

THE REGIONAL DISTRIBUTION OF FEDERAL FISCAL BALANCES: WHO PAYS, WHO GETS AND WHY IT MATTERS[†]

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SUMMARY

Any well-functioning federation is bound by shared values and by economic arrangements that ensure regions are better off inside the federation than outside it. But conflicts in both areas are inevitable, especially in a country as diverse as Canada. This paper focuses on the conflict within the Canadian federation involving the sharing of income and wealth, most often through federal revenue, spending and transfer policies.

Many in the West, including more than 60 per cent of Alberta and Saskatchewan residents, believe they do not get a fair share from Confederation. A close look at the regional distribution of federal fiscal balances from 1961-2018 reveals very large differences.

Alberta, B.C. and Ontario are the only net contributors over this period. Ontario was the largest net contributor at more than \$768 billion, with Alberta coming in at \$631 billion and B.C. at \$138 billion. Accounting for population size, Alberta's contribution was by far the largest in per capita terms at over \$3,700 per person per year over the 1961-2018 period and over \$5,000 per person per year in recent decades. Quebec was the largest beneficiary with net inflows of nearly \$500 billion. Outside the territories, Prince Edward Island saw the largest net fiscal benefit of over \$8,600 per person year since 2010.

One result is over \$1.5 trillion in aggregate demand has been directly redistributed from regions with positive federal fiscal balances to those with negative balances. Over the period studied, net transfers to the Atlantic Provinces averaged over 20

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per cent of their personal income. For the other net recipient regions, they have averaged between nine per cent and four per cent. For the net contributor regions, the average net outflows amount to two percent of personal income in the case of B.C., three per cent in the case of Ontario and 10 per cent for Alberta.

Federal fiscal policy also affects trade and labour flows. Regions with large fiscal inflows tend to have large trade deficits and larger populations than would otherwise be the case. The opposite tends to hold for regions with large fiscal outflows. In that case of Alberta, for example, recent analysis suggests net federal fiscal outflows lowers its real incomes by over eight per cent and its population by about 12 per cent. As income shifts to lower productivity regions, the national impact may be a reduction of 0.8 per cent in Canada's real GDP.

Numerous factors, including per capita incomes, demography, and program designs, shape the regional distribution of federal fiscal balances. The largest net recipient provinces tend to gain under all or most of the major fiscal policy elements (including various taxes, equalization, OAS, EI, and federal purchases). The net contributor regions, on the other hand, tend to make net contributions under all or most elements. For example, all 10 policy areas result in net outflows from Alberta. The comparable numbers are seven for British Columbia and six for Ontario. Much of this variation is due to differences in average incomes and demographics. Alberta, for example, has a higher level of income and therefore consumption spending, which leads to higher GST payments. Its younger population also leads to lower average OAS benefits flowing to residents within the province.

Finally, we employ measures of horizontal and vertical equity to evaluate questions of fairness. Specifically, we explore whether regions with similar per capita market incomes have similar net federal fiscal balances. In general, we find a reasonable degree of equity observed over the almost seven decades but with some outliers. The most obvious is Alberta with a much higher net federal fiscal contribution than would be expected given its relative income position, although a good part of this is primarily during the 1970s and 1980s and associated with federal energy policies. We show that after 2000, Alberta's relative per capita net fiscal contribution is in line with where one would predict given its relative per capita market income. Smaller deviations can be observed for Nova Scotia and Manitoba with larger net fiscal benefits than one would expect and, in the case of Saskatchewan, smaller net fiscal benefits than expected based on equity considerations. Turning to stabilization objectives, the analysis indicates that, except for Alberta, federal fiscal policies have tended to provide an important measure of regional economic stabilization, with the largest benefits for Ontario, Nova Scotia, New Brunswick, Newfoundland, Quebec and Manitoba. The picture for provincial revenue stabilization is somewhat better for most provinces but worse for the provinces of Alberta, Saskatchewan, and Newfoundland and Labrador. The need for reforms in this area is apparent.

Federal fiscal policies since 1961 have redistributed substantial amounts of income, employment and population across the regions. Whatever one thinks about the underlying merits of the various programs leading to this redistribution, understanding the data and mechanisms is important. Our analysis aims to support informed conversations as the regions deliberate over fiscal arrangements within Confederation.

1. INTRODUCTION

A well-functioning and sustainable federation typically requires two foundational elements: a set of common values and/or history, and a set of economic arrangements that ensures each region's welfare is greater within the federation than outside (arrangements such as those governing fiscal and monetary policies, international and internal trade and migration, defence, and social and physical infrastructure). Tensions within a federation are inevitable and broadly involve so-called conflicts of tastes or conflicts of claims (Mintz 2019). The first involve differences in political tastes related to culture, values, history and language. Quebec nationalism is perhaps the most notable case of serious tensions arising from differences of taste. These have tended to be addressed over time through special arrangements such as federal bilingualism, accommodating a juridical legal system for Quebec, and enhancing the provincial government's powers over immigration and in areas such as health and education. The focus of this paper, however, is on the tensions related to conflicts of claims. These involve the sharing of income and wealth, most often in relation to federal revenue, spending and transfer policies. We specifically focus on the magnitude, causes and consequences of federal fiscal policies on the different regions of Canada over a long span of time.

These matter for both contemporary policy discussions and understanding historical developments in Canada. A common complaint is that federal tax and expenditure policies, along with those in areas such as transportation, trade, energy and regional development, impair the economic prosperity, growth and stability of particular provinces or territories. Many of the original opponents of Confederation in the Maritime provinces, for example, centred on such concerns. Today we see similar sentiment, but in the West. A common thread is that interregional transfers via federal tax and expenditure policies are unfair or otherwise disadvantageous to particular regions. For example, in a recent IPSOS poll, well over 60 per cent of Alberta and Saskatchewan residents feel they are not getting their fair share from Confederation. The comparable percentage of residents in Atlantic Canada is 54 per cent while it is 42 per cent in Manitoba, 36 per cent in B.C., 34 per cent in Quebec and 20 per cent in Ontario (Braid-IPSOS 2019).

To better understand the nature of some of these tensions, we focus on the regional distribution of federal fiscal balances over the period 1961 to 2018. We evaluate these in terms of the impacts on the regional distribution of income, employment and population, their consistency with various measures of fairness, and their implications for economic stability of the regions. To accomplish this, we use widely available data and standard analytical techniques.

We find very large differences across the regions in the size of the federal fiscal balances. The federal fiscal balance for a region is the difference between total federal revenues collected in the region and total federal expenditures in and transfers to the region. If this balance is positive, the region is a net federal fiscal contributor (that is, federal fiscal policy results in a net outflow from the region) and if it is negative, the region is a net federal fiscal recipient or beneficiary (that is, it results in a net inflow to the region). Ontario and Alberta are by far the largest net contributors in aggregate terms. Over the period 1961-2018, Ontario's net federal fiscal contribution exceeded

\$768 billion (in 2018 dollars), while Alberta's net contribution was nearly as large, at over \$630 billion for that same period. The only other net contributor region over this period was British Columbia. Among the eight provinces and territories that were net recipients (that is, where federal spending and transfers in the region exceeded the federal revenues collected in the region), Quebec was the largest beneficiary with net inflows to that province of nearly \$500 billion.

These aggregate net balances do not take account of regional differences in population. To do that, the federal fiscal balances are expressed in per capita terms. On that basis, Alberta is by far the largest net contributor at over \$3,700 per person per year over the entire 1961-2018 period and well over \$5,000 per person per year (or over \$20,000 annually per family of four) in recent decades. In comparison, the amounts for Ontario were \$1,270 per person per year for the entire period and between \$590 and \$2,500 over the last two decades. Outside the northern territories, Prince Edward Island consistently saw the largest net fiscal benefit of over \$8,600 per person per year since 2010.

These differences are the result of certain policies intended to bring about redistribution across regions (such as fiscal equalization) and in other cases, they reflect the fact that even uniform federal tax and expenditure policies will generate regional redistribution as a result of differences in income levels, population composition, labour mobility and various other dimensions. For example, provinces with higher incomes and higher employment rates will contribute more in federal revenue (through taxes that are overwhelmingly a function of income and consumption). Across Canada as a whole, we estimate 2/3 of fiscal redistribution is due to uniform federal programs and 1/3 due to discretionary expenditures or explicitly redistributive programs such as equalization.

What are the effects of such transfers? We examine multiple ways in which these imbalances may address regional equity concerns and what effect they may have on macroeconomic conditions in each region. First, they result in a substantial transfer of income, employment and population from the regions with large, positive, federal fiscal balances to those with negative balances. Second, in general, these balances tend to be highly correlated with average per capita market income measures across provinces. In terms of magnitudes, we show that the variations in fiscal balances have reduced differences in provincial per capita personal incomes by between 50 and 60 per cent in recent decades. Third, we examine the degree to which the federal fiscal balances for each region have assisted in offsetting or reducing short-term fluctuations in the region's per capita incomes. Although these stabilizing impacts are not evident in Alberta's case, they are observed for the other regions.

A misplaced criticism of a regional analysis of federal fiscal balances is that the impacts of federal tax, expenditure and transfer policies most importantly affect the welfare of individuals or groups regardless of the region they reside in. Consequently, it is argued that regional boundaries don't really matter. While this may be true in a unitary state, it is certainly not in a federation. In a federation of provinces (and territories), each has substantial powers and responsibilities under the Constitution. This includes the protection and promotion of the economic interests of the residents within the regional boundaries. Even more important in the case of Canada, unlike federal systems in other industrialized economies, there is no serious or effective form of regional representation

at the federal level to counterbalance the concentration of federal power that arises from the huge differences in regional population sizes.¹

In any case, the regional distribution of economic activity and well-being is a particularly important consideration in Canada. In this study, we focus on the distribution of federal fiscal balances across the provinces and their implications for the economic welfare of the regions and conflicts of claims. However, other federal policies, such as those dealing with trade, transportation and energy, historically and currently, also play key roles in determining how well and harmoniously Confederation functions. These can be viewed within the context of common aspects for a well-functioning federation intended to make each region better off within it relative to being outside of it. These include the following:

- i) Building national infrastructure (including defence) and sharing costs;
- ii) Maximizing market power and leverage in international negotiations;
- iii) Eliminating barriers to interregional trade and interregional movements of goods and services, labour/people, capital and technology to enhance overall efficiency and the efficiency of regional adjustment mechanisms;
- iv) Promoting equity among regions and a sharing of economic gains; and,
- v) Providing economic stabilization to allow regions to specialize in areas of comparative advantage without the added risks of doing so.

While the focus here is on interregional fiscal transfers in relation to the last two goals, major challenges remain in the broader Canadian context, particularly with items (i) and (iii) above. Significant constraints on transportation infrastructure and interregional trade barriers continue to impose large costs and losses from the potential gains for the federation. For example, Bemrose, Brown and Tweedle (2017) estimate that barriers to interprovincial trade are equivalent to a tariff of almost seven per cent, or just under 14 per cent when intra-provincial trade is taken into account. And in other recent quantitative work, Albrecht and Tombe (2016) estimate policy-relevant internal trade costs reduce GDP in Canada by between \$50 billion to \$130 billion annually. The constraints on transportation infrastructure have also proved costly. Scotiabank (2018), for example, estimates the delays in pipeline construction have been costing the Canadian economy roughly \$15.6 billion a year, with a further \$10.7 billion, or 0.5 per cent of GDP, in 2018.

Our analysis proceeds as follows. We begin by detailing the quantification of federal fiscal balances or gaps, and outlining certain important caveats (Section 2). In Section 3 we report the results of these data, summarizing the fiscal balances by province and over time. These fiscal balances have direct and indirect macroeconomic effects, which we map out in Section 4. Underlying these balances is a wide variety of federal revenue and spending programs and we explicitly decompose the sources of federal deficits and surpluses by region in Section 5. We conclude with a detailed examination of the equity and stabilization implications of fiscal balances.

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For example, see Savoie (2019, 135).

2. ESTIMATING FEDERAL FISCAL BALANCES BY REGION

Before proceeding to our main analysis, a review of the data and core methodology is in order. First, an important definition: the federal fiscal balance for each province (or territory) is the total federal revenues collected in all forms in each region less the total of all types of federal expenditures in, and transfers to, each region. A positive balance means there is a net fiscal transfer out of the region while a negative balance indicates a net fiscal transfer to the region. In the former case, the effect is to reduce income, employment and population in the region, while these variables increase in the region with a negative balance.

Quantifying the federal fiscal balance is not a trivial undertaking, especially given the long period of time covered in this study (1961-2018). The approach we use addresses numerous common shortcomings. Unlike the usual cases where the focus is on just a few years, this allows the evaluation of longer term trends to more reliably determine the true impacts in terms of redistribution, fairness and stabilization.² Second, while public attention is often focused on just one element of federal fiscal policies generating redistribution across regions, it is important that all tax, expenditure and transfer elements be considered (as is done in measures of federal fiscal balances with each region) in order to draw valid conclusions about the overall impacts on a region. For instance, equalization is frequently portrayed as the indicator of overall regional redistribution when in fact it is only one of numerous federal fiscal policies, and often, not the most significant element of regional fiscal redistribution.

To determine the provincial impacts of federal fiscal policies, we use cash-flow methodology as detailed in Mansell and Schlenker (1992, 1995). This (versus the benefits approach) is appropriate for measuring the economic impacts of redistribution.³ In general, it involves using data on all types of federal revenues collected in each region, data on all federal expenditures in each region and data on all transfers to each region. Statistics Canada estimates federal revenues, expenditures and transfers within the Provincial and Territorial Economic Accounts (PTEA), previously the Provincial Economic Accounts (PEA), by using the national accounting conventions. In order to produce a consistent time series, however, it is necessary to make a number of adjustments in the earlier series prior to 2006 to take account of factors such as the incidence of indirect taxes, the allocation of transfers under various energy policies (such as the National Oil Policy, domestic energy pricing controls and the National Energy Program),⁴ and the provincial allocation of interest on the public debt. As an example, for the earlier periods indirect taxes have been reallocated on the basis of the provincial distribution of consumption or some combination of consumption and production to better reflect

² For example, it may be that the effects of a positive federal fiscal balance for a province observed over a few years are offset by the effects of a negative fiscal balance in other years.

³ This should not be confused with the benefits methodology whereby, for example, federal military expenditures in just one province may convey security benefits to all other regions. In contrast, with financial or cash-flow accounting, the direct economic impacts in this case are concentrated in the region where the expenditures are made.

⁴ As Whalley and Trela (1986) note, these tend to be among the largest interregional transfers during the period 1973-2006.

provincial incidence (Mansell and Schlenker 1995, 4). Similarly, implicit taxes and subsidies associated with regulated energy prices were factored into the energy transfer calculations (Mansell and Schlenker 1995, 4) and interest payments on public debt to Canadians were reallocated across the regions rather than having them made primarily to Ontario, the main location of the financial services sector (Mansell and Schlenker 1995, 4). Details on these adjustments to generate the estimates back to 1961 are provided in Mansell and Schlenker (1992, 1995) and Mansell, Schlenker and Anderson (2005).⁵ More recent data published by Statistics Canada under the PTEA, now integrated with the Canadian Government Finance Statistics, do not require these types of adjustments to be consistent with our adjusted PEA estimates for earlier periods.⁶

In calculating fiscal balances, federal revenue for each region is the sum of direct taxes (such as personal and corporate income taxes, withholding taxes and contributions to social insurance plans), indirect taxes (for example, the federal GST, taxes on fuel and on banks and insurance companies, excise taxes, custom import duties and royalties), and investment income (such as interest, other investment income and remitted profits of government business enterprises) collected from the region.

Federal expenditures for each region include all final federal expenditures on goods and services in the region (including such things as the salaries and benefits of federal civil servants, agents and other personnel in the regions and the expenditures related to defence and non-defence purchases) and interest payments on the public debt to residents of the region.

Federal transfers include all current transfers to households (for example, family and youth allowances, child tax benefits, childcare benefits, employment insurance benefits, Old Age Security and GST credits), all subsidies on products and imports (for example, subsidies to agricultural and other industries), and all federal transfers to provincial / territorial and local governments in the region (such as equalization, and transfers to local and Indigenous governments).

As noted, the net federal fiscal balance for each province is the sum of all federal revenues collected in the province minus the federal expenditures in, and transfers to, the province. A positive balance (or positive fiscal gap) means the province is a net fiscal contributor; that is, it pays more in revenues to the federal government than it receives in federal expenditures in and transfers to the province. A negative balance (or negative fiscal gap) means the province is a net fiscal recipient or beneficiary. All calculations were

⁵ Also see Ruggeri and Yu (2000) for a detailed description of the various approaches used to estimate the regional distribution of federal fiscal balances.

⁶ Revenue, expenditure and transfer data for 1961-1985 were from the Statistics Canada, Provincial Economic Accounts for various years, with adjustments as outlined in Mansell and Schlenker (1995). The figures for 1986-2006 were obtained from the *Statistics Canada, Provincial Economic Accounts 2010* annual yearbook, with adjustments as outlined in Mansell, Schlenker and Anderson (2005). The figures for 2007-2018 are obtained from Statistics Canada's provincial and territorial economic accounts online database found at: <https://www150.statcan.gc.ca/t1/tb1/en/tv.action?pid=3610045001&pickMembers%5B0%5D=1.5&pickMembers%5B1%5D=2.2>. See also: Statistics Canada, "Deriving Revenue, Expenditure and Budgetary Balance of the Government Sector by Province and Territory," release date May 16, 2016, accessed September 12, 2016, <http://www.statcan.gc.ca/pub/13-605-x/2016001/article/14627-eng.htm>

done after converting the current dollar amounts to 2018 dollars by using the Consumer Price Index (CPI) for Canada. This index was used instead of each province's CPI in order to be consistent with the calculation methodology employed in the 1995 and 2005 research providing the fiscal balances for the earlier (1961-2005) periods. To take into account the large variation in provincial populations, we also calculate net federal fiscal balance figures in per capita terms.

Special Notes and Qualifications

The regional distribution of federal fiscal balances (or fiscal gaps) computed as outlined above measure the net direct fiscal transfers associated with federal tax, expenditure and transfer policies. As such, they are used to indicate the direct macroeconomic impacts in terms of the redistribution of income, employment and population. It is important to note that these balances do not indicate the net benefits or costs associated with regional autarky or independence from the federation. That is a much more complicated exercise requiring numerous assumptions about the division of assets and liabilities (including the national debt), the costs of replicating various federal programs, and the arrangements regarding such things as trade and migration (Mansell and Schlenker, 1992).

Although the most common discussions around fiscal redistribution centre on Canada's equalization program, this is only one of numerous sources of redistribution across the provinces and territories. Because piecemeal evaluations of the many federal fiscal policies can give a distorted picture of overall regional impacts, it is important to consider all fiscal policies combined through examination of the overall balances.⁷ A discussion of the various fiscal mechanisms at play in this redistribution is outlined in Section 5.

Further, it should be emphasized that redistribution via programs such as equalization, Employment Insurance or the Canada Pension Plan do not involve direct payments from the net contributor to net beneficiary regions. Rather, these take place indirectly through the federal treasury, typically using a combination of net federal fiscal flows from the contributor regions and funds borrowed by the federal government. As in the case of federal revenues collected in the regions, the direct interregional impacts associated with federal debt are incorporated via the regional allocation of federal expenditures and transfers supported by the borrowed funds (federal debt) in combination with federal revenues collected in the regions and by the regional allocation of the interest and any debt repayments.⁸

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These balances also take into account regional differences in federal-provincial fiscal arrangements. For example, Quebec has operated under opting-out arrangements regarding the Canada Pension Plan. In that case, both tax room (the Quebec rebate) and expenditures under the Quebec Pension Plan are transferred to the provincial government. In calculating the balances, the federal revenue collected in Quebec is reduced and so are the associated federal pension expenditures in Quebec.

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It may be argued that to the extent that federal borrowing is used to partially fund its expenditures in and transfers to the regions, there are indirect effects arising from the effect of increased debt on interest rates and exchange rates and these may in turn have differential regional impacts. Although some of these general equilibrium impacts are referenced later on, the main focus here is on the direct regional impacts.

3. REGIONAL DISTRIBUTION OF FEDERAL FISCAL BALANCES

The annual net federal fiscal balances for each region are provided in Annex 1.1. These values are also presented in Table 1 for selected periods and portrayed in Figure 1.

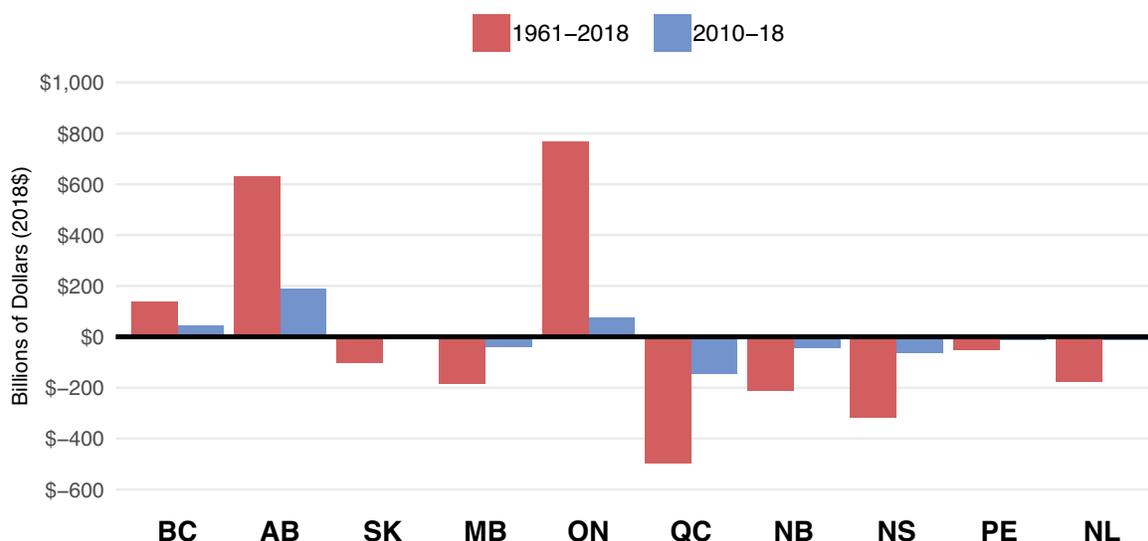
Between 1961 and 2018, Ontario was the largest net fiscal contributor (\$768 billion), followed by Alberta (\$631 billion) and British Columbia (\$138 billion). All other provinces and territories were net beneficiaries over this period. The largest net recipients were Quebec (\$497 billion), Nova Scotia (\$320 billion), New Brunswick (\$212 billion), Manitoba (\$184 billion), Newfoundland and Labrador (\$177 billion) and the territories (\$121 billion).

TABLE 1: TOTAL FEDERAL FISCAL BALANCES (IN BILLIONS 2018\$) BY PROVINCE AND TERRITORY FOR SELECTED PERIODS

Province	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	-9.8	-26.1	-48.3	-46.7	-31.7	-14.8	-177.4
PEI	-3.4	-7.6	-10.1	-9.3	-9.8	-11.4	-51.5
NS	-22.3	-47.2	-72.1	-58.8	-55.7	-63.5	-319.7
NB	-11.8	-30.1	-48.9	-39.6	-37.3	-44.4	-212.1
QC	10.5	-89.3	-167.5	-73.5	-32.6	-144.8	-497.2
ON	82.8	106.6	36.2	163.4	304.8	74.3	768.1
MB	-6.7	-17.4	-39.2	-38.6	-40.2	-41.9	-183.9
SK	-10.0	-11.5	-32.9	-32.2	-17.4	1.5	-102.5
AB	-1.5	82.0	115.6	55.9	189.1	189.8	630.9
BC	12.0	12.9	-33.2	37.0	65.4	44.3	138.3
TERR	-5.0	-8.0	-20.6	-22.4	-27.8	-36.7	-120.5

Source: Estimates by authors using sources and methods described in text

FIGURE 1: TOTAL FEDERAL FISCAL BALANCES (IN BILLIONS 2018\$) BY PROVINCE



Note that the largest federal social programs capable of producing significant interregional fiscal transfers were implemented just before 1961 or by the mid-1960s.⁹ These and subsequent federal policies have generated significant changes in the distribution of the fiscal balances over the 1961-2018 period. For example, in terms of total dollars, Alberta was the largest net federal fiscal contributor in the 1980-1989 and 2010-2018 periods, while the net fiscal benefits to Quebec increased substantially over these two periods. In the latter period, Saskatchewan became a net contributor and the net benefits to Newfoundland decreased significantly. These shifts were largely related to the gains associated with their energy sectors.

In order to take account of the large differences in the population sizes of the regions, the total fiscal balances need to be expressed in per capita terms. The annual values are provided in Annex Table 1.2 and are presented for selected periods in Table 2 and portrayed in Figure 2.

TABLE 2: AVERAGE ANNUAL PER CAPITA FEDERAL FISCAL BALANCES (IN 2018\$) BY PROVINCE AND TERRITORY FOR SELECTED PERIODS

Province	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	(2,231)	(4,710)	(8,370)	(8,264)	(6,124)	(3,128)	(5,567)
PEI	(3,507)	(6,430)	(7,960)	(6,982)	(7,080)	(8,673)	(6,795)
NS	(3,283)	(5,707)	(8,218)	(6,360)	(5,949)	(7,474)	(6,192)
NB	(2,127)	(4,436)	(6,801)	(5,290)	(4,987)	(6,493)	(5,047)
QC	208	(1,400)	(2,523)	(1,032)	(412)	(1,979)	(1,200)
ON	1,326	1,322	348	1,467	2,492	585	1,267
MB	(777)	(1,691)	(3,651)	(3,439)	(3,410)	(3,641)	(2,787)
SK	(1,174)	(1,235)	(3,221)	(3,186)	(1,740)	149	(1,777)
AB	(136)	4,323	5,029	1,986	5,645	5,243	3,720
BC	686	575	(1,122)	947	1,566	1,016	603
TERR	(13,217)	(12,578)	(26,559)	(23,701)	(26,509)	(34,714)	(22,842)

Source: Estimates in Table 1 divided by populations for regions

In per capita terms, Alberta has been by far the largest net contributor in every decade except 1961-1969.¹⁰ It has averaged \$3,700 per person per year over the entire 1961-2018 period, and averaged over \$5,000 per person per year (or over \$20,000 annually per family of four) during the 1980s and over the period since 2000. For the period 1973-1985, the fiscal transfers from the province were extremely large, averaging over \$7,000 per person per year and reaching over \$15,000 for several years. In total, this amounted to over \$193 billion (2018\$) and appears to represent the largest interregional transfer in

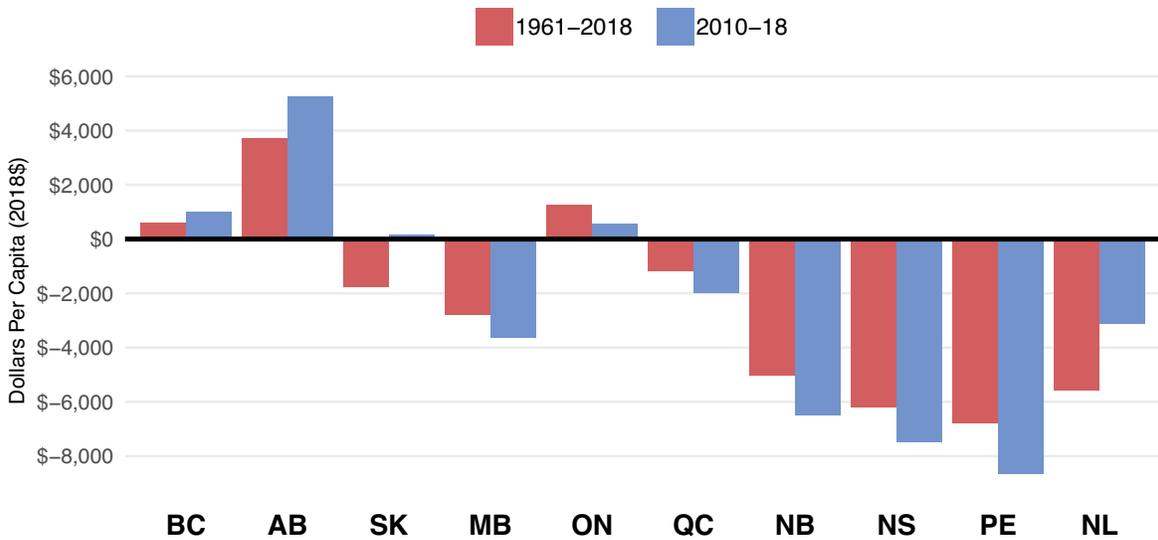
⁹ The fiscal equalization program was introduced in 1957, the Canada Pension Plan was created in 1965 and the *Medical Care Act* was passed in 1966. 2018 is the most recent year for which the required data are available.

¹⁰ As indicated in Annex 1.1 and 1.2, the province was a net recipient from 1961-1965 and a net contributor in every subsequent year.

Canadian history. It was primarily driven by federal energy taxation and pricing policies over this period.¹¹

For the years 1980-1985 and 2009-2011, Ontario was a net beneficiary with net inflows ranging between \$83 per capita per year up to \$944. In all other years, it has been a net contributor, with annual per capita balances ranging from an average of just under \$600 over 2010-2018 to a high of just under \$2,500 over 2000-2009. British Columbia is the only other net contributor, with net annual federal fiscal outflows averaging just over \$600 per person for the entire period. However, it was a net beneficiary in 1961, 1977-1990, and in 2010.

FIGURE 2: AVERAGE ANNUAL PER CAPITA FEDERAL FISCAL BALANCE (IN 2018\$) BY PROVINCE



By far the largest net beneficiary has been the territories, but this largely reflects the small and widely dispersed population that results in the very high costs per person of providing public services. This aside, averaged over the entire period, the largest net beneficiaries on a per capita basis have tended to be the Atlantic Provinces, Manitoba, Saskatchewan and Quebec. For Prince Edward Island, Nova Scotia and New Brunswick, there has been a general trend of increasing net federal fiscal inflows over the 1961-2018 period, averaging between \$5,000 and \$7,000 per person annually in the most recent (2010-2018) period. In the case of Newfoundland and Labrador, largely as a result of the increased prosperity associated with the development of its energy industry, the trend has been one of declining net federal fiscal inflows with an average annual net fiscal inflow of just over \$3,000 per person in the most recent decade. A similar trend and for similar reasons is apparent for Saskatchewan which, from 2012 to 2016, became a significant net fiscal contributor. For Manitoba, these net inflows have, since the 1980s, been fairly constant at around \$3,500 per person annually. The averages for Quebec

¹¹ This was in contrast to the National Oil Policy from 1961-1972 under which western oil received a small premium. This amounted to a transfer to Alberta of \$1.8 billion (1994\$) and to Saskatchewan of \$0.6 billion.

reflect an irregular pattern. Although it was a net beneficiary in most years, there were some periods (1961-1967 and 1997-2004) where it was a small net contributor. Over the most recent decade, the net annual federal fiscal inflow to the province has averaged around \$2,000 per person.

There are numerous policy elements behind these trends. We provide a cross-section of these in Section 5.

4. REGIONAL MACROECONOMIC IMPACTS

Federal fiscal imbalances have important implications for the macroeconomic environment in each province and territory. In this section, we document both direct and indirect effects on provincial economies.

DIRECT EFFECTS

The provincial distribution of federal fiscal balances has direct impacts on the distribution of income, employment and population across the regions. Aggregate demand is redistributed from the regions with positive federal fiscal balances to those with negative balances. For example, over the 1961-2018 period, there has been \$1.54 trillion in aggregate demand transferred from Ontario, Alberta and B.C. to the other provinces and territories (see Table 1). These direct impacts, measured as a percentage of each province's GDP and total personal income, are shown in Tables 3 and 4. Note that the negative values indicate a net inflow to the region as a percentage of its GDP and personal income while the positive values indicate a net outflow as a percentage of these two measures.

Over 1961-2018, the net transfers to the Atlantic Provinces have averaged around 20 per cent of their GDP, but with a much smaller percentage for Newfoundland in recent years. The net transfers to Quebec have averaged three per cent of GDP over the period since 1961 but ranged up to seven per cent in the 1980s. The comparable values for Manitoba and Saskatchewan have been an average of eight per cent and four per cent. In Alberta's case, the net direct transfers from the province have averaged seven per cent of its GDP over 1961-2018, with an average of almost 16 per cent over the 1970-1989 period. For the entire period, the average transfer from Ontario has amounted to three per cent of GDP while that from B.C. is two per cent.

There are substantial differences across the regions in the percentage of GDP (or value added) in the region that is received as personal income by residents of the region.¹²

¹²

For a detailed discussion of the components of personal income in the SNA (system of national accounts) used in this paper, see <https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=100736>. In summary, personal income consists of before-tax income from employment (primarily wages, salaries and commissions), net income from self-employment, (that is, net income from unincorporated enterprises), investment and retirement income (interest, dividends and private pension plan payments), other market income, and income in the form of government transfer payments (such as Canada and Quebec Pension Plan payments, Employment Insurance payments, child benefits, social assistance benefits, worker's compensation benefits, working income tax benefits, GST and HST credits and other transfers).

TABLE 3: AVERAGE ANNUAL DIRECT IMPACTS OF FEDERAL FISCAL BALANCES BY REGION RELATIVE TO GDP

Province	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	-19%	-26%	-34%	-29%	-12%	-5%	-17%
PEI	-31%	-36%	-32%	-23%	-19%	-20%	-24%
NS	-22%	-27%	-29%	-20%	-14%	-17%	-20%
NB	-15%	-21%	-25%	-16%	-12%	-14%	-16%
QC	1%	-5%	-7%	-3%	-1%	-4%	-3%
ON	5%	3%	1%	3%	5%	1%	3%
MB	-4%	-6%	-10%	-9%	-7%	-7%	-8%
SK	-6%	-4%	-9%	-8%	-3%	0%	-4%
AB	0%	10%	9%	4%	7%	6%	7%
BC	3%	1%	-3%	2%	3%	2%	2%
TERR	-51%	-31%	-45%	-42%	-33%	-39%	-39%

Source: GDP data for 1961-2002 is from Mansell, Schlenker and Anderson (2005) and for 2003-2018 from Table 36-10-0222-01 (formerly CANSIM 384-0038)

This discrepancy is particularly large for regions such as Alberta and Saskatchewan (and the territories) owing to their highly resource- and capital-intensive economies. For example, in 2018 personal income amounted to 90 per cent of GDP in Quebec, 85 per cent in Ontario, but only 72 per cent in Alberta. In the latter case, the much higher capital

TABLE 4: AVERAGE ANNUAL DIRECT IMPACTS OF FEDERAL FISCAL BALANCES BY REGION RELATIVE TO PERSONAL INCOME

Province	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	-22%	-27%	-38%	-31%	-17%	-7%	-21%
PEI	-33%	-35%	-32%	-24%	-20%	-21%	-25%
NS	-26%	-28%	-30%	-21%	-16%	-17%	-21%
NB	-18%	-23%	-27%	-18%	-14%	-15%	-18%
QC	1%	-6%	-8%	-3%	-1%	-4%	-4%
ON	7%	4%	1%	4%	6%	1%	3%
MB	-5%	-7%	-12%	-11%	-9%	-8%	-9%
SK	-8%	-5%	-11%	-11%	-5%	0%	-6%
AB	-1%	17%	14%	6%	11%	9%	10%
BC	4%	2%	-3%	3%	4%	2%	2%
TERR	-81%	-49%	-81%	-61%	-52%	-59%	-60%

Source: Personal Income data for 1961-2002 is from Mansell, Schlenker and Anderson (2005) and for 2003-2018 from Table 36-10-0226-01 (formerly CANSIM 384-0042)

intensity means, for instance, larger payments to capital, the owners of which disproportionately reside in other regions. Further, it should be noted that, particularly in the most capital- and resource-intensive regions, the relationship between income

received and GDP is highly variable.¹³ For these reasons, a measure of income received, such as personal income, is a better indicator of the economic welfare of residents than is GDP. It is apparent that the direct impacts of the interregional fiscal transfers are significantly larger when measured against total income received rather than against GDP (compare the results in Table 4 to those in Table 3).

Using this measure, the redistribution away from Alberta averaged 10 per cent over the 1961-2018 period, reaching a high of 17 per cent in the 1970-1979 period and 14 per cent in the 1980s. In comparison, the redistribution away from Ontario has averaged three per cent per year over the 1961-2018 period, with a high of seven per cent and a low in the most recent period of one per cent. The amount of redistribution toward Saskatchewan, Newfoundland and the territories is also significantly larger when measured in terms of personal income. For the provinces of Nova Scotia, Prince Edward Island and New Brunswick, the net fiscal inflows as a percentage of total personal incomes have tended to decline somewhat over time but still amount to between 15 and 20 per cent of personal income in the most recent decade. The dramatic declines in these in transfers relative to personal income for Saskatchewan and Newfoundland and Labrador are primarily due to the expansion of their oil and gas sector.

INDIRECT EFFECTS

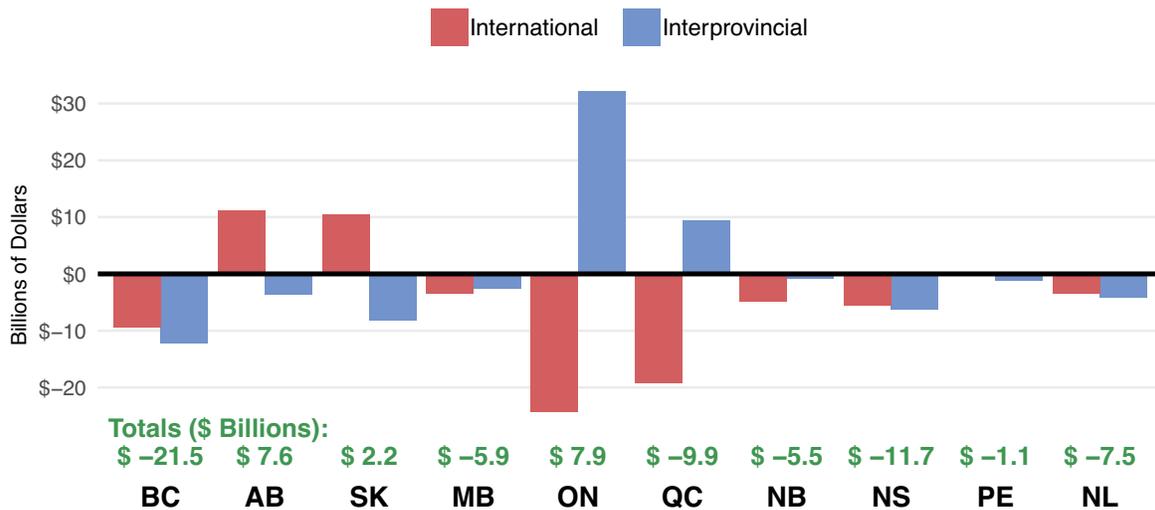
There are, however, indirect effects that must be taken into account. Trade flows in particular interact strongly with federal fiscal policy. As indicated in Figure 3, there are large differences across the regions in terms of trade balances, measured as exports from the region minus imports to the region. In the case of international trade, only Alberta and Saskatchewan have generally run trade surpluses (that is, on balance they export more to international markets than they import from those markets). It is also apparent that, in general, Ontario and Quebec have tended to run large international trade deficits combined with large interprovincial surpluses with the other regions. That is, they export more to the other provinces than they import from them. In Ontario's case, at least until more recent decades, the large federal fiscal surpluses for the province were not seen as a particular burden. This is because the fiscal redistribution from Ontario to recipient provinces typically meant larger exports from Ontario to those regions as their imports expanded. In turn, this would tend to offset the negative impacts of the federal fiscal surpluses on Ontario's income, employment and population.

Another dimension associated with the interaction between federal fiscal balances and trade balances is also relevant here. Net interregional flows through the former have effects similar to those for flows of financial capital generally. For instance, a region can sustain a trade deficit if there are sufficient net capital inflows. We see the same effect from federal fiscal inflows. In Figure 4, we illustrate the relationship between federal fiscal balances and trade balances. Regions with large fiscal inflows tend to have large trade deficits – that is, their imports exceed exports. These trade linkages tend to amplify the effects of transfers on provincial welfare.

¹³

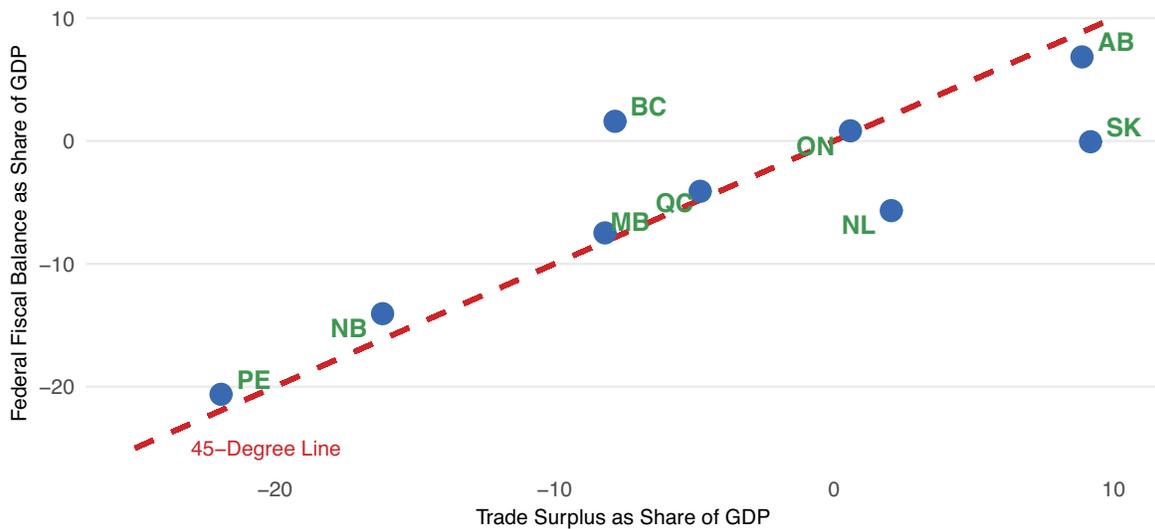
For example, between 2013 and 2018 the ratio of personal income to GDP in Ontario and Quebec was essentially unchanged, whereas in Alberta it went from 66 per cent to 72 per cent and in Saskatchewan it went from 63 per cent to 79 per cent.

FIGURE 3: TRADE BALANCES BY PROVINCE, 2016 (IN BILLIONS OF 2018\$)



Source: Own calculations from Statistics Canada data table 12-10-0088-01

FIGURE 4: TRADE AND FISCAL BALANCES, AS % OF GDP (2007-2016)



Source: own calculations from Statistics Canada Table 12-10-0088 and 36-10-0222

Previous research explores this relationship in more detail. An earlier analysis suggests that these trade linkages can result in as much as a 35 per cent gain for Ontario and an eight per cent gain for Quebec in the redistribution associated with federal fiscal balances (Mansell and Schlenker 1995, 9). Tombe and Winter (2020) have undertaken a more elaborate and recent analysis that takes into account the regional trade patterns and effects on prices and interprovincial movements of population. They use a computable general equilibrium model and data for the period 2007-2016 to trace the direct and indirect effects on GDP, real incomes, employment and migration flows in the

provinces that are associated with the distribution of federal fiscal balances. They find, to quote their paper at length,

Transfers lower Alberta’s real income by over 8 per cent and its population by over 12 per cent, and increase PEI’s real income by 30 per cent and its population by 50 per cent. As employment shifts to lower productivity regions, we find transfers shrink Canada’s real GDP by 0.8 per cent and income-sensitive transfers do so by as much as 1.2 per cent — equal to \$19-28 billion today. Finally, fiscal transfers affect the size and distribution of gains from internal trade liberalization and spread gains across all regions, even if policy (like the New West Partnership) liberalizes trade only among some.

Importantly, their analysis incorporates worker migration across regions and demonstrates that much of the overall loss in economic productivity is due to transfers leading to a misallocation of employment across regions. A long-standing theoretical rationale for federal transfer programs like equalization is that they can correct for inefficient migration of workers who move in response to provincial fiscal benefits (such as resource revenues) than in response to more fundamental considerations (such as labour productivity). The analysis of Tombe and Winter (2020), and before them Albouy (2012), suggests that current transfer arrangements do not enhance efficiency overall.

In summary, taking account of the direct and indirect impacts associated with the regional pattern of federal fiscal balances, it would appear that the redistribution of income, employment and population is disproportionately from Alberta and, in some periods, from B.C. While the federal government has also run large fiscal surpluses with Ontario, these balances have been more modest considering the size of the province’s economy and the indirect effects from federal fiscal deficits with other regions that are net importers of goods and services from Ontario. The greatest redistribution has been and continues to be to Quebec, the Atlantic region, Manitoba and the territories.

REDISTRIBUTION PATTERNS OVER TIME

The amount of regional redistribution through federal fiscal policy has varied over time. To evaluate this temporal pattern, we examine the impacts on personal incomes received in the regions for various sub-periods within the 1961-2018 timeframe. This is accomplished using the following equation as employed in Mansell and Schlenker (1995, 10).

$$\frac{MI^i - NFB^i}{MI - NFB} = \beta_0 + \beta_1 \frac{MI^i}{MI} \quad (\text{Equation 1})$$

where, MI^i = per capita market income in province i ,

MI = average per capita market income for all provinces,

NFB^i = per capita net federal fiscal balance in province i , and

NFB = average per capita net federal fiscal balance for all provinces.

Market income is defined as before-tax personal income less all income in the form of government transfers. The equation captures the responsiveness of changes to the net federal fiscal balance for a region, relative to changes in market incomes in the region. For example, it measures the degree to which a drop in a region's relative market income is offset by the effects of a change in federal taxes, expenditures or transfers.

We estimate the values of β_0 and β_1 for the 1961-2018 period and sub-periods using this equation. Using cross-section data for personal income, taxes and transfers from Statistics Canada and the per capita fiscal balances outlined in Section 2 above, estimates for β_0 and β_1 are obtained from an OLS regression. The estimated value for β_1 indicates the importance of federal fiscal flows in redistributing personal incomes across provinces. In particular, the deviation of the value of β_1 from unity (that is, the value of $(1 - \beta_1)$) shows the percentage of any initial difference in per capita market incomes between provinces that is closed via federal fiscal redistribution. For example, suppose the value of β_1 is 0.6. This means that if per capita market income in province A were 10 per cent higher than that in province B prior to the federal fiscal redistribution, after this redistribution per capita income in A would only be six per cent higher than in province B.

The estimated values for β_0 , β_1 and $(1 - \beta_1)$ are provided in Table 5. The values for $(1 - \beta_1)$ indicate that federal fiscal balances produced very little redistribution of personal incomes from high-income to low-income provinces in the 1960s, particularly given the modest beginnings for many of the federal fiscal policies in terms of their redistributive power. But then the amount of redistribution increased substantially in the 1970s, rising to a value of 1.1 during the 1980s (meaning that redistribution was 110 per cent of provincial differences in per capita market incomes). This latter result appears largely due to the National Energy Program which generated a huge regional redistribution. The level of redistribution fell in the 1990s to about 0.35 and thereafter has been in the range of 0.6 and 0.5, indicating that in more recent periods, federal fiscal balances have reduced provincial differences in per capita market incomes by between 50 and 60 per cent.

TABLE 5: ESTIMATES OF PARAMETERS FOR EQUATION 1 (*t*-statistics in brackets)

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
β_0	0.18 (4.82)	0.54 (6.60)	0.90 (9.60)	0.40 (6.83)	0.53 (11.94)	0.45 (14.67)	0.45 (23.13)
β_1	0.92 (16.07)	0.40 (3.52)	-0.10 (-0.76)	0.65 (8.41)	0.44 (8.31)	0.55 (14.64)	0.56 (23.58)
$1 - \beta_1$	0.08	0.60	1.10	0.35	0.56	0.45	0.44

Source: Authors' calculations

5. DECOMPOSING FEDERAL FISCAL BALANCES

As noted earlier, there are numerous factors behind the regional distribution of federal fiscal balances (or gaps). We now turn to an analysis to highlight these factors and their relative contributions to the fiscal gaps.

Differences between federal revenue and spending across provinces are due to various specific tax and spending initiatives. Some provinces contribute more to federal revenue through higher GST payments or higher income tax payments than the overall Canadian average, for example. Some receive less in federal spending through lower OAS (Old Age Security) or EI (Employment Insurance) benefits than the overall Canadian average. Some have smaller federal purchases of goods and services than the overall average. These are all examples of relevant factors to consider.

To decompose the underlying source of redistribution from all federal fiscal (revenue and spending) programs, we evaluate each province's average revenue paid per capita and spending received per capita relative to the national average level. This allows for a consistent benchmark to which a province may be compared, and allows for a clean decomposition of overall fiscal gaps. Though this differs slightly from the earlier analysis in this paper, which aggregates total gaps between revenue and spending, the differences are only minor. Here, we examine the latest decade for which data are available: 2009 through 2018.

Before proceeding to a full examination of the data, consider three simple examples: GST payments, OAS benefits and personal income taxes. Canada levies a five per cent value-added tax on a broad set of final goods and services consumed in all provinces and territories. The same rate applies whether one is purchasing a new iPhone in British Columbia or in Newfoundland and Labrador. But the value of total household spending and, therefore, the total taxable consumer expenditures per capita varies from one province to the next. In 2017, the latest year for which average household spending is available in Statistics Canada table 11-10-0022-01, total current consumption approached \$64,000 per household on average across Canada. This varied from a low of \$52,608, on average, in New Brunswick to a high of \$72,957, on average, in Alberta. The higher level of consumption expenditures in Alberta will, therefore, mean higher average per capita GST payments from residents there, despite the common five per cent tax rate found everywhere. For the 10-year period ending 2018, we estimate that GST payments per capita in Alberta were \$372 per capita above the national average amount per year. This contributes to the difference between federal revenue and spending in the province.

Turning to the other side of the budget, spending is also unequally distributed. OAS benefits are one of the larger elderly pension benefits available in Canada, outside of the Canada Pension Plan (CPP). These benefits provide a monthly payment to those aged 65 and older, although benefits are means tested. Those with annual incomes above a predetermined maximum level receive only partial benefits or, if incomes are high enough, no benefits at all. Importantly, the benefits you are entitled to receive do not vary from one province to the next. Despite the uniform program design, total spending on OAS benefits will vary by province on account of demographics and overall income levels of elderly Canadians. The proportion of Alberta residents aged 65 or over, for example, was 13.3 per cent in 2019, while the proportion was 21.5 per cent in Newfoundland and Labrador. Thus, average per capita OAS benefits flowing to Newfoundland and Labrador residents will exceed average per capita benefits flowing to Alberta residents on account of their different population age structures. For the 10-year period ending 2018, we estimate overall OAS benefits were \$384 per capita lower in Alberta than the national average, but \$399 per capita higher than the national average

in Newfoundland and Labrador. This is another example of a contributor to the regional differences between federal revenue and spending.

As a final example, consider the largest source of tax liabilities for most Canadians: federal personal income taxes. Most individuals with taxable incomes over \$12,000 will pay federal personal income taxes. Such taxes are, at first, 15 per cent of each incremental dollar earned, rising to 33 per cent for incomes over \$214,368 (the top income tax bracket for 2020). This progressive tax structure implies that the average share of total income paid in income taxes is increasing in one's income. Those in the bottom five per cent of Canada's income distribution, for example, paid only 0.2 per cent of their income in federal income taxes in 2017, while the top five per cent paid nearly 27 per cent of theirs.¹⁴ Since the distribution of income across provinces is not identical, average federal income taxes paid will differ. Of Canada's top decile earners, 475,000 live in Alberta (or 17 per cent of the total in Canada), although the province accounts for only 11.6 per cent of the country's population. Prince Edward Island, meanwhile, accounts for only 0.2 per cent of the top decile tax filers, but 0.4 per cent of the country's total population. These differences mean the aggregate personal income tax payments per capita in Alberta will be larger on account of more high-income earning individuals residing there. For the 10 years ending 2018, we estimate nearly \$2,100 higher personal income taxes per capita in Alberta compared to the national average, while per capita payments are over \$1,200 lower for P.E.I.

The analysis proceeds in a similar fashion across all relevant federal revenue and spending programs and across all regions. It involves an evaluation of each region's average revenue share contributed per capita and federal spending and transfers received per capita relative to the national average level. This provides a consistent benchmark for comparisons among the regions. The contributions of the various policies in the per capita federal fiscal balances for each region are shown in Table 6.

TABLE 6: AVERAGE ANNUAL CONTRIBUTIONS TO PER CAPITAL FEDERAL FISCAL BALANCES BY PROVINCE AND SOURCE, 2009-2018 (2018 DOLLARS)

	AB	BC	MB	NB	NL	NS	ON	PEI	QC	SK
Personal Income Taxes	2,069	3	(723)	(1,052)	(190)	(843)	294	(1,239)	(1,171)	18
Equalization and Stabilization	508	508	(1,095)	(1,885)	508	(1,413)	368	(2,145)	(711)	514
Corporate Income Taxes	951	(86)	(370)	(599)	(294)	(505)	7	(635)	(268)	295
CPP Net Contributions	735	73	82	(253)	(237)	(557)	(19)	(289)	(292)	112
Non-defense Purchases	670	385	(45)	(618)	(416)	(1,128)	(229)	(1,923)	59	221
OAS Benefits	384	(17)	71	(328)	(399)	(255)	68	(230)	(221)	55
EI Payments less Receipts	141	78	102	(702)	(1,335)	(409)	99	(1,111)	(90)	96
GST and Excise Taxes	372	89	(101)	(117)	66	(53)	(7)	(112)	(205)	99
Defense Purchases	121	207	(66)	(714)	201	(2,223)	(78)	153	224	351
Other Policies	129	(106)	(1,413)	(404)	(1,422)	(558)	103	(1,485)	468	(1,471)

Source: Authors' calculations

¹⁴

Effective tax rates are reported by Statistics Canada in table 11-10-0054-01.

The positive values indicate the amount contributed by the particular policy to the region's overall federal fiscal balance. For example, in the case of Alberta, of the province's average annual net per capita fiscal contribution over the period 2009 – 2018, \$735 is due to higher net CPP contributions (that is, CPP contributions minus CPP payments received). Similarly, \$670 is due to the below average federal non-defence purchases in Alberta and \$121 is due to the below average defence purchases in the province. The negative numbers (shown in brackets), on the other hand, show the average net per capita gain to a region associated with the particular policy. For example, the EI program accounted for an average net annual per capita benefit of \$1,111 for Prince Edward Island.

The policy areas accounting for the largest annual per capita net federal fiscal inflows include: defence purchases (for Nova Scotia \$2,223 above the national average, presumably related to CFB Halifax and the Atlantic Fleet headquarters, and \$714 for New Brunswick); equalization and stabilization payments (\$2,145 for Prince Edward Island, \$1,885 for New Brunswick, \$1,413 for Nova Scotia, \$1,095 for Manitoba and \$711 for Quebec); employment insurance (\$1,335 for Newfoundland and Labrador, \$1,111 for Prince Edward Island and \$702 for New Brunswick); personal income taxes (\$1,239 in Prince Edward Island, \$1,171 for Quebec, \$1,052 for New Brunswick, \$843 for Nova Scotia and \$723 for Manitoba); non-defence purchases (\$1,923 for Prince Edward Island, \$1,128 for Nova Scotia and \$618 for New Brunswick); corporate taxes (\$635 for Prince Edward Island, \$599 for New Brunswick and \$505 for Nova Scotia) and other policies (over \$1,400 in Prince Edward Island, Saskatchewan, Newfoundland and Labrador, and Manitoba).

In the case of the regions with net federal fiscal outflows, personal income taxes are the largest contributor (amounting to \$2,069 per person per year in Alberta's case). Next is corporate income taxes, CPP net contributions and non-defence purchases (respectively at \$951, \$735 and \$670 per person annually for Alberta), followed by equalization and stabilization (amounting to just over \$500 per person per year for Alberta, Newfoundland and Saskatchewan). As indicated in Table 6, all 10 policy areas result in net outflows from Alberta. The comparable numbers are nine for Saskatchewan, seven for British Columbia and six for Ontario.

To find the total redistribution across Canada as a whole, we multiply each per capita gap in Table 6 by each province's population. The results are provided in Table 7. For example, as indicated in the first column, of the net average annual transfer out of Alberta of about \$24 billion, \$8.3 billion was accounted for by personal income taxes, \$3.8 billion by corporate taxes, \$2.9 billion by CPP, \$2.7 billion by non-defence purchases, \$2 billion by equalization and stabilization, \$1.5 billion by OAS, \$1.5 billion by GST, and \$1.6 billion by a combination of employment insurance, defence purchases and other policy areas.

It is important to recall that the values shown in Table 7 (and Table 6) are based on actuals compared to a benchmark of equal per capita federal revenues and expenditures across all regions. As such, the amounts of redistribution shown under each policy area will be different from actual total revenues and expenditures. For example, the average redistribution under Equalization and Stabilization shown for Quebec is \$5.8 billion, compared to an average of about \$9 billion the province actually received over the same time period.

Overall, these deviations between revenue and spending across all provinces and programs represent an implicit redistribution of fiscal resources through the federal budget amounting to over \$38 billion per year – or nearly two per cent of national GDP.

TABLE 7: AVERAGE ANNUAL CONTRIBUTION TO FEDERAL FISCAL BALANCES BY PROVINCE AND SOURCE, 2009-2018, (MILLIONS 2018 DOLLARS)

	AB	BC	MB	NB	NL	NS	ON	PEI	QC	SK
Personal Income Taxes	8,279	12	(922)	(799)	(100)	(796)	3,992	(180)	(9,507)	20
Equalization and Stabilization	2,032	2,379	(1,396)	(1,431)	267	(1,333)	4,999	(312)	(5,771)	567
Corporate Income Taxes	3,805	402	(472)	(455)	(154)	(477)	99	(92)	(2,176)	325
CPP Net Contributions	2,941	342	105	(192)	(125)	(525)	(257)	(42)	(2,371)	123
Non-defense Purchases	2,681	1,805	(57)	(469)	(219)	(1,064)	(3,117)	(280)	476	244
OAS Benefits	1,536	(82)	91	(249)	(210)	(241)	920	(33)	(1,792)	61
EI Payments less Receipts	564	364	130	(533)	(702)	(386)	1,348	(162)	(729)	105
GST and Excise Taxes	1,490	419	(129)	(89)	35	(50)	(101)	(16)	(1,668)	109
Defense Purchases	485	970	(84)	(542)	106	(2,098)	(1,063)	22	1,818	387
Other Factors	516	(498)	(1,802)	(306)	(748)	(527)	1,399	(216)	3,802	(1,621)

Source: Authors' calculations

At a national level, it is more difficult to decompose transfers in this way since, for some provinces, individual revenue and spending components that contribute to redistribution do so in opposing directions. Therefore, to decompose the underlying contribution to fiscal redistribution at a national level, we follow Tombe (2018) and estimate the marginal contribution from each component across all possible permutations of the 10 categories reported here.¹⁵ We report the aggregate contribution of each component to overall national fiscal redistribution in Table 8. Personal income taxes account for 31 per cent, equalization for 24 per cent, corporate income taxes for nine per cent, and so on. Despite the attention that Canada's equalization program receives, fully 3/4 of national fiscal redistribution through the federal budget is accounted for by other revenue and spending programs.

¹⁵

This involves simulating the roughly 3.6 million possible orderings of setting each component's per capita redistribution to zero and recording the resulting aggregate change in national redistribution. Since the order matters, we average the marginal effect across all possible permutations.

TABLE 8: DECOMPOSITION OF THE SOURCES OF AVERAGE ANNUAL FISCAL BALANCES BY PROVINCE AND SOURCE, 2009-2018, IN PER CENT OF TOTAL

	National Share
Personal Income Taxes	31%
Equalization and Stabilization	24%
Corporate Income Taxes	9%
CPP Net Contributions	8%
Non-defense Purchases	6%
OAS Benefits	6%
EI Payments less Receipts	6%
GST and Excise Taxes	5%
Defense Purchases	3%
Other Factors	3%

Source: Authors' calculations

6. REGIONAL EQUITY

Real and perceived fair treatment of provinces and territories are particularly charged elements of federal policies within Confederation. Unlike other federations, such as the United States, there is no effective upper chamber representing the regions to counterbalance a Parliament based strictly on population, particularly when the population is concentrated in just two regions. The result is that there is less protection for the economic interests of less populous provinces, especially those most distant and different from the centre. While there are some commitments to provincial equity and fairness, notably those in the 1982 *Constitution Act* (Part III, Section 36), the elements identified there are so general it is difficult to develop from them a precise general measure of provincial equity. There are of course narrow equity measures such as those for fiscal capacity used to set fiscal equalization transfers. Granofsky and Zon (2014), for example, use this measure to argue for a reform of the equalization program and increased federal spending in Ontario. Similarly, Courchene and Courchene (2020) argue that fundamental flaws in the equalization formula create substantial inequities, particularly for Alberta.

The definition and measure of fairness we use here is that of horizontal and vertical regional equity. It is fairly broad and draws on the public finance literature.¹⁶ Specifically, in a regional context horizontal equity means, in an aggregate sense, that provinces with similar levels of per capita market income (that is, income prior to taxes and transfers) should have similar federal fiscal balances. Vertical equity requires that provinces with above-average per capita market incomes have positive federal fiscal balances (that is, are net fiscal contributors) while provinces with below average per capita market incomes would have negative federal fiscal balances. Vertical equity also requires that there should be a consistent pattern of progressivity.

¹⁶ For a discussion, see Mansell and Schlenker (1992).

Using the data on fiscal balances previously described, along with data on personal income before taxes and transfers, we can make comparisons between fiscal balances expressed in ratio form and relative per capita market incomes. The data used in making these comparisons are shown in Tables 9-12 below.

TABLE 9: RELATIVE PER CAPITA FEDERAL REVENUE, BY REGION, 1961-2018

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	52	53	54	65	88	112	73
PEI	55	62	62	77	78	75	70
NS	74	81	77	79	81	83	80
NB	64	68	69	75	74	77	72
QC	80	69	71	85	83	78	78
ON	126	113	108	115	109	104	111
MB	92	88	80	84	79	84	84
SK	75	90	91	81	88	106	90
AB	101	175	198	113	136	142	148
BC	118	110	96	102	95	99	102
TERR	157	169	136	113	139	136	139

TABLE 10: RELATIVE PER CAPITA FEDERAL EXPENDITURES AND TRANSFERS BY REGION, 1961-2018

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	106	124	132	161	172	144	144
PEI	141	161	148	160	174	172	161
NS	159	165	155	157	166	166	161
NB	120	136	135	140	146	150	140
QC	77	88	90	98	96	97	93
ON	94	87	84	87	88	93	88
MB	111	110	113	123	132	123	120
SK	105	104	109	116	119	100	110
AB	107	98	101	83	79	75	89
BC	102	97	93	86	86	84	90
TERR	387	320	435	394	485	533	433

TABLE 11: RELATIVE PER CAPITA MARKET INCOME BY REGION, 1961-2018

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	67	71	69	75	82	96	80
PEI	66	72	77	83	83	82	79
NS	84	85	90	93	93	89	90
NB	76	78	82	88	87	86	84
QC	106	105	102	101	99	93	100
ON	139	130	126	122	114	102	118
MB	109	104	101	98	91	91	97
SK	98	100	97	90	93	105	97
AB	115	118	124	117	130	127	123
BC	129	124	117	114	108	102	113
TERR	114	114	114	119	121	126	119

TABLE 12: RELATIVE PER CAPITA NET FEDERAL FISCAL CONTRIBUTION (RATIO OF FEDERAL REVENUES TO FEDERAL EXPENDITURES AND TRANSFERS), BY REGION, 1961-2018

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-18	1961-2018
NL	49	43	41	40	51	78	51
PEI	39	38	42	48	45	43	43
NS	47	49	50	50	49	50	49
NB	53	50	51	54	50	52	52
QC	104	79	79	87	86	80	84
ON	134	130	129	132	124	112	126
MB	83	80	71	68	60	69	70
SK	71	86	83	70	74	106	82
AB	95	179	196	135	173	188	166
BC	116	114	103	119	110	119	113
TERR	41	53	31	29	29	26	32

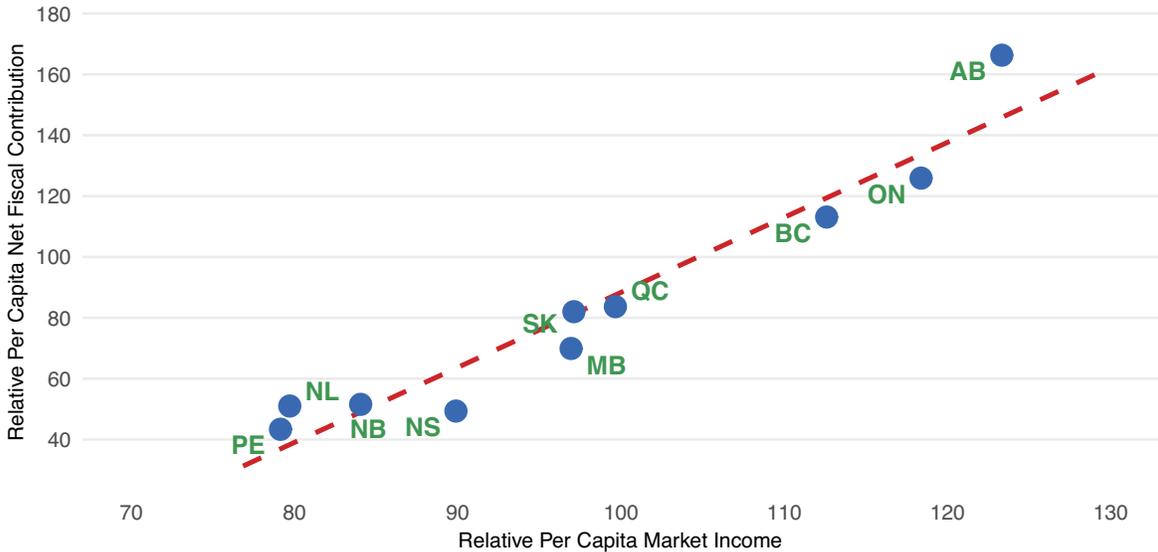
For example, as indicated in Table 11, the per capita market income in Newfoundland and Labrador, averaged over the period 1961-2018, is 80 per cent of the average for Canada. For the comparable case, as shown in Table 12, the ratio of federal revenue to federal expenditures and transfers in the case of Newfoundland and Labrador averaged 51 per cent. The latter figure is the result of federal revenues per capita for the province over the 1961-2018 period being 73 per cent of the national average (see Table 9) and federal expenditures and transfers being 144 per cent of the national average (see Table 10).

The relative per capita market incomes and relative per capita net federal contributions for the 1961-2018 period are graphed in Figure 5. The fitted dotted line reflects the vertical equity benchmark as revealed by the observed patterns for relative income and net contributions. Inequities are suggested by significant and long-term deviations from this line. That is, an inequity would exist in situations where one province makes

larger net contributions than another province with higher market incomes, or where a province with below average market incomes receives larger net fiscal benefits than another province with lower market incomes. A province that consistently lies to the left of the fitted line would be paying too much, or receiving less, than its fair share while the opposite would apply to a region consistently to the right of the fitted line.

As indicated in Figure 5, for the period as a whole, most provinces are close to the fitted equity line.¹⁷ The most significant deviation is in the case of Alberta, which has a much larger net fiscal contribution over the full 1961-2018 period than would be expected given its relative per capita market income. Other less serious deviations would appear to be the case of Newfoundland where the net federal fiscal contributions seem high in

FIGURE 5: RELATIVE MARKET INCOME AND RELATIVE NET FEDERAL CONTRIBUTIONS, 1961-2018



relation to its relative income position. In the cases of Nova Scotia and Manitoba, their net fiscal benefits are larger than expected, based on the equity line. The positions for Saskatchewan and Manitoba suggest a case of horizontal regional inequity in that with very similar relative per capita incomes, Manitoba’s net fiscal benefits have tended to be greater than those for Saskatchewan. Overall, however, the relative fiscal treatment of a province – as measured by the ratio of federal revenue to spending – is largely due to the variation in relative levels of average market income.

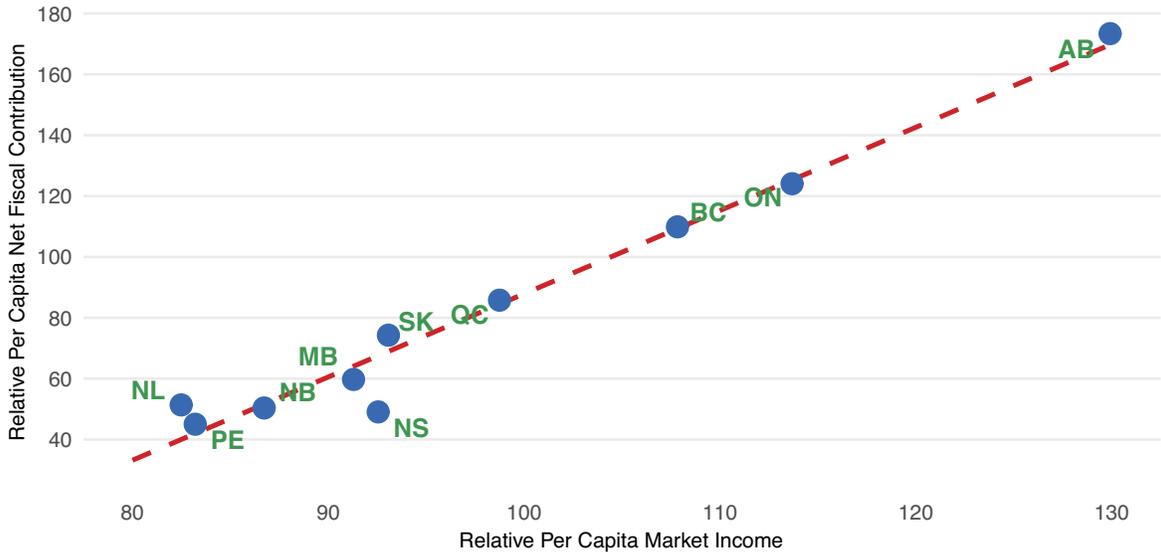
There have been some significant shifts within the 1961-2018 period in the regional positions relative to the equity line. By far, the largest inequity indicated is with respect to Alberta, particularly over the 1970-1989 period. As the figures in Annex 2 show, the province made much larger net fiscal contributions than would be expected given its

¹⁷ Note that the values for the territories are not shown. While the territories are major beneficiaries, this is primarily because of the very high per capita federal expenditures, which largely reflect their small and dispersed population.

relative income position and the vertical and horizontal equity benchmarks. As noted earlier, this was largely related to federal energy policies.

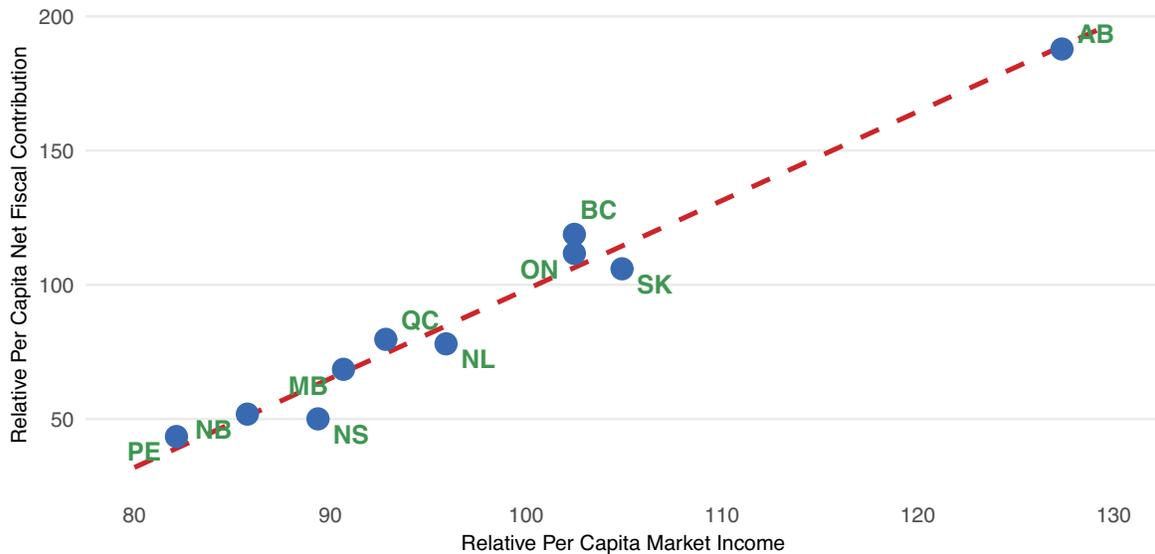
If we consider only the post-2000 period, for example, (see Figures 6 and 7) there is a shift in Alberta's position toward the equity line, suggesting a decrease in horizontal inequity. Of particular note is the large gain in relative per capita market incomes for the province. Its high relative income position is due to a combination of factors including above average productivity and wage rates, longer hours worked per week and a high employment rate.¹⁸ However, more recent data indicate that, with the ongoing economic difficulties facing the province since 2015, this relative income position is fairly quickly deteriorating.

FIGURE 6: RELATIVE MARKET INCOME AND RELATIVE NET FEDERAL CONTRIBUTIONS, 2000-2009



¹⁸ The employment rate is total employment as a percentage of the population.

FIGURE 7: RELATIVE MARKET INCOME AND RELATIVE NET FEDERAL CONTRIBUTIONS, 2010-2018



Other noteworthy cases include an inequity in the case of Quebec during the 1960s (where it was significantly above the equity line – see figures in Annex 2), the case of Newfoundland and Labrador, which has tended to be above the equity line in most periods and the cases of Nova Scotia and Manitoba, which have tended to be below the equity line.

7. REGIONAL STABILIZATION

Here we examine two aspects of regional economic stabilization goals inherent in the efficient and effective operation of a federation.¹⁹ The first deals with the behaviour of the federal fiscal balance for a region in response to variations in market income in the region, particularly in a situation where there are substantial declines in this income. In such a case, effective macroeconomic stabilization for the region would require a significant reduction in net federal fiscal contributions in an above-average income region, or a significant increase in the net federal fiscal benefits in a below-average income region. The second aspect concerns revenue stabilization for the government of the region. In the case where regional government revenues experience substantial drops due to external factors (most frequently associated with sharp drops in international commodity prices), this requires compensating increases in federal transfers (for example, through the fiscal stabilization program) to the regional government.

MACRO STABILIZATION

As noted by Kneebone and McKenzie (1998, 7), variations in some provincial economies (especially those of Alberta and Saskatchewan) are not typically highly correlated with

¹⁹ See item (v) under Section 1.

those of the other regions or the national economy. Therefore, stabilization policy based on fluctuations in national output may not be appropriate for all regions. Consequently, federal policies which provide some automatic stabilization for individual provinces are important. This includes federal fiscal policies that automatically reduce the federal revenue outflow from a region during a downturn in the region's economy and automatically increase federal expenditures and transfers to the region in such a case to assist in stabilizing incomes and employment in the region.

Kneebone and McKenzie (1998) note that any automatic stabilization via federal fiscal policy has been primarily through expenditure and transfer policies rather than taxation policies. Further, the degree of automatic stabilization has declined over time as the large expenditure and transfer programs (such as the Canada Health and Social transfer programs) have become driven by factors other than variations in a region's economy.

In any event, one would expect there to be some regional economic stabilization through automatic or discretionary federal fiscal policies. To test whether, and to what extent, this occurs in various provinces, we estimate the following equation.

$$(X_t - X_{t-1}) = \beta_0 + \beta_1(Y_t - Y_{t-1}) \quad (\text{Equation 2})$$

where, $X_t = \left(\frac{MI^i - NFB^i}{MI - NFB}\right)_t$ and $Y_t = \left(\frac{MI^i}{MI}\right)_t$ and where MI and NFB are as defined for Equation 1.

This is essentially the first difference form of equation 1 outlined previously in Section 4. We estimate the parameters β_0 and β_1 using an OLS regression and data for each province covering the 1961-2018 period. The estimated values of the critical β_1 parameter for each province, along with the corresponding value of $(1 - \beta_1)$, are presented in Table 13.

The value of $(1 - \beta_1)$ provides a measure of stabilization. That is, it tells us the level of stabilization in percentage terms for each province. For example, if the value β_1 was 0.9, a 10-unit drop in market income would be matched by a nine-unit decline in after-tax and after-transfer personal income. For this case, stabilization amounts to $(1 - 0.9)$ or 10 per cent. So, in general, the smaller the value of β_1 , the larger is the value for $(1 - \beta_1)$ and the larger is the degree of stabilization through the combination of federal tax, expenditure and transfer policies.

TABLE 13: REGRESSION RESULTS FOR EQUATION 2 (AT 10.0 PER CENT SIGNIFICANCE LEVEL)

	β_1	t-statistic	$1 - \beta_1$	Adjusted R ²
NL	0.45	1.68	0.55	0.03
PEI	0.77	6.60	0.23	0.43
NS	0.34	1.80	0.66	0.04
NB	0.41	1.83	0.59	0.04
QB	0.67	5.62	0.33	0.35
ON	0.31	2.31	0.69	0.07
MB	0.67	6.94	0.33	0.46
SK	0.85	19.13	0.15	0.87
BC	0.85	7.92	0.15	0.52
<i>Not significant result</i>				
AB	0.19	0.83	0.81	-0.01

From Table 13 we see that for Ontario, the value of $(1 - \beta_1)$ was 0.69, or 69 per cent. That is, federal fiscal redistribution policies appear to have reduced the year-to-year variations in per capita after-tax, after-transfer incomes in Ontario by 69 per cent. As indicated, the explanatory power of the equation is weak, in some cases suggesting relatively little regional variation relative to other provinces or other important factors affecting variations in personal income. That aside, the value of $(1 - \beta_1)$ is positive and statistically significant for all provinces but Alberta. Except for the latter, the degree of stabilization varies between 15 and 69 per cent. These results suggest that federal redistribution policies have significantly reduced the year-to-year variations in personal incomes for most provinces. No significant stabilization effects appear for Alberta, and only weak stabilization appears in the cases of Saskatchewan and B.C.

PROVINCIAL REVENUE STABILIZATION

Regional governments also play a role in stabilizing their economies. But to pursue effective stabilization policies, particularly in cases of large and externally generated downturns, it is important that these governments have reasonably stable and predictable revenues.

Unlike the fiscal equalization program that is focused on structural fiscal disparities among provinces, the federal fiscal stabilization program is intended to provide protection for provinces in cases where there are large year-over-year drops in provincial government revenues due to external factors.²⁰ As noted by Dahlby (2019, 5) there have been numerous instances of dramatic reductions in provincial governments' own-source revenues in Alberta, Saskatchewan and Newfoundland. In the case of Alberta, for example, these revenues dropped by \$8.8 billion in 2015-2016 (roughly 20 per cent or over \$2,100 per capita). Over the period 1986-2018, there have been four instances of nine per cent or larger declines in these revenues from previous five-year averages, with

²⁰

For details on the fiscal stabilization program, see: <https://www.canada.ca/en/department-finance/news/2016/02/background-the-fiscal-stabilization-program.html>

two instances of 25 and 34 per cent declines (and five instances involving more than five per cent declines). For Saskatchewan, there have been two instances of greater than nine per cent reductions (and three instances of a decline of 4.7 per cent or greater) and in the case of Newfoundland (and Labrador) there have been three such experiences over this period (and seven instances of declines of five per cent or greater). The only other province to experience a swing of this magnitude (a 16.4 per cent decline) was New Brunswick (in 1998-1999).

These large declines in Alberta, Saskatchewan and Newfoundland have been due to big swings in resource rents as a result of the vagaries of international commodity prices and, in some cases, federal energy and taxation policies. The federal fiscal stabilization program, however, has been limited in the scale of support to provinces experiencing sudden and dramatic revenue reductions. For example, under this program the federal stabilization payment to the Alberta government after suffering the drop of \$8.8 billion in revenue in 2015-2016 was \$248 million.²¹ This very low coverage primarily results from changes in the program over time that included a deductible of 50 per cent for resource revenues, a deductible of five per cent for non-resource revenues and a cap of \$60 per capita in the payments to provincial governments.

An important element of the benefits to a region from being part of a federation is the gains from risk sharing (see item (v) in Section 1 above). As noted by Bucovetsky (1998), a big advantage to members is the possibility of insurance against region-specific shocks if the different regions are exposed to random shocks that are not highly correlated. There have been several recent pieces of analysis exploring alternative design options for stabilization to enhance its insurance role for provincial governments. Dahlby (2019) shows that by pooling the risk and using standard insurance principles, it is possible to define a fiscal co-insurance scheme to stabilize provincial own-source revenues. Such stabilization is particularly important in the cases of Alberta, Saskatchewan and Newfoundland. Using three different levels of insurance coverage, Dahlby shows that a reformed fiscal stabilization program would have provided much more effective fiscal stabilization for these provinces. Depending on the level of coverage (roughly 30 per cent to 50 per cent of the own-source revenue reduction), he shows that such changes to the program would have increased the fiscal stabilization payments to Alberta to between \$7 and \$11 billion over the 1986-2018 period, to between \$260 and \$600 million to Saskatchewan and to between \$970 million and \$1.6 billion for Newfoundland. In another analysis, Tombe (2020) examines various reforms to the program that would focus it more clearly on buffering revenue volatility due mainly to economic shocks rather than resource revenue swings. In particular, he develops alternative formulas that focus on truly exogenous economic shocks to a province, such as to its non-resource fiscal capacity or to its GDP. Under the former, Alberta could have qualified for \$2.9 billion in stabilization payments between 2015 and 2016, while under the latter case it could have qualified for nearly \$4.3 billion.

Regardless of how one views the federal role for providing resource revenue insurance to provincial governments, it is clear the federal stabilization program is ripe for reform.

²¹

The initial promise of \$251.4 million was later reduced to \$248.3 million.

It is one of the central federal policy tools to control the extent to which federal fiscal balances respond to short-run changes in provincial economies.²²

8. CONCLUSIONS

Of the five basic economic policy elements associated with a well-functioning federation, two primarily relate to federal fiscal policies affecting the regional sharing of economic gains and the stabilization of regional economies. While there are frequent complaints about the regional impacts of federal fiscal (tax, expenditure and transfer) policies, the evaluation of the distribution of federal fiscal balances over the period 1961-2018 suggest that many are unfounded. Contrary to the views often expressed in Quebec, that province has been a net fiscal beneficiary over most of this period. In fact, it has been the single largest net beneficiary over the period since 1961, with a net fiscal benefit of almost \$500 billion (2018\$). At the same time, however, on a per person basis the net fiscal benefits for Quebec have tended to be significantly smaller than those for Manitoba and the four Atlantic Provinces (\$1,200 per person per year compared to just under \$3,000 for Manitoba and between \$5,000 and \$7,000 for the Atlantic region). Saskatchewan has been a net beneficiary in five of the six decades with a net benefit averaging \$1,700 per person per year but was a net fiscal contributor from 2012-2016. By far the largest net beneficiary on a per capita basis has been the territories but this largely reflects the high cost of providing public services to a small, northern and widely dispersed population.

Over the 1961-2018 period, Ontario has been the largest net fiscal contributor in absolute dollar terms (almost \$770 billion) in spite of being a net recipient over 1980-1985 and 2009-2011. In comparison, Alberta has been a net fiscal contributor every year since 1965 with a total net contribution of \$630 billion. However, taking into account the differences in population sizes, on a per capita basis Alberta's net contribution is by far the largest. For the entire period, it has averaged \$3,700 per person annually and about \$5,400 over the period since 2000 (equivalent to over \$21,000 annually for a family of four). The comparable figures for Ontario are \$1,270 per person per year for 1961-2008, \$2,500 over the period 2000-2009 and \$585 over the period 2010-2018. B.C. has been a net contributor for five of the six decades covered, with an average net contribution of \$600 per person per year.

These fiscal transfers continue to result in a significant redistribution of incomes, employment and population across provinces. Over the full period, they amount to an annual average redistribution to the Atlantic Provinces equal to about 20 per cent of total personal income. For Manitoba, Saskatchewan and Quebec, this redistribution amounts to between four per cent and one per cent of personal income. Alberta has been the largest net contributor, with a net annual average contribution of 10 per cent of its income. The comparable figures for Ontario and B.C. are, respectively, three per cent and two per cent.

²²

Courchene and Courchene (2020) also suggest reform of the equalization formula to make it more responsive to large regional fluctuations; for example, by eliminating the long lags so that it better captures more current provincial fiscal realities.

When the indirect effects are taken into account, the amount of redistribution is significantly increased. For example, the redistribution away from Alberta in the most recent decade has worked to lower employment and population in the province by over 12 per cent and reduce real incomes by more than eight per cent.

The level of this redistribution has varied over time, but in more recent periods federal fiscal balances have reduced differences in per capita market incomes by between 50 and 60 per cent.

Numerous factors account for the pattern of federal fiscal balances across regions. These include the transfers associated with federal personal and corporate income taxes, equalization and stabilization payments, CPP net contributions, defence and non-defence purchases, EI payments less receipts and OAS benefits. Of the 10 policies analyzed, all 10 result in a net fiscal outflow from Alberta. For Saskatchewan, nine produce net outflows and one generates a net inflow. For B.C., seven generate a net outflow and three produce a net inflow. In Ontario's case, six generate outflows and four generate net inflows, while for Quebec, Manitoba and Newfoundland there are three policies producing a net outflow and seven contributing to net inflows. It is interesting that, contrary to the common view that fiscal equalization payments constitute the largest source of redistribution across the regions, they actually account for only about 1/4 of the redistribution. Rather, it is the other fiscal policy components that account for the majority of the redistribution across regions in recent periods even though in most cases that may not have been their primary intent. Some, such as the energy pricing and taxation policies the federal government pursued between 1973 and 1986, were aimed at large-scale regional redistribution to the detriment of Alberta and to a lesser extent, Saskatchewan and British Columbia.

This brings us to the question of whether, and to what extent, the patterns observed for the distribution of federal fiscal balances are consistent with notions of regional equity and stabilization. It appears that the patterns are generally quite consistent with notions of horizontal and vertical equity based on per capita incomes. The most obvious outlier is Alberta, particularly in the decades of the 1970s and 1980s, with typically much larger net federal fiscal contributions than would be expected given its relative per capita income. After 2000, however, the net fiscal contribution of Alberta is in line with its relative income position. Smaller deviations can be observed over many time periods in the cases of Nova Scotia and Manitoba with larger net fiscal benefits than expected based on relative incomes and in the case of Saskatchewan, where these benefits have tended to be smaller than expected based on equity considerations.

Turning to stabilization, the regional pattern of federal fiscal balances suggests that, except for Alberta, the degree of stabilization affecting variations in personal incomes tends to be between 15 and 69 per cent, with the greater degree of stabilization evident for Ontario, Nova Scotia, New Brunswick, Newfoundland, Quebec and Manitoba. At the same time, there is a very low degree of macro stabilization for Saskatchewan and B.C. and no statistically significant degree of stabilization for Alberta. The picture for regional revenue stabilization under the fiscal stabilization program is somewhat better for most provinces but worse for the provinces of Alberta, Saskatchewan and Newfoundland, which rely more heavily on resource revenues. For these cases, revisions to the program

to reflect standard insurance principles would result in substantial improvements to this element of regional stabilization.

In summary, federal fiscal policies over the period since 1961 have generated a large amount of redistribution of incomes, employment and population across the regions. While the \$1.54 trillion fiscal transfer, primarily from Alberta and in earlier periods from Ontario, has been at some cost of overall Canadian productivity and prosperity, it has significantly benefited most of the other provinces. Further, with some exceptions, it has been generally consistent with a broad notion of equity and with regional stabilization. Those exceptions however, particularly in relation to stabilization objectives, provide a strong case for reform.

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ANNEX 1.1 NET FEDERAL FISCAL BALANCES BY PROVINCE (MILLIONS IN 2018 DOLLARS), 1961-2018

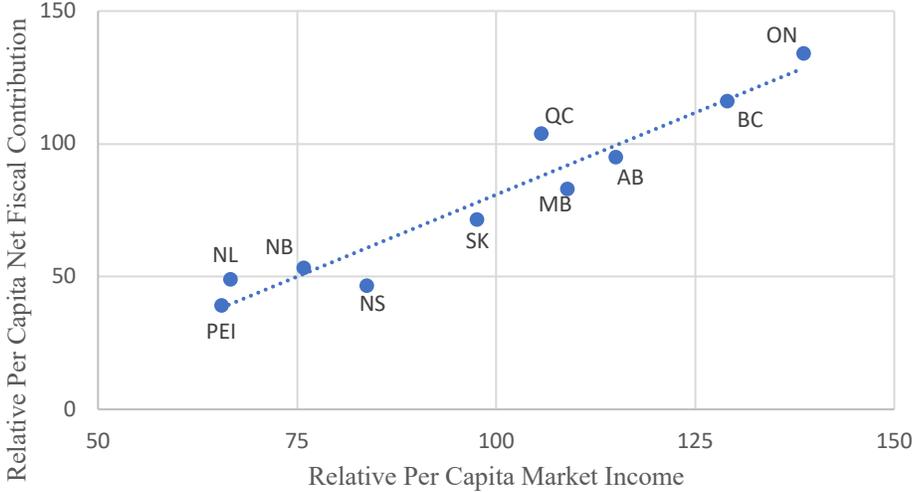
	NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC	TERR
1961	(900)	(264)	(2,220)	(1,229)	1,219	4,703	(955)	(1,364)	(837)	(437)	(527)
1962	(1,015)	(315)	(2,300)	(1,222)	781	4,060	(997)	(1,608)	(727)	117	(548)
1963	(934)	(344)	(2,256)	(1,198)	1,093	4,990	(882)	(1,163)	(652)	344	(528)
1964	(864)	(333)	(2,189)	(1,180)	2,018	8,191	(530)	(1,052)	(573)	1,069	(581)
1965	(1,098)	(445)	(2,352)	(1,263)	2,170	9,828	(537)	(1,073)	(561)	1,328	(561)
1966	(1,112)	(426)	(2,445)	(1,285)	1,767	11,213	(623)	(922)	55	1,845	(568)
1967	(1,291)	(423)	(2,786)	(1,548)	498	11,400	(679)	(884)	234	2,009	(642)
1968	(1,253)	(427)	(2,961)	(1,485)	(188)	12,115	(825)	(811)	651	2,122	(572)
1969	(1,343)	(455)	(2,832)	(1,350)	1,157	16,282	(634)	(1,081)	882	3,596	(496)
1970	(1,459)	(504)	(2,447)	(1,452)	(417)	14,565	(776)	(1,532)	697	2,726	(451)
1971	(1,728)	(574)	(2,668)	(1,728)	(2,523)	15,342	(883)	(1,735)	479	2,744	(524)
1972	(1,914)	(590)	(2,994)	(1,920)	(4,049)	15,517	(966)	(1,908)	752	2,577	(752)
1973	(2,018)	(599)	(3,361)	(2,045)	(3,013)	17,151	(990)	(1,555)	2,507	3,774	(571)
1974	(2,546)	(636)	(4,414)	(2,617)	(6,818)	14,924	(900)	141	14,514	3,122	(476)
1975	(3,163)	(801)	(5,553)	(3,662)	(12,919)	7,472	(1,696)	(648)	13,448	848	(836)
1976	(2,687)	(883)	(5,686)	(3,628)	(10,340)	9,332	(1,722)	(361)	11,161	844	(1,027)
1977	(3,298)	(956)	(6,596)	(4,152)	(14,967)	5,488	(2,686)	(919)	11,449	(890)	(1,127)
1978	(3,858)	(1,071)	(6,854)	(4,566)	(17,750)	5,137	(3,311)	(1,812)	9,392	(1,764)	(1,153)
1979	(3,451)	(946)	(6,655)	(4,348)	(16,491)	1,663	(3,430)	(1,217)	17,639	(1,056)	(1,073)
1980	(3,710)	(941)	(7,725)	(5,889)	(20,996)	(6,590)	(3,887)	26	33,219	(2,137)	(1,238)
1981	(3,364)	(816)	(7,069)	(5,562)	(19,816)	(3,456)	(2,646)	414	34,896	(873)	(1,404)
1982	(4,445)	(941)	(7,225)	(5,242)	(22,552)	(4,668)	(3,262)	(1,540)	23,154	(3,580)	(1,874)
1983	(5,024)	(944)	(7,637)	(4,650)	(20,633)	(2,698)	(3,544)	(2,888)	9,799	(4,348)	(2,006)
1984	(5,240)	(1,125)	(8,394)	(4,919)	(21,218)	(3,060)	(4,105)	(4,017)	7,333	(5,714)	(2,260)
1985	(6,186)	(1,141)	(7,693)	(5,299)	(20,762)	(2,453)	(4,527)	(4,595)	5,334	(6,130)	(2,389)
1986	(5,707)	(1,029)	(6,917)	(4,309)	(12,460)	11,278	(4,143)	(5,552)	647	(3,887)	(2,744)
1987	(4,933)	(980)	(6,288)	(4,253)	(10,182)	14,554	(4,262)	(5,634)	657	(2,751)	(2,055)
1988	(4,862)	(1,071)	(6,580)	(4,304)	(9,398)	16,852	(4,553)	(5,119)	192	(2,103)	(2,137)
1989	(4,792)	(1,105)	(6,551)	(4,447)	(9,533)	16,479	(4,319)	(4,015)	338	(1,663)	(2,503)
1990	(5,166)	(1,132)	(6,840)	(4,705)	(10,965)	12,674	(4,297)	(4,439)	1,295	(1,121)	(2,281)
1991	(4,830)	(1,016)	(6,269)	(4,328)	(12,050)	6,372	(4,605)	(4,605)	1,555	343	(2,559)
1992	(5,287)	(1,077)	(6,308)	(4,671)	(11,901)	6,852	(4,166)	(4,374)	1,668	1,332	(2,180)
1993	(5,211)	(1,005)	(6,629)	(4,388)	(14,496)	1,839	(4,270)	(4,007)	3,106	1,299	(2,635)
1994	(5,280)	(982)	(6,955)	(4,236)	(12,421)	4,457	(4,711)	(3,597)	4,028	2,442	(2,248)
1995	(4,741)	(913)	(6,478)	(3,982)	(11,708)	8,154	(4,287)	(2,579)	4,557	3,399	(1,990)
1996	(4,349)	(733)	(5,798)	(3,758)	(5,486)	15,964	(4,230)	(3,704)	5,972	5,839	(1,998)
1997	(3,647)	(756)	(4,718)	(3,029)	2,157	30,634	(2,778)	(1,343)	10,493	8,333	(1,926)
1998	(4,189)	(816)	(4,490)	(3,264)	1,235	35,487	(2,432)	(1,415)	11,541	7,881	(1,945)
1999	(4,032)	(871)	(4,307)	(3,236)	2,155	40,964	(2,838)	(2,106)	11,667	7,231	(2,635)
2000	(3,110)	(759)	(4,003)	(2,594)	5,556	48,271	(2,513)	(1,671)	14,099	9,020	(2,177)
2001	(3,385)	(977)	(5,179)	(3,398)	962	41,375	(3,159)	(2,075)	13,650	6,988	(2,393)
2002	(3,315)	(845)	(5,121)	(3,195)	1,367	38,472	(3,164)	(1,426)	14,464	5,770	(1,691)
2003	(2,857)	(813)	(4,705)	(3,267)	1,406	36,230	(3,623)	(1,989)	13,829	6,517	(2,610)
2004	(2,445)	(755)	(4,440)	(3,075)	3,683	38,661	(3,229)	(2,908)	15,543	6,924	(2,635)
2005	(5,984)	(926)	(6,953)	(4,008)	(583)	36,050	(4,535)	(2,447)	19,031	6,387	(3,334)
2006	(2,791)	(883)	(4,993)	(3,633)	(2,432)	36,407	(4,060)	(1,857)	25,023	9,572	(3,076)
2007	(2,772)	(1,100)	(6,097)	(4,406)	(8,341)	21,732	(4,826)	(1,462)	26,562	7,944	(2,989)
2008	(1,982)	(1,258)	(6,976)	(4,609)	(15,229)	10,584	(5,331)	(960)	26,311	5,154	(3,302)
2009	(3,015)	(1,447)	(7,244)	(5,134)	(18,979)	(2,944)	(5,774)	(605)	20,623	1,090	(3,578)
2010	(2,977)	(1,483)	(7,456)	(5,502)	(21,165)	(12,379)	(6,115)	(993)	19,020	(2,087)	(3,798)
2011	(2,093)	(1,311)	(7,282)	(5,187)	(17,544)	(1,103)	(5,424)	(296)	19,902	1,508	(3,589)
2012	(1,852)	(1,215)	(7,423)	(4,980)	(16,200)	1,393	(4,896)	50	21,084	3,537	(3,702)
2013	(1,324)	(1,256)	(7,211)	(4,820)	(16,016)	2,755	(4,368)	847	25,548	3,452	(3,929)
2014	(1,155)	(1,152)	(6,746)	(4,631)	(15,888)	9,463	(3,893)	1,353	28,828	5,047	(4,071)
2015	(1,306)	(1,135)	(6,810)	(4,699)	(14,797)	14,223	(3,817)	1,134	26,086	6,428	(4,183)
2016	(1,445)	(1,186)	(6,685)	(4,757)	(14,884)	16,979	(4,179)	131	16,580	7,482	(4,360)
2017	(1,589)	(1,296)	(6,842)	(4,918)	(15,495)	21,222	(4,519)	(377)	15,610	8,654	(4,486)
2018	(1,068)	(1,358)	(7,063)	(4,942)	(12,856)	21,750	(4,641)	(315)	17,175	10,231	(4,593)

ANNEX 1.2 PER CAPITA NET FEDERAL FISCAL BALANCES BY PROVINCE (IN 2018 DOLLARS), 1961-2018

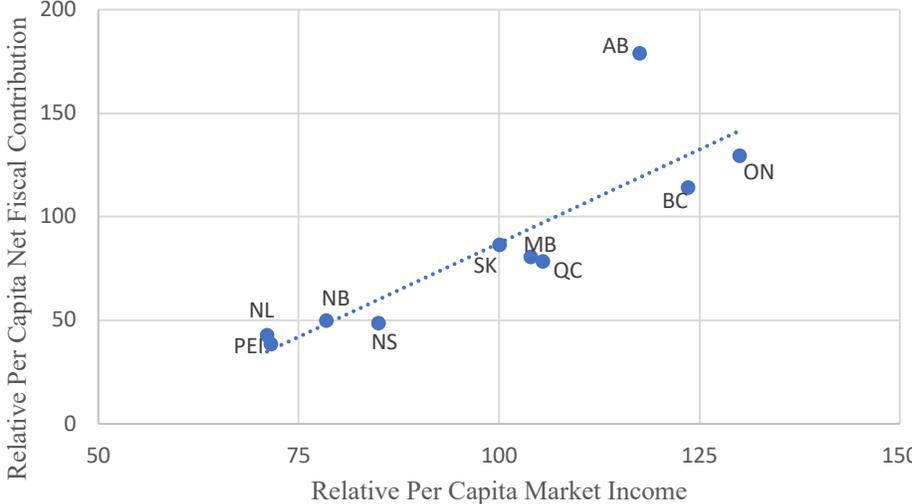
	NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC	TERR
1961	(1,967)	(2,522)	(3,016)	(2,058)	232	755	(1,037)	(1,477)	(629)	(268)	(13,968)
1962	(2,171)	(2,939)	(3,087)	(2,021)	146	640	(1,067)	(1,730)	(531)	70	(13,882)
1963	(1,964)	(3,183)	(3,010)	(1,970)	200	770	(929)	(1,249)	(465)	202	(13,048)
1964	(1,790)	(3,057)	(2,903)	(1,932)	362	1,236	(553)	(1,118)	(401)	612	(13,918)
1965	(2,254)	(4,087)	(3,116)	(2,055)	382	1,449	(557)	(1,130)	(388)	738	(13,283)
1966	(2,255)	(3,922)	(3,236)	(2,084)	306	1,612	(648)	(966)	38	985	(13,214)
1967	(2,587)	(3,883)	(3,668)	(2,497)	85	1,601	(706)	(924)	157	1,032	(14,588)
1968	(2,477)	(3,871)	(3,861)	(2,375)	(32)	1,669	(851)	(845)	428	1,059	(12,565)
1969	(2,615)	(4,097)	(3,654)	(2,152)	194	2,205	(648)	(1,129)	566	1,746	(10,491)
1970	(2,821)	(4,571)	(3,131)	(2,317)	(69)	1,929	(791)	(1,628)	437	1,281	(9,117)
1971	(3,255)	(5,099)	(3,346)	(2,690)	(411)	1,955	(884)	(1,862)	288	1,225	(9,456)
1972	(3,550)	(5,204)	(3,732)	(2,959)	(656)	1,949	(964)	(2,072)	444	1,119	(12,760)
1973	(3,699)	(5,223)	(4,138)	(3,114)	(485)	2,124	(983)	(1,705)	1,453	1,594	(9,217)
1974	(4,633)	(5,485)	(5,391)	(3,936)	(1,088)	1,819	(884)	156	8,272	1,278	(7,650)
1975	(5,683)	(6,803)	(6,719)	(5,409)	(2,041)	898	(1,655)	(706)	7,435	339	(12,909)
1976	(4,775)	(7,440)	(6,808)	(5,262)	(1,616)	1,109	(1,669)	(388)	5,971	333	(15,375)
1977	(5,834)	(7,976)	(7,853)	(5,966)	(2,327)	645	(2,589)	(973)	5,877	(346)	(16,837)
1978	(6,797)	(8,801)	(8,114)	(6,527)	(2,756)	598	(3,181)	(1,903)	4,644	(675)	(16,848)
1979	(6,054)	(7,697)	(7,835)	(6,184)	(2,550)	192	(3,307)	(1,268)	8,412	(396)	(15,615)
1980	(6,477)	(7,606)	(9,059)	(8,339)	(3,227)	(754)	(3,758)	27	15,161	(778)	(17,837)
1981	(5,847)	(6,605)	(8,269)	(7,873)	(3,027)	(392)	(2,555)	424	15,231	(309)	(19,695)
1982	(7,747)	(7,615)	(8,411)	(7,410)	(3,427)	(523)	(3,121)	(1,561)	9,770	(1,245)	(25,327)
1983	(8,674)	(7,542)	(8,795)	(6,505)	(3,125)	(299)	(3,344)	(2,884)	4,094	(1,495)	(26,957)
1984	(9,034)	(8,887)	(9,567)	(6,827)	(3,200)	(334)	(3,830)	(3,959)	3,063	(1,939)	(29,639)
1985	(10,679)	(8,941)	(8,684)	(7,326)	(3,115)	(264)	(4,182)	(4,483)	2,218	(2,060)	(30,395)
1986	(9,902)	(8,011)	(7,780)	(5,944)	(1,857)	1,195	(3,796)	(5,397)	266	(1,294)	(34,699)
1987	(8,575)	(7,616)	(7,036)	(5,844)	(1,501)	1,510	(3,880)	(5,455)	269	(902)	(25,464)
1988	(8,457)	(8,283)	(7,334)	(5,893)	(1,375)	1,713	(4,131)	(4,978)	78	(675)	(25,917)
1989	(8,312)	(8,489)	(7,248)	(6,050)	(1,377)	1,631	(3,913)	(3,938)	135	(520)	(29,661)
1990	(8,948)	(8,679)	(7,512)	(6,356)	(1,567)	1,231	(3,887)	(4,405)	508	(341)	(26,251)
1991	(8,332)	(7,793)	(6,852)	(5,805)	(1,705)	611	(4,150)	(4,593)	600	102	(28,516)
1992	(9,114)	(8,231)	(6,860)	(6,243)	(1,674)	648	(3,744)	(4,356)	634	384	(23,602)
1993	(8,985)	(7,607)	(7,175)	(5,860)	(2,026)	172	(3,820)	(3,979)	1,165	364	(28,120)
1994	(9,191)	(7,360)	(7,504)	(5,646)	(1,727)	412	(4,194)	(3,563)	1,491	664	(23,749)
1995	(8,356)	(6,793)	(6,980)	(5,303)	(1,622)	745	(3,797)	(2,543)	1,667	900	(20,546)
1996	(7,771)	(5,401)	(6,225)	(4,995)	(757)	1,440	(3,730)	(3,635)	2,152	1,507	(20,224)
1997	(6,619)	(5,558)	(5,060)	(4,026)	297	2,728	(2,445)	(1,320)	3,708	2,110	(19,390)
1998	(7,760)	(6,009)	(4,818)	(4,349)	169	3,122	(2,138)	(1,391)	3,981	1,979	(19,786)
1999	(7,561)	(6,391)	(4,613)	(4,311)	294	3,561	(2,484)	(2,075)	3,951	1,803	(26,824)
2000	(5,890)	(5,560)	(4,287)	(3,457)	755	4,132	(2,190)	(1,658)	4,693	2,233	(22,122)
2001	(6,484)	(7,152)	(5,554)	(4,531)	130	3,478	(2,744)	(2,075)	4,463	1,714	(24,141)
2002	(6,380)	(6,175)	(5,476)	(4,264)	184	3,181	(2,735)	(1,431)	4,623	1,407	(16,762)
2003	(5,511)	(5,921)	(5,017)	(4,359)	188	2,959	(3,114)	(1,996)	4,344	1,580	(25,369)
2004	(4,725)	(5,486)	(4,726)	(4,103)	489	3,120	(2,752)	(2,916)	4,799	1,666	(25,189)
2005	(11,634)	(6,707)	(7,413)	(5,358)	(77)	2,877	(3,849)	(2,463)	5,729	1,522	(31,564)
2006	(5,466)	(6,403)	(5,324)	(4,872)	(319)	2,875	(3,431)	(1,871)	7,314	2,257	(28,947)
2007	(5,446)	(7,984)	(6,520)	(5,911)	(1,084)	1,702	(4,058)	(1,459)	7,558	1,851	(27,848)
2008	(3,874)	(9,067)	(7,454)	(6,171)	(1,962)	822	(4,451)	(943)	7,317	1,185	(30,477)
2009	(5,835)	(10,345)	(7,721)	(6,846)	(2,420)	(227)	(4,778)	(585)	5,606	247	(32,676)
2010	(5,703)	(10,468)	(7,914)	(7,306)	(2,669)	(942)	(5,009)	(944)	5,096	(467)	(34,146)
2011	(3,986)	(9,104)	(7,712)	(6,864)	(2,192)	(83)	(4,397)	(278)	5,253	335	(31,733)
2012	(3,520)	(8,403)	(7,866)	(6,566)	(2,010)	104	(3,917)	47	5,442	775	(32,314)
2013	(2,512)	(8,715)	(7,668)	(6,354)	(1,975)	204	(3,454)	770	6,417	746	(33,971)
2014	(2,187)	(7,983)	(7,187)	(6,101)	(1,949)	695	(3,044)	1,216	7,059	1,072	(34,799)
2015	(2,472)	(7,851)	(7,272)	(6,192)	(1,810)	1,038	(2,953)	1,011	6,294	1,346	(35,327)
2016	(2,730)	(8,073)	(7,090)	(6,232)	(1,809)	1,224	(3,180)	115	3,951	1,540	(36,285)
2017	(3,007)	(8,613)	(7,199)	(6,413)	(1,867)	1,508	(3,385)	(328)	3,679	1,757	(36,722)
2018	(2,032)	(8,842)	(7,361)	(6,411)	(1,533)	1,519	(3,429)	(271)	3,994	2,046	(37,128)

ANNEX 2 MEASURES OF VERTICAL AND HORIZONTAL EQUITY BY DECADE, 1961-2018

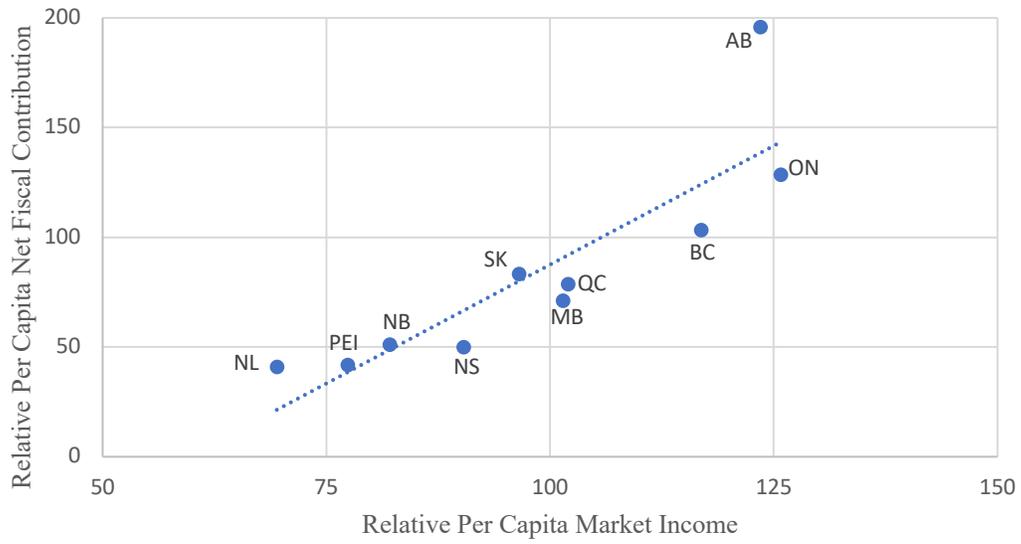
1961-1969



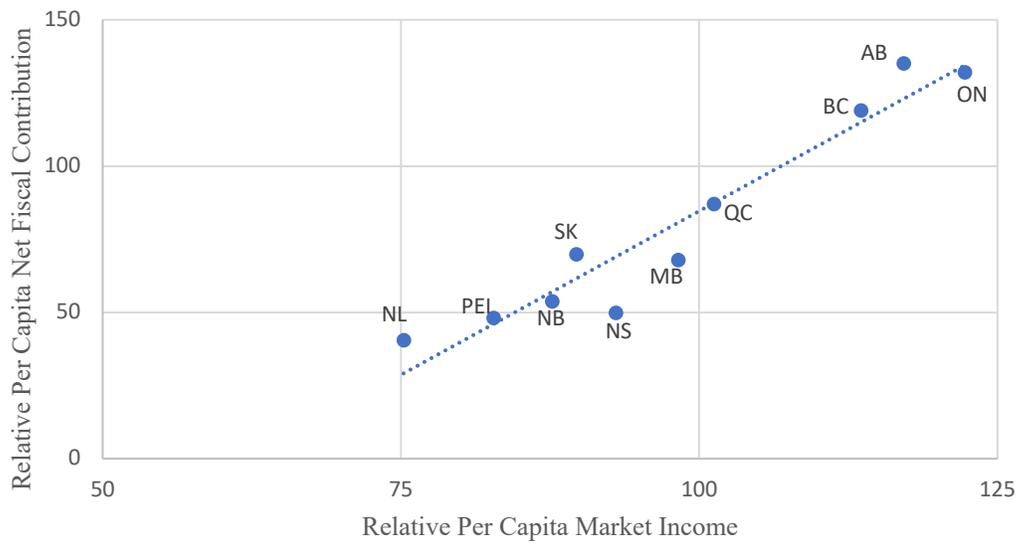
1970-1979



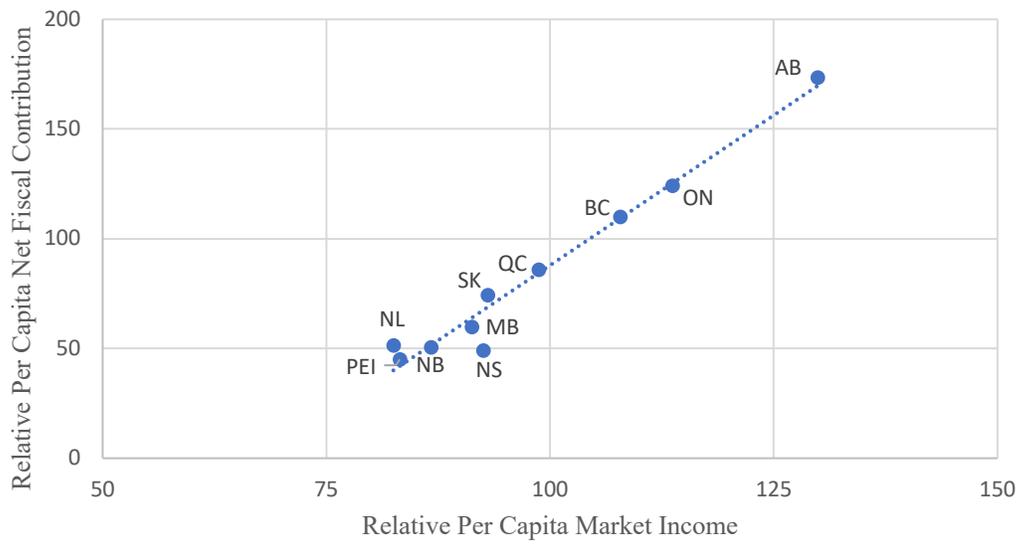
1980-1989



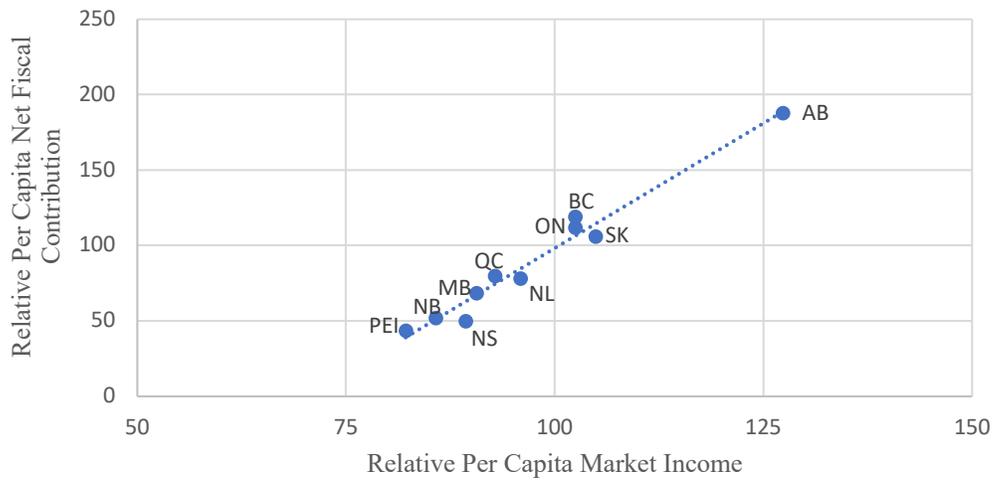
1990-1999



2000-2009



2010-2018



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Dr. Mansell is a professor emeritus of economics at the University of Calgary and research fellow at The School of Public Policy. He has a PhD in Economics with specialization in econometrics and regional / resource economics. He has authored over 100 studies on energy and regulatory issues as well as many other studies on regional economics. Examples include publications on: traditional and incentive regulation; tolling alternatives for pipelines; the economic impacts of energy and related projects; fiscal transfers, policy and restructuring; and changes and challenges in the Alberta economy.

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