

# *Structural Imbalances in the Canadian Fiscal System*

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## **PRÉCIS**

Cet article présente certaines mesures d'équilibre fiscal structurel; il démontre que les régimes fiscaux actuels du gouvernement fédéral et des gouvernements provinciaux sont dans une large mesure déséquilibrés. Le régime fiscal fédéral produit un léger surplus au niveau des dépenses pour les programmes et le potentiel de croissance des recettes dépasse considérablement l'augmentation prévue pour les dépenses. Du côté des provinces, le régime fiscal dans son ensemble comporte un déficit dans les dépenses pour les programmes, et la croissance prévue des recettes est insuffisante par rapport à l'augmentation des dépenses. Restaurer l'équilibre fiscal à chaque niveau de gouvernement exige donc un réalignement des taux de croissance et des niveaux relatifs des revenus et des dépenses.

Les auteurs présentent une option de réforme comportant un réaménagement complet des champs d'imposition qui rétablirait l'équilibre structurel pour les deux niveaux de gouvernement. Les principaux éléments de ce réaménagement sont le transfert de l'impôt sur le revenu des particuliers aux provinces, avec un retour à l'indexation complète, et le transfert de l'impôt sur les sociétés, de la taxe de vente et de la taxe d'accise au gouvernement fédéral. En ce qui concerne les dépenses, les transferts fédéraux aux termes du financement des programmes établis et du Régime d'assistance publique du Canada sont abolis, tandis que les programmes fédéraux de logement et de formation de la main-d'oeuvre sont attribués aux provinces.

## **ABSTRACT**

This article develops some measures of structural fiscal balance and shows that the existing federal and provincial fiscal systems are largely unbalanced. The federal fiscal regime generates a small surplus on program spending and has a revenue growth potential substantially in excess of the projected growth of federal spending. The provincial fiscal system, as a whole, produces a deficit on program spending and its built-in revenue growth falls short of the growth rate of expenditures. Restoring fiscal balance to each order of government, therefore, requires shifts in the relative growth ratios of revenues and expenditures as well as in their relative levels.

The authors present a comprehensive option for the rearrangement of tax fields that restores structural balance for both orders of government. The main elements of this option are the transfer of the personal income tax (PIT) field to

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the provinces, with a return to full PIT indexation, and the transfer of the corporate tax and sales and excise tax fields to the federal government. On the expenditure side, federal transfers under established programs financing and the Canada assistance plan are terminated and federal housing and manpower retraining programs are assigned to the provinces.

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## INTRODUCTION

Over the past decade the Canadian fiscal system has been substantially reshaped, with major changes introduced by both senior orders of government. On the revenue side, the federal government introduced major reforms of personal and corporate income taxes and the general sales tax, implemented large increases in excise taxes, partially deindexed the personal income tax (PIT), and started the process of transforming the Canada pension plan (CPP) and unemployment insurance (UI) programs into self-financing funds. Provinces generally raised tax rates, automatically paralleled the federal partial deindexation of the PIT, and expanded the role of payroll taxes. On the expenditure side, the federal government introduced a clawback of old age pensions and family allowances, curtailed the growth of transfers to provinces, and limited the growth of other program spending. Provinces also implemented a variety of spending control measures.

These changes were developed and implemented primarily in response to escalating deficits and a ballooning public debt. Their effects are generally analyzed within the static framework of their immediate impact on a government's fiscal position. However, such large changes in the overall fiscal structure have important dynamic implications. In our view, these dynamic implications require close scrutiny and should receive proper consideration in the design of fiscal policy. The purpose of this article is to identify the implications of the current fiscal structure for the future paths of the fiscal positions of the federal and provincial governments.

To begin, we derive alternative definitions and measures of structural fiscal balance for three different cases. We then provide estimates of fiscal balance for both senior orders of government under the current fiscal structures, which show that both are unbalanced. We propose a reallocation of tax room between the federal and provincial governments that restores both static and dynamic fiscal balance to both structures. We conclude with some summary comments.

## THE CONCEPT AND MEASUREMENT OF STRUCTURAL IMBALANCE

The fiscal structures of different orders of government can be evaluated with respect to a variety of criteria. We may compare the relative efficiency in the delivery of public goods and services. We may measure the extent of expenditure overlap between the two orders of government or the extent of duplication of programs. We may also evaluate the extent to which the tax structures of the two orders of government are efficient, in the sense that the structures minimize economic distortions and raise revenue with

minimum collection and compliance costs. These approaches to the evaluation of structural fiscal imbalance generally involve a static analytic framework.

For the purposes of this article we view the fiscal structure from an alternative perspective, cast within a dynamic framework. We look at the future path of government spending associated with the existing expenditure programs and compare it with the built-in growth of the existing revenue structure. We use the term "structural balance" to describe the relationship between the built-in growth of expenditures and that of revenues associated with the existing fiscal structure for each order of government. Specifically, if the built-in growth of spending programs and taxation maintains the initial relationship through time, we call the fiscal system structurally balanced. If that relationship diverges automatically through time, we call the fiscal system structurally unbalanced.

It should be stressed that in measuring structural fiscal imbalance, we compare the built-in growth of revenue and expenditure structures on the assumption that there is no change in policy. A change in policy would be regarded as a change in structure.

To simplify the exposition we base our analysis on one order of government. The results can be generalized to any order of government.

We start with the simple case in which the government has no debt. In this situation the total deficit equals the deficit on program spending. Structural balance can then be defined as the maintenance of a balanced budget through time. If we let  $T$  stand for total revenue, we can derive its growth rate (denoted by a dot over a variable) for a particular year as:

$$\dot{T} = \dot{Y} E_T \quad (1)$$

where  $Y$  is nominal gross domestic product (GDP) and

$$E_T = \sum_{i=1}^n \left( E_{T_i} \frac{T_i}{T} \right) \quad (2)$$

In equation (2), subscript  $i$  denotes the  $i$ -th tax source and  $n$  is the number of tax sources.  $E_T$  is the overall income elasticity of total revenue, calculated as the weighted average of the income elasticity of each tax source, where the weights are the tax-specific shares of total revenue in the base year.

Similarly, we can express the growth of program expenditures ( $X$ ) as:

$$\dot{X} = \dot{Y} E_X \quad (3)$$

These formulas can be derived for both federal and provincial revenues and expenditures, if one wishes to compare the structural imbalance for both orders of government.

In computing the values of  $E_T$  and  $E_X$ , the latter is estimated on the basis of the total projected growth in government expenditures and, therefore, is not a pure elasticity, since it does not measure the percentage change in  $X$  induced by a change in  $Y$ . Therefore, in this article we will refer to  $E_T$

and  $E_X$  as growth ratios—that is, the built-in growth rate of a given expenditure or revenue component under a constant policy framework divided by the growth rate of nominal GDP.

In the previous simple example, since there is no government debt, structural fiscal balance is achieved by a fiscal structure that generates equality between  $E_T$  and  $E_X$ . The criterion for structural fiscal balance is simply the equality between the growth ratios for aggregate revenues and expenditures. The measure of structural fiscal imbalance is the difference between the ratios:

$$I = E_T - E_X. \quad (4)$$

We now assume that the voter's decision on the funding of the public spending includes deficit financing and that in the base year there is a certain amount of debt. We initially assume that the nominal interest rate equals the growth of nominal GDP in order to evaluate the effect of deviation from this rate. Two definitions of structural imbalance may be used in this case.

We may continue to define fiscal balance as a situation in which, starting from a balance on program spending, both government revenues and expenditures grow at the same rate. Under the assumption that the nominal rate of interest equals the growth rate of nominal GDP, this definition of structural balance implies a constant debt-to-GDP ratio ( $d$ ), because

$$d_t = \frac{D_b (1 + r)^t}{Y_b (1 + r)^t} = d_b, \quad (5)$$

where  $D$  is the value of the debt,  $b = 0$  is the base year, and  $t$  is any subsequent year. It also implies a constant ratio ( $f$ ) of the deficit ( $F$ ) to GDP, because

$$f_t = \frac{rD_t}{Y_t} = rd_d. \quad (6)$$

If revenue and program spending are not equal in the base year, there are two sources of structural imbalance: the initial mismatch between revenue and program spending—that is, the size of the deficit or surplus—and the ongoing mismatch between the growth ratios of revenue and program spending. It should be stressed that the policies required to correct the imbalance are not the same for the two cases. The first imbalance can be corrected through a single adjustment in the level of revenue or program spending, leaving their growth ratios unchanged. The correction of the second imbalance requires a change in the growth ratio of revenue sources or program spending. As is shown in the next two sections, this distinction has important implications for the design of fiscal policy in Canada.

Alternatively, we may consider a fiscal system to be balanced when the annual revenue it generates is equal to annual government expenditures for both programs and debt charges. Structural balance under this definition can no longer be achieved with a balance on program spending; rather, it requires a surplus. The magnitude of that surplus ( $S$ ) through time can be

derived from equation (6).  $S$  must equal  $F$  for structural balance; this implies that  $s = S/Y$  must equal  $f$ . It follows from equation (6) that

$$S_t = rd_b Y_t \quad (7)$$

This equation shows that the required surplus on program spending is a proportion of GDP, that proportion being the nominal interest rate times the debt-to-GDP ratio in the base year. The ratio of  $S$  to GDP is a positive function of both the nominal interest rate and the base-year debt-to-GDP ratio.

Under this definition of structural fiscal balance, since the surplus on program spending matches the interest payment on the debt, the nominal value of the debt remains constant and its ratio to GDP will fall over time toward zero. Therefore, of the two definitions of structural fiscal balance, the first implies a constant debt-to-GDP ratio and the second implies a declining debt-to-GDP ratio with a limit of zero.

Unlike the previous definition, the second definition does not allow a clear separation between the structural imbalance in relative growth ratios and the structural imbalance due to differences in levels of revenues and expenditures because the two components of structural imbalance are aggregated into one total measure of imbalance. As a result, it does not offer a clear direction for fiscal policy because the appropriate policy responses for the two sources of imbalance are fundamentally different.

For the next case, we relax the assumption of equality between the nominal interest rate and the growth of nominal GDP and assume that the former exceeds the latter by the constant amount  $c$ . Under long-term steady-state growth, the rate of return that equals the growth rate of income is the after-tax rate of return. To the extent that there are positive tax rates, the before-tax rate of return must exceed the growth rate of income.

Under this assumption, a balance on program spending will no longer ensure structural fiscal balance according to either of the two definitions used above. The maintenance of a constant debt-to-GDP ratio now requires an additional surplus on program spending equal to  $c$  times the level of debt, or to  $cd_b$  times GDP.

Under the second definition of structural balance, which implies a constant nominal amount of debt and a steadily declining debt-to-GDP ratio, the surplus on program spending must equal

$$S_t = (r + c)d_b Y_t \quad (8)$$

which exceeds the amount required under equation (7) if  $c > 0$ .

Of the two definitions of structural fiscal balance, the first, which implies a constant debt-to-GDP ratio, is more appealing in our view because it makes a clearer distinction between the level of the debt-to-GDP ratio and its change through time. Any deviation between  $d$  and its desired level at any point in time can be seen as a "magnitude issue" that can be addressed through adjustments in the levels of revenues and expenditures within existing growth ratios. The instability of  $d$ , which arises from mismatches

between the growth ratios of revenues and expenditures, creates a fiscal imbalance that can be corrected only through alterations in the structure of the fiscal system. With respect to tax policy alone, for example, mismatches in levels can be corrected by a change in the tax rate, while mismatches in growth ratios must be corrected by a change in the tax base or in structural progressivity.

In the next section we use these concepts to evaluate fiscal imbalance for the federal and provincial governments in Canada.

### DIMENSIONS OF STRUCTURAL FISCAL IMBALANCE IN CANADA

Following the discussion in the previous section, we first calculate indices of structural fiscal imbalance under the assumption that both deficits and the debt are zero in the base year. In this way we can later evaluate the implication of the existing levels of deficits and debt. In this simplified case, structural imbalances are fundamentally determined by differences between the growth ratios of revenues and expenditures. We estimated the magnitude of the structural fiscal imbalances for the federal government ( $I^F$ ) and for an average of the provincial governments ( $I^P$ ) using the growth ratios shown in the appendix.

In our calculations, we selected the 1992-93 fiscal year as our base year. The data on revenues and expenditures are taken from the 1992 federal and provincial budgets and are supplemented, when necessary for the purposes of disaggregation, with information from the 1992-93 estimates. We excluded the CPP and UI programs from both revenue and expenditure sides of the federal government because we treat them as self-financing funds. Since, under a steady state, the unemployment rate is constant, it is appropriate to assume that the UI program would be self-financing.<sup>1</sup>

Our calculations are based on the assumptions of steady growth and no change in government policy with respect to both spending and taxation. Therefore, they do not represent a projection of the expected path of federal and provincial revenues and expenditures in the medium term. Instead, they show what would happen to the federal and provincial fiscal balances if the economy followed a steady-state path. Through this approach we are able to focus on the implications of the fiscal structures of the two orders of government, independent of cyclical fluctuations and discretionary policy actions. The result provides a useful basis for evaluating policy alternatives that maintain or restore structural balance in the fiscal systems of federal and provincial governments.

<sup>1</sup> Our adjustments exclude UI contributions and benefits and investment income and debt charges from revenues and expenditures, and treat the clawback on old age security and family allowance and the child tax credit as being related to expenditure programs delivered through the PIT. Full details are in G.C. Ruggeri, D. Van Wart, G.K. Robertson, and R. Howard, *Vertical Fiscal Imbalance and the Reallocation of Taxing Powers in Canada*, Research Paper 6-92 (Edmonton: University of Alberta, Department of Economics, 1992).

For our simulation we assumed a steady-state annual rate of inflation of 3 percent per year, an annual per capita increase in real income of 1.5 percent, and a population growth of 1.22 percent per year for an annual growth rate of nominal GDP of 5.82 percent, which is slightly higher than the WEFA Group forecast to the year 2012<sup>2</sup> and almost identical to the forecast by Infometrica to the year 2020.<sup>3</sup>

In selecting the growth ratios for the various revenue and expenditure components, we evaluated the assumptions used by the Economic Council of Canada<sup>4</sup> and then supplemented them with information from other sources. Details on the assumptions employed in our simulation are shown in the appendix.

Starting with the federal government, we notice that on the expenditure side only a small portion of program expenditure (about 7 percent, or 15 percent if we include equalization payments) has a built-in growth rate in excess of the growth rate of nominal GDP. We assign a growth ratio in excess of 1 to equalization, based on the formulas agreed to by the federal and provincial governments. This approach will overestimate potential federal expenditures on equalization payments if the current temporary policy of holding their growth rate to that of nominal GDP is maintained indefinitely. Over 50 percent of federal expenditures have growth ratios below 1 for a variety of reasons: the growth of major transfers to persons (old age security, guaranteed income supplement, and child benefits) is curtailed by income testing,<sup>5</sup> cash transfers under established programs financing (EPF) will actually decline because of the operation of the granting formula, and some expenditures, such as defence and general government, have a large fixed component that is independent of the growth of GDP. Overall, the built-in growth of federal program spending is expected to lag behind the growth of nominal GDP.

On the revenue side, components with growth ratios below 1 (such as fuel taxes, tobacco taxes, liquor taxes, and custom duties) represent less than 8 percent of federal own-source revenue. Federal revenue is dominated by the PIT, and the progressive structure of that tax generates a growth ratio in excess of 1. The value of the PIT growth ratio is maximized by the effective deindexation that results from the combination of a 3 percent inflation rate and a 3 percent indexing threshold. Overall, the federal revenue structure has a built-in potential to generate revenue growth in excess of the growth of nominal GDP.

<sup>2</sup> The WEFA Group, *Canadian Macroeconomic Long-Term Forecast and Analysis* (Toronto: WEFA Canada, October 1992).

<sup>3</sup> Infometrica, *Workshop Spring 1992: PFS Supplementary Tables* (Toronto: Infometrica, May 4, 1992).

<sup>4</sup> Economic Council of Canada, *A Joint Venture: The Economics of Constitutional Options, Twenty-Eighth Annual Review* (Ottawa: Supply and Services, 1991).

<sup>5</sup> The growth ratio of these income-tested transfers will eventually become negative as a result of the partial deindexation of the thresholds to the inflation rate minus 3 percentage points.

**Table 1** Dimensions of Structural Fiscal Imbalance in Canada

	Current system	Balanced system
<i>Federal government</i>		
Growth ratio of revenue ( $E^F_T$ ) . . . . .	1.33	0.94
Growth ratio of program spending ( $E^F_X$ ) . . . . .	0.82	0.91
Structural imbalance ( $I^F = E^F_T - E^F_X$ ) . . . . .	0.51	0.03
<i>Provincial government</i>		
Growth ratio of revenue ( $E^P_T$ ) . . . . .	1.06	1.14
Growth ratio of program spending ( $E^P_X$ ) . . . . .	1.12	1.12
Structural imbalance ( $I^P = E^P_T - E^P_X$ ) . . . . .	-0.06	0.02

A different situation exists at the provincial level. On the revenue side, the potential PIT has also a growth ratio substantially greater than 1, but it accounts for less than one-third of total revenue. More than a quarter of provincial revenue has a growth ratio considerably lower than 1. Overall, the provincial revenue structure has a built-in revenue growth potential slightly higher than that of nominal GDP. On the spending side, 3 percent of provincial expenditures have a growth ratio slightly below 1, but 39 percent have a growth ratio substantially greater than 1, primarily because of the high built-in growth rate of health care expenditures. The growth of health care expenditures is driven by demographic factors largely beyond the control of public policy—in particular, the steady increase in the population share of seniors and their increasing life expectancy.<sup>6</sup> The net result is a structure of provincial expenditures with a built-in growth ratio considerably in excess of 1.

As mentioned in the previous section, the divergence between the built-in growth ratios of government revenues and expenditures indicates that the fiscal system of both federal and provincial governments is structurally unbalanced. The dimensions of this imbalance, in the simple case in which deficits and debt are not taken into account, are shown in table 1. It can be seen that the federal government's fiscal system has a positive structural imbalance, because the built-in growth ratio of revenues is substantially higher than the corresponding growth ratio of expenditures. The opposite situation exists at the provincial level, where there is a small negative structural imbalance, because the built-in growth ratio of expenditures exceeds the corresponding growth ratio of revenues.

We now include the existing debt and deficits in our analysis to determine how they affect the foregoing conclusions. As a first step, we analyzed the case in which the interest rate is equal to the growth rate of nominal GDP, which was the second case in the analysis in the previous section. Since the results yielded in this case are similar to those in the first case, they are not shown or discussed in detail. The structural imbalances are somewhat higher than in the first case: the federal positive structural imbalance

<sup>6</sup> M.S. Marzouk, "Aging, Age-Specific Health Care Costs, and the Future Health Care Burden in Canada" (December 1991), 17 *Canadian Public Policy* 490-506.



ance is aggravated by a surplus on program spending in the base year, and the provincial negative structural imbalance is aggravated by a deficit in program spending in the base year.

The third case includes the deficits and debt, and adds a differential between the nominal interest rate and the growth rate of nominal GDP for the reasons explained in the previous section. We set this differential at 1.5 percentage points, an assumption consistent with the projections contained in the 1992 federal budget. The results in this case take full account of all components of structural imbalance: the presence of the accumulated debt, the base-year mismatch between revenues and expenditures, and the divergence between the growth rates of revenues and expenditures.

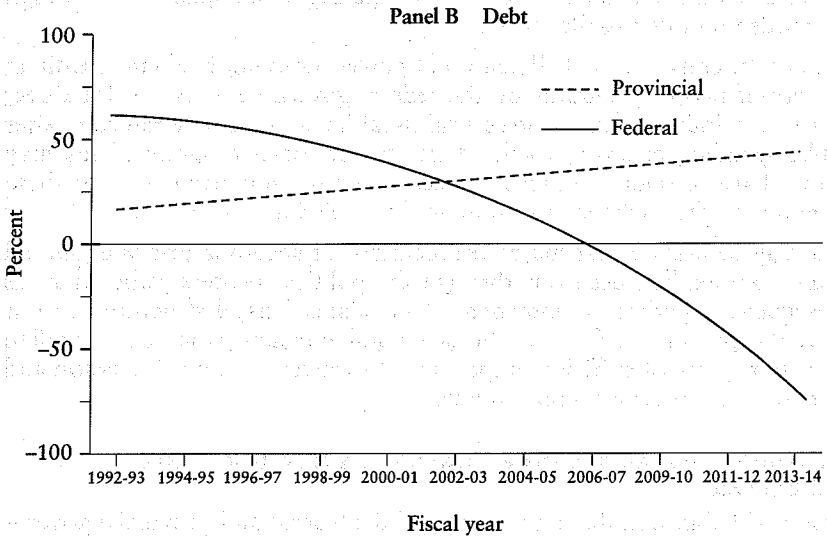
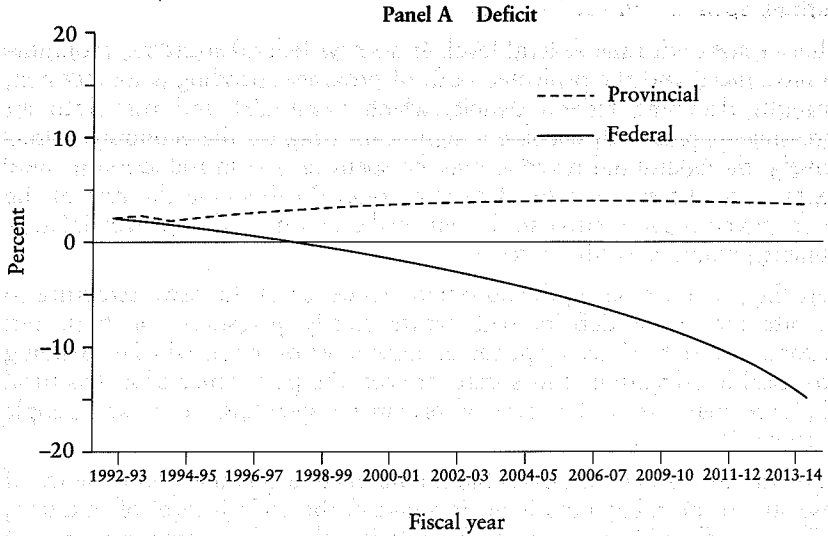
To illustrate the third case, we simulated the future values of the deficits and debt, for each order of government, using the same assumptions as those employed to estimate the growth ratios in table 1. The results of the simulation, shown in figure 1, support the conclusions of the simple case shown in table 1. Panel A shows the deficit-to-GDP ratio and panel B shows the debt-to-GDP ratio.

It is evident from panel A of figure 1 that, under the existing federal fiscal structure, the federal deficit-to-GDP ratio will fall rapidly, turning positive (federal surplus) before the end of this decade. Both sources of fiscal imbalance contribute to this decline. The current federal surplus on program expenditures exceeds the portion of debt charges that is due to the 1.5 percentage point interest rate differential on the growth rate of GDP.<sup>7</sup> At the same time, the federal government dominates the only highly income-elastic revenue source, the PIT, while the projected growth rate of total federal spending is below that of GDP. A similar pattern is apparent in panel B for the federal debt-to-GDP ratio; it declines at an increasing rate, reaching zero within 16 years.

The opposite situation characterizes the provinces. Panel A of figure 1 shows that the provincial deficit-to-GDP ratio will continue to increase at a steady, though slow, pace. The two sources of structural imbalance are both negative for the provinces. First, the provinces currently have a deficit on program spending. Second, the provinces are responsible for expenditures on social programs that have a high built-in rate of growth due to demographic and social trends. In particular, health care is a large component of provincial expenditures and has the highest projected rate of growth because of the aging population. As a result of these imbalances, as can be seen in panel B, the debt-to-GDP ratio of the provinces will maintain a steady climb.

<sup>7</sup> The estimated 1992-93 federal debt of \$447.3 billion implies that a surplus on program spending of about \$6.7 billion is necessary to maintain structural fiscal balance, defined as a constant debt-to-GDP ratio. This is slightly less than the current federal surplus on program spending.

Figure 1 Current System: Deficit and Debt as a Percentage of GDP



These imbalances have important implications for the performance of the Canadian economy and the stability of federal-provincial fiscal relations.

Let us start with the federal level. If no new federal spending programs are introduced and the projected path of program spending is maintained, a rapidly declining federal deficit, which eventually will turn into an increasing surplus, will become a significant drag on the economy. Alternatively, the additional revenue may be spent on the introduction of new programs or the enrichment of existing ones. In this case the size of the federal government, relative to the national economy and to provincial governments, would steadily increase.

At the provincial level, the automatic tendency of the fiscal structure to generate increasing deficits will create steady pressures for both tax increases and reductions in spending. Since most of the provincial spending is for health, education, and social services, the persistence of a structural imbalance may affect the level of provincial spending on these "people programs."<sup>8</sup>

For the two orders of government combined, a possible consequence of these structural imbalances is an increase in the overall level of taxation, with an associated increase in the relative size of government and an increase in federal spending relative to provincial spending. This unintended expansion of government and the shifting of expenditure priorities would reduce economic efficiency as a result of the negative impact of a too-high tax burden and its misallocation.

Since the constitutional allocation of powers does not facilitate the direct delivery of people programs by the federal government, except for direct transfers to individuals, the structural fiscal imbalances may radically alter public spending priorities to the detriment of social programs. This may further harm economic efficiency because of the important role of these programs in the challenge to improve Canada's human capital.

It may be argued that major reallocations of spending priorities should result from explicit decisions through the political process rather than as consequences, perhaps unintended, of unbalanced fiscal structures. In our view, the potential effects of the structural imbalances in the Canadian fiscal system are of sufficient importance to warrant serious discussion and an evaluation of rebalancing options.

### **RESTORING FISCAL BALANCE THROUGH A RESTRUCTURED TAX SYSTEM**

Structural balance in the fiscal system of the federal and provincial governments can be restored through a variety of adjustments. Spending responsibilities can be reallocated, tax room shifted, or intergovernmental trans-

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<sup>8</sup> Increasing federal transfers to the provinces sufficiently to finance the growth of these programs should properly be treated as a solution to and not a consequence of this structural imbalance.

fers restructured.<sup>9</sup> The first option would require major changes to the existing constitutional arrangements and, for that reason, will not be evaluated in this article. Of the two options that can be accommodated within the existing provisions of the constitution, we have chosen to deal first with the tax room alternative. We have elsewhere evaluated the fiscal balancing properties of alternative approaches to the reallocation of tax room.<sup>10</sup> In this section we present a brief summary of a comprehensive rearrangement of tax room that would restore structural balance to the fiscal system of both orders of government. This option would involve the following changes:

- The federal government would have sole occupancy of the sales and excise tax field and the corporate income and capital tax field; the CPP and UI programs would remain self-financing funds.
- The provinces would have sole occupancy of the personal income tax field; they would also retain health care levies (payroll taxes and health care premiums) and natural resource and property taxes.

This major reallocation of tax fields would allow the elimination of federal transfers to provinces under EPF and the Canada assistance plan (CAP). It would also allow a small shift of spending responsibilities to the provinces, taking into account the current constitutional discussions on the devolution of some expenditure fields to the provinces.<sup>11</sup> To this end, federal housing and manpower retraining programs would be reassigned to the provinces.

Two additional adjustments would be required to ensure structural fiscal balance over the long term. The package described above would not reproduce the 1992-93 budget situation at the federal level, but would create a small shortfall. We have corrected that imbalance by transferring about 7 percent of the provincial PIT revenue to the federal government. With this adjustment, the federal fiscal structure would be balanced over the long term, but the provincial structure would eventually generate surpluses. This means that as provincial deficits decline through time under the alternative tax room assignment, structural balance would require declining provincial PIT rates. To achieve this goal automatically, the PIT system could be moved, as revenue requirements permit, toward full indexation. With full

<sup>9</sup> It may be argued that rebalancing options should include selective expenditure restraints. We have not considered this option explicitly in our analysis because it would affect our comparison of the fiscal structures of the federal and provincial governments only to the extent that there are considerable differences in the relative potential for cost cutting through increased efficiency in the delivery of the existing level of public services. Additional reductions in spending—for example, cuts to the level of health care services by provinces—are inconsistent with our analytical framework.

<sup>10</sup> Supra footnote 1.

<sup>11</sup> The elimination of the EPF and CAP and the shift of federal housing and manpower retraining programs to the provinces are the expenditure components of the proposal for federal-provincial rearrangements made by Irene Ip and Jack Mintz, *Dividing the Spoils: The Federal-Provincial Allocation of Taxing Powers* (Toronto: C.D. Howe Institute, 1992).

PIT indexation, our alternative provincial fiscal structure would be in long-term balance.

This major rearrangement in the fiscal system of the federal and provincial governments reproduces both governments' existing 1992-93 budget positions. It significantly reduces the entanglement in tax fields that currently exists and eliminates the need for major transfers from the federal to provincial governments.

The impact of our proposal on the federal and provincial structural balance, excluding the effects of the existing deficits and debt, is shown in table 1. Structural balance in the growth ratios of revenues to expenditures for both orders of government is almost fully achieved, with  $I^F$  reduced from 0.51 to 0.03 and  $I^P$  increased from  $-0.15$  to 0.02.

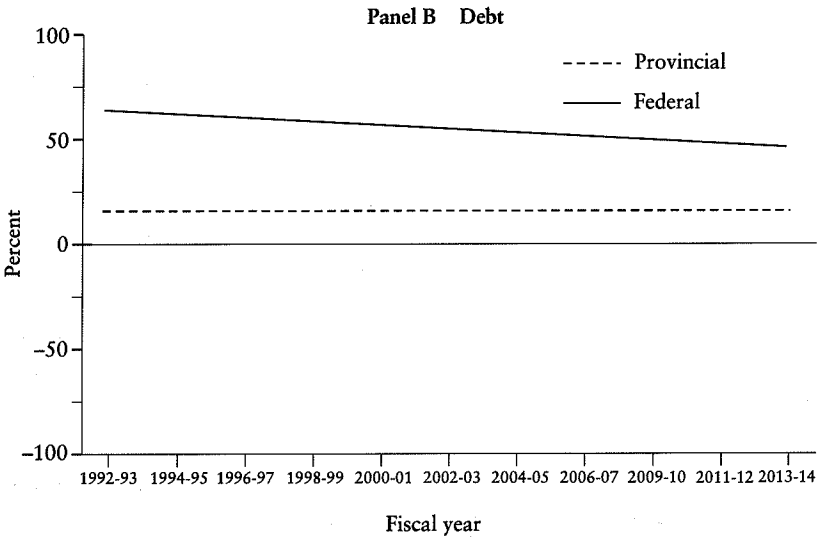
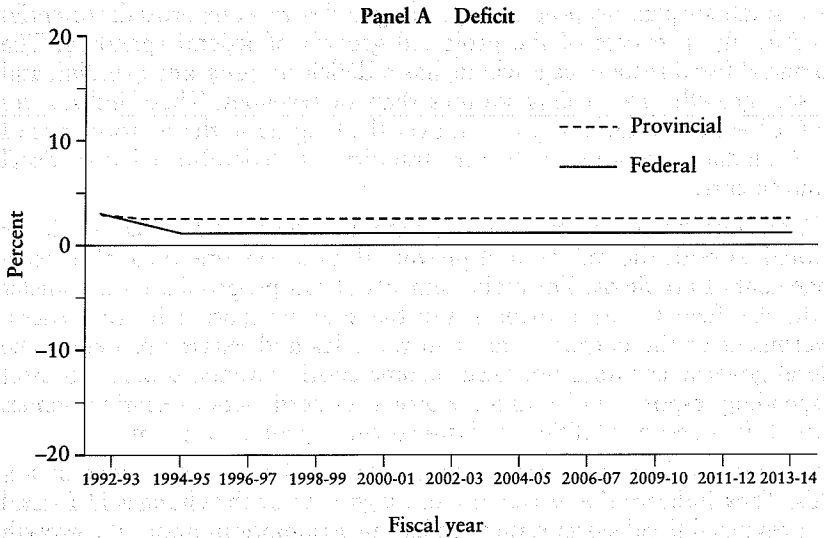
The effect of our structurally balanced proposal on the ratios of federal and provincial deficits and debt to GDP is shown in figure 2. Unlike the situation in figure 1, the ratios of total federal and provincial deficits to GDP are stabilized at a constant, slightly positive level. The debt-to-GDP ratio declines steadily at a slow rate for the federal government and is stabilized at a constant rate for provincial governments.

Our calculations of the structural imbalance at the provincial level were carried out for all provinces combined. We recognize, however, that the provinces differ with respect to average income, the distribution of income, and fiscal structure. For example, Ontario, Alberta, and British Columbia have greater fiscal capacity than the other provinces. The per capita revenue from one point of PIT is much lower in New Brunswick than in British Columbia. Therefore, our rebalancing option has different implications for different provinces.

The differences in revenue-raising capacity among the provinces can be corrected through appropriate equalization of the PIT points transferred. Under the current arrangements, this would mean a substantial increase in federal intergovernmental transfers, which, in turn, would reduce the PIT tax room that could be reallocated to the provinces. The need for additional federal revenue would be eliminated through the use of an alternative approach to equalization.

Under this alternative, the overall equalization program would remain under federal control but would be financed by both orders of government. General equalization would be funded by federal revenue, and the additional equalization associated with the transfer of PIT points would be funded by the provinces. For the latter component, the "have" provinces would transfer to the federal government the amount of revenue necessary to meet the equalization requirements, and the federal government would transfer that revenue to the "have-not" provinces as an addition to the existing equalization transfer. Under this approach, the fiscal balance shown in figure 2 would be unaffected, because the equalization associated with the transfer of tax points would be purely an interprovincial revenue adjustment.

**Figure 2 Balancing Alternative: Deficit and Debt as a Percentage of GDP**



**CONCLUSION**

The current federal and provincial fiscal systems are each characterized by a significant degree of structural fiscal imbalance. The federal fiscal regime has a small surplus on program spending and a revenue growth potential substantially in excess of the projected growth of federal spending. The provincial fiscal system, as a whole, has a deficit on program spending and a faster growth rate of expenditures than of revenues. These imbalances need redressing because they affect, over the long term, the performance of the Canadian economy and the stability of federal-provincial fiscal arrangements.

Under our single comprehensive proposal, structural balance would be restored to both the federal and provincial fiscal systems through a rearrangement of tax fields. The main elements of this proposal are the transfer of the PIT field to the provinces and the sole occupation by the federal government of the corporate tax and the sales and excise tax fields. The federal government does not need income-elastic revenue sources to meet its spending responsibilities, and the provinces need income-elastic revenues to fulfil their responsibilities for fast-growing "people programs."

Our results do not provide a timetable for the rearrangement of tax fields. They indicate the direction and magnitude of the changes in federal and provincial fiscal systems that, under our assumptions about the growth rates of GDP and government revenues and expenditures, are needed to restore long-term structural balance to the Canadian economy.

## Appendix Assumptions Underlying the Calculation of Structural Fiscal Imbalance Indices

	Average annual % change	Growth ratio	Comments
<i>General assumptions</i>			
Inflation	3.00		
Real per capita income	1.50		
Population total	1.22		Based on projections prepared by Statistics Canada, December 1991.
Age			
0-17	0.68		
5-24	0.83		
0-64	1.09		
65-74	1.11		
75+	3.57		
Employment ratio	0.00		
Shares of personal and corporate income	0.00		
Savings rate	0.00		
Nominal GDP	5.82		
<i>Revenue</i>			
Personal income tax			Based on calculations by D. Van Wart and G.C. Ruggieri, "The Effects of Tax Reform on the Income Elasticity of the Personal Income Tax" (1990), vol. 38, no. 5 <i>Canadian Tax Journal</i> 1210-26.
Partially indexed	9.53	1.638	
Fully indexed	7.07	1.215	
Corporate income taxes	6.11	1.050	Takes into account the differential rate between small and large businesses.

(Appendix is continued on the next page.)



## Appendix Continued

	Average annual % change	Growth ratio	Comments
Corporate capital taxes . . . . .	6.11	1.050	Takes into account fixed threshold.
GST and provincial sales taxes . . . . .	5.82	1.000	Will increase at the same rate as nominal GDP because the ratios of personal income to GDP and of consumption to personal income are assumed to be constant.
Provincial payroll taxes . . . . .	6.11	1.050	Takes into account the effect of differential rates in some provinces.
Health care premiums . . . . .	1.22	0.210	Will grow in line with the growth of population.
Fuel taxes . . . . .	4.66	0.801	Takes into account the effect of energy-saving technical improvements.
Tobacco taxes . . . . .	4.26	0.732	Per capita consumption will remain constant and the price of tobacco products will increase at the rate of inflation.
Revenue from alcoholic beverages . . . . .	5.24	0.900	Price will increase at the rate of inflation. Income elasticity of demand less than 1 for all production combined, but greater than 1 for spirits; markups and excises are higher for spirits than for wine and beer.
Customs duties . . . . .	-1.00	-1.720	As these duties are steadily reduced their revenue is expected to decline.
Other excise taxes . . . . .	5.82	1.000	Same revenue growth as GST and provincial sales taxes.
Provincial property taxes . . . . .	4.26	0.732	The assessed value per structure will increase at the rate of inflation.
Natural resource revenue . . . . .	4.04	0.687	Revenue growth depends on production and world prices. We assumed that world prices track inflation and production will increase 1 percent per year.
Motor vehicle revenue . . . . .	1.22	0.210	Will increase with population.
Other revenue . . . . .	5.82	1.000	Will increase at the same rate as nominal GDP.

(Appendix is continued on the next page.)

## Appendix Continued

	Average annual % change	Growth ratio	Comments
<i>Expenditures</i>			
Old age security (F) . . . . .	5.10	0.876	Gross expenditure per senior will increase at the rate of inflation as per statutory formula. Annual growth of 5.25 percent (inflation plus growth of senior population) is adjusted for the effect of the clawback.
Guaranteed income supplement (F) . . . . .	4.22	0.725	Growth of expenditures per senior equals inflation rate minus 1 percent (Economic Council of Canada (ECC), <i>A Joint Venture: The Economics of Constitutional Options, Twenty-Eighth Annual Review</i> (Ottawa: Supply and Services, 1991)).
Spouses allowance (F) . . . . .	3.20	0.550	Growth of expenditures per unit equals inflation rate minus 2 percent (ECC).
Children benefits (F) . . . . .	1.69	0.290	Benefits per child constant because of partial indexing. Adjustment for enhanced benefits; 1 percent growth per year.
Veterans pensions (F) . . . . .	1.82	0.313	Overall growth of expenditures equal to the growth of nominal GDP minus 4 percentage points (ECC).
Housing assistance (F/P) . . . . .	5.82	1.000	Same growth rate as nominal GDP.
Human resource programs (F/P) . . . . .	5.82	1.000	Same growth rate as nominal GDP.
National defence (F) . . . . .	4.82	0.828	Growth of total expenditures equal to growth of nominal GDP minus 1 percentage point (similar to ECC).
International assistance (F) . . . . .	5.82	1.000	Same growth rate as nominal GDP.
Social assistance (and CAP transfers) (F/P) . . . . .	5.82	1.000	Growth of unit costs equal to growth of nominal GDP per capita (ECC); growth of clients equal to growth of population.
Established programs financing (F) . . . . .	-3.00	-0.515	Formula-driven; excludes temporary freeze.

(Appendix is concluded on the next page.)

## Appendix Concluded

	Average annual % change	Growth ratio	Comments
Protection of persons and property (F/P) .....	5.82	1.000	Growth of expenditure equal to growth of nominal GDP.
Environment (F/P) .....	6.82	1.172	Growth of expenditure equal to growth of nominal GDP plus 1 percentage point (similar to ECC).
Transportation (F/P) .....	6.82	1.172	Same as environment (similar to ECC).
Communication and culture (F/P) .....	5.82	1.000	Growth of expenditure equal to growth of nominal GDP.
Equalization (F) .....	6.46	1.110	Formula-based; equalization payments growth is 94 percent of the growth of provincial own-source revenue (relationship over the 1976-1991 period).
Health care (P) .....	8.04	1.381	Total costs increasing at the same rate as nominal GDP plus adjustment for increasing utilization rates, differential growth of population 0-64, 65-74, and 75+, and different unit costs for each age group (see M.S. Marzouk, "Aging, Age-Specific Health Care Costs, and the Future Health Care Burden in Canada" (December 1991), 17 <i>Canadian Public Policy</i> 490-506).
Education (P) .....	5.51	0.947	Growth of unit costs equal to growth of per capita nominal GDP. Growth of student population adjusted for increased utilization for mature students (1 percent per year).
Natural resources programs (F/P) .....	5.82	1.000	Growth of expenditure equal to growth of nominal GDP.
Industrial development programs (F/P) .....	5.82	1.000	Growth of expenditure equal to growth of nominal GDP.
Native programs (F) .....	11.64	2.000	Includes additional expenditures on land settlements.
General government and other (F/P) ..	5.53	0.950	Growth rate of expenditure equal to 95 percent of growth of nominal GDP to reflect increased efficiency.

F federal responsibility. P provincial responsibility.