices to the Supreme Court of Canada* by Ian Peach (February 2005).

No. 31 *The Equalization Quagmire: Where do we go from here?* by Gary Tompkins (March 2005).

No. 32 *Social Policy and Intergovernmental Relations in Canada: Understanding the Failure of SUFA from a Quebec Perspective* by Joseph Facal (April 2005).

No. 33 *The Saskatchewan Voluntary Sector in the Context of Social Enterprise: A Case Study of Family Service Regina* by James M. Pitsula (May 2005).

No. 34 *Keeping up with the Joneses: A Policy for the Government of Saskatchewan's International Relations* by Robert McLaren (June 2005).

No. 35 *A Conceptual Comparative Analysis Between the British and the Canadian Mad Cow Crisis: The Cost of Learning* by Sylvain Charlebois (September 2005).

No. 36 *Early Learning and Child Care in Saskatchewan: Past, Present and Future* by Martha Friendly (October 2005).

No. 37 *The Fiscal Burden of the Young and the Elderly* by Joe Ruggeri, Yang Zou and Yan Zhang (November 2005).

No. 38 *The Democratic Content of Intergovernmental Agreements in Canada* by Gordon DiGiacomo (December 2005).

No. 39 *The Indigenous Land Claims in New Zealand and Canada: From Grievance to Enterprise* by Robert B. Anderson and Corinne Barnett (January 2006).

No. 40 *Using Protection Motivation Theory to Increase the Persuasiveness of Public Service Communications* by Magdalena Cismaru (February 2006).

No. 41 *Zero Foreign Aid? Policy Implications for Donor and Recipient Countries* by Hafiz Akhand and Kanhaya Gupta (March 2006).

No. 42 *Health Care Spending, Fiscal Sustainability, and Public Investment* by Joe Ruggeri (April 2006).

No. 43 *The Difficulty in Establishing Privacy Rights in the Face of Public Policy from Nowhere* by Bill Bonner (May 2006).

No. 44 *Saskatchewan with an Aboriginal Majority: Education and Entrepreneurship* by Eric C. Howe (September 2006).

Papers are available for download at no charge at **www.uregina.ca/sipp**.

Printed copies are available at a cost of $5.00 per paper. Please contact SIPP at 585-5777 to order your copy.