

IS THERE A VERTICAL FISCAL IMBALANCE IN CANADA?

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**I dedicate this major
paper to my loving
parents: Gloria de
Rebolledo and
Guillermo Rebolledo***

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INTRODUCTION.

This paper is inspired by both the current polemic surrounding the existence of a vertical fiscal imbalance¹ in favor of the federal government of Canada, and by the impact of the Canadian population aging process on budgetary balances of consolidated provincial/territorial and federal governments.

The purpose of this paper is to investigate if there is a vertical fiscal imbalance problem in Canada by projecting forward Canadian fiscal accounts of the federal government and consolidated provincial and territorial governments, focusing on the influence of the upcoming demographic shift (due to aging population) on program spending, such as health and education.

To achieve my goal, I use The Conference Board of Canada report (2002): "Vertical Fiscal Imbalance, Fiscal Prospects for the Federal and Provincial/Territorial Governments" projections as a tool to help me to evaluate my simulations results due to the fact that this Conference Board report not only projects the public accounts of the federal and aggregate provincial/territorial governments –incorporating the influence of demographic changes on the cost of public health care and education spending- but also concludes that there is a vertical fiscal imbalance problem in Canada: aggregate provincial/territorial governments will face budgetary deficits throughout a projected period (from 2000/01 to 2019/20) while the federal government will achieve significant fiscal surpluses over the same forecast period.

¹ *"Vertical fiscal imbalance exists when the distribution of revenue resources between the federal and provincial/territorial orders of government is inconsistent with the cost of meeting their respective constitutional spending responsibilities" (The Conference Board of Canada, 2002, p.1)*

The remainder of this paper proceeds as follow:

In Chapter I, using a variety of authors' works, I approach the issue of the population aging process that will impact the whole world (particularly, industrialized countries). I also explain two different positions (optimistic and pessimistic) regarding the consequences of that process. Then, I talk briefly about public expenditure effects of population aging and how Canadian population aging will affect health care costs and other government programs such as pensions and education.

In Chapter II, also through a diversity of authors' works, I describe the principal transfer programs (the Canada Health and Social Transfer Program, the Equalization Program, and the Territorial Formula Financing Program) provided by the Canadian federal government. Then, I analyse the reasons for which some authors believe that Canada's system of intergovernmental transfers needs to be reformed, and show some reforming proposals as well. All of these analyses are made around different debates related to the adequacy of the current Canadian transfer system. Additionally, I talk briefly about the debate in terms of the existence of a vertical fiscal imbalance in Canada.

In Chapter III, I summarize the above-mentioned Conference Board report (2002) focusing on assumptions, methodology, results and conclusions. Additionally, I show the critical position assumed by the Department of Finance regarding the Conference Board findings.

In Chapter IV, I describe the methodology used to build my models.

In Chapter V, I establish a comparative analysis between my projections -which have been conducted by using the General Algebraic Modeling System (GAMS)- and those of the Conference Board. This analysis implied running a variety of simulations using different data and base years, including simulations with the purpose of replicating the

Conference Board projections tendency with respect to consolidated provincial/territorial and federal budgetary balances or the Conference Board projected values.

Finally, I conclude that the level of sensitivity of this type of projections to the base year and assumptions on various spending programs is too high to support any definitive conclusion with respect to the existence of a vertical fiscal imbalance problem in Canada.

CHAPTER I. THE POPULATION AGING PROCESS.

In this chapter, using a variety of authors' works, I address the issue of the population aging process that will impact the whole world – especially, industrialized countries – and the factors causing this demographic shock. Further, I explain two different positions (optimistic and pessimistic) regarding the consequences of population aging. Finally, I point out how the demographic structure of a population impacts on public expenditures, and how the Canadian population aging process will affect health care costs and other government programs such as pensions and education.

What is the Population Aging Process?

In this century, the proportion of elderly people is expected to grow in many countries around the world, and especially in industrialized countries. According to the United Nations medium variant population projections,² in Organization for Economic Cooperation and Development (OECD) countries, the proportion of elderly population will increase from 11.3% in 1990 to 24.5% in 2050. Therefore, the “elderly dependency ratio”³ is predicted to increase dramatically. For example, estimations for OECD countries show that the average elderly dependency ratio will increase from 17.1% in 1990 to 42.1% in 2050. In Canada, the senior population is expected to increase from 3.7 million in 1997 to 10.8 million in 2046, while total Canadian population will grow from 30 million to 44.4 million for the same period; therefore, the increase of Canadian

²Medium variant population projection is one of the ONU's projection variants. For the case of Canada, medium variant projection assumes a fertility rate of 1.55 children per woman, a crude mortality rate of 9.4 persons per 1,000 population, and a net migration rate of 0.9 persons per 1,000 population.

³ It is equal to the number of people who are 65 and more years old divided by the amount of people whose ages are between 15 and 64.

senior population will represent almost half of the increase of the total population. In addition, The Conference Board of Canada (2002) estimates that the proportion of Canadians over the age of 55 will increase from 22% in 2000 to 32% in 2020.

This demographic shock is generally attributed to various factors: the fact that the baby boom generation (people who were born between 1946 and 1966) is approaching to retirement, the existence of lower birth rates that have impacted overall world population trends, and increased longevity. With respect to lower birth rates, United Nations (1996) reports that the population growth rate declined from 1.5% (during the 1980s) to 1.25% (current rate), and predicts it will decrease further to 0.5% by 2050. With respect to longevity, in Canada, for the next decades, it is estimated that life expectancy will increase; in other words, women will live four more years (to 86 years) and men will live six more years (to 82 years).

Pessimistic Position:

There are pessimistic positions in relation to the consequences of the population aging process. For instance, The Group of Ten (1998) believes that in the G-10 countries, the demographic stage of growth will increase their budget deficits generating unfavourable effects on living standards. To avoid that, this group believes some actions have to be taken to promote national savings, effective distribution of savings, and participation in labour force. Additionally, Peterson (1999) thinks that the aging process can induce bankruptcy on the world's wealthiest countries, and stimulate intergenerational conflicts. Ferguson and Kotlikoff (2000) estimate that, in the midterm, the European Monetary Union will collapse since the single currency will not be consistent with fiscal pressures originated by population aging in many euro areas.

The pessimistic macroeconomic scenario related to the aging process is based on the belief that both public and private savings will decline as the result of the existence of working age people having to sustain an increasing inactive population. This tendency is worsened by two aspects: in industrialized countries, people live longer and healthier lives and retire earlier. As a result, important rectifications –increasing taxes or debt- are necessary. Due to these fiscal rectifications, there will be a decline in savings rate relative to investments rate. Therefore, greater net foreign borrowing and trade, and current deficits will be required. As a consequence of that, a considerable decrease in economic growth and in living standards will occur for both the present and future generations, and since the young and future generations will have to cater for aging baby boomers and for themselves, intergenerational inequity will be significant.

Optimistic Position:

On the other hand, there are optimistic positions with respect to the consequences of population aging. Mérette (2002) believes that pessimistic situations projected –related to population aging- would be diminished or balanced by many market and institutional feedback mechanisms that exist in modern economies. Mérette emphasizes the importance of human capital. Due to population aging, there will be an increment in the scarcity of labour related to physical capital. So, future wages will rise with respect to capital return. Therefore, human capital will become a more attractive factor, and there will be more encouragement to invest in it. Since industrialized countries have become knowledge-based economies rather than resource-based ones, human capital has been considered a more valuable factor driving economic growth. In other words, the productivity of labour will increase as well as its contribution to higher economic growth and standards of living. It could balance the negative impact of population aging

on potential output growth and at the same time, it could alleviate the exigencies on government finances through the increase of the tax base.

Public Expenditure Effects of Population Aging:

The demographic structure of a population impacts on government expenditures and transfer programs such as education, health care and public pensions. If the population is young, public education needs will be high; on the other hand, if the population is older, health care and public pensions demands will be elevated. Consequently, the current aging process could generate important macroeconomic changes (by influencing aggregate consumption, national savings, output, economic growth or welfare across generations, among others), and could imply significant fiscal policy challenges, all of which is based on the microeconomic principle called “individual life-cycle behaviour”. According to this principle, the average person living in an industrialized country has the subsequent life-cycle pattern: when she is young, she borrows in the capital market, does not participate intensively in the labor market, and invests a considerable amount of time in education. When she is in the middle age, she invests in the real estate market, works most of the time, and saves physical and financial capital to ensure future consumption. When she is old, she does not work a lot (prefer leisure), diminishes her physical and financial assets, earns money that comes from the rent of her properties, and consumes health care services.

Next we discuss more in details the effects on specific public programs.

Health Care Costs of Population Aging:

Health care costs are expected to increase significantly with the population aging process. Despite the fact that health of elderly Canadians has improved over time since

the development of the retirement income system and universal medicare, seniors are still the segment of the population more likely to be hospitalized (because of serious illnesses), experience chronic conditions and have limitations doing their daily activities. In relative terms, seniors are the population segment with the highest prescription-drug consumption: According to Mérette (2002), around 40 % of prescription drug spending are for people aged 65 and over; in other words, on average, Canadian people aged 65 and over spend on health care five times more than the rest of the population. Further, seniors aged 75 and over demand three times more home care services⁴ than seniors aged 65 to 74. Additionally, according to King and Jackson (2000), people aged 85 and over consume nine times the per capita health care dollars designated to people under 40.

A number of projections have been executed to estimate the increase in health care costs. For instance, according to Mérette (2002), very old Canadians (85 years and over), who need medical and long-term care more frequently, will be the fastest-growing age group in the population; therefore, it will augment the pressure on health care system. The Office of the Auditor General of Canada (1998) claims that health care costs are estimated to increase from 6.6% of GDP in 1996 to 9.4% in 2031, assuming a growth of 1% in real annual per capita health care costs. In addition, Fougère and Mérette (2000), using a general equilibrium model, estimate that Canadian health care costs will increase to about 9% of GDP by 2050, and the majority of the increases will occur by 2030. However, if costs rise at the same rate of the last two decades, public health care expending will increase to 13% of GDP. Additionally, the Romanow's Report (2002) states that real provincial/territorial spending on health care has increased in the last few decades. Adjusting for inflation, the average per capita

⁴ Home care services include personal care, meal preparation and housework.

provincial/territorial health care spending augmented from \$1,200 in 1975 to around \$2,100 in 2001. In addition, health care spending has increased in its share of total provincial/territorial expenditures on programs. For example, from 1974 to 1978, 28% of provincial/territorial program spending was destined to health spending, while the corresponding value for 1999/2000 was 35.4%. In recent years, because of increasing health care costs, essential provincial spending programs and policies such as debt reduction, tax cuts, education and infrastructure, have been "crowded out" by health care spending. The Conference Board of Canada report (2001) estimates that provincial and territorial health care spending in Canada will rise from 31.1% in 2000 to 42% in 2020 as a part of total provincial/territorial government revenues. The average annual growth of provincial and territorial health care costs will be 5.2% from 2000 to 2020, while 1.7% points of this increase will be caused by demographic factors (0.9% and 0.8% due to population aging and population growth, respectively). In addition, from 2000 to 2020, provincial and territorial per capita spending on health care (adjusted by inflation) will increase by 58% (from \$1,818 to \$2,864), while provincial and territorial per capita spending on the rest of government services will rise by 17%. Additionally, according to the 2003 federal budget, recent estimations show that 62% of programs provided by federal transfers are allocated to health, and 38% are assigned to social assistance and post-secondary education.

Pension and Education Costs of Canadian Population Aging:

The population aging process will not only affect health care costs but also other government programs such as public pensions and education. Population aging will raise pressure on government spending on pensions in relation to GDP. These pension programs are: Canada/Quebec Pension Plan Benefits (CPP/QPP), Old Age Security

(OAS), Guaranteed Income Supplement (GIS) and Spousal Allowance (SPA). The population aging process will start in 2006 since, by that time, the oldest of the baby boomers will be eligible for early retirement CPP/QPP benefits. In addition, this process will go faster when the baby boomers reach age 65 (year 2011). According to the Office of the Auditor General (1998), population aging will drive total pension spending to around 8.4% of GDP in 2031 from 5.4% in 1996. Two-thirds of this increment corresponds to CPP/QPP benefits. Additionally, Fougère and Mérette (2000) estimate that the increase in Old Age Security, Guaranteed Income Supplement and Spousal Allowance programs will represent 2.3% of GDP in 2031. Fortunately, with the purpose of improving the financial viability of the plans, public authorities have decided to raise the funding of the CPP/QPP faster than it was planned initially. According to Disney (2000), due to the CPP/QPP reform, Canada is expected to have negative net financial liabilities by 2030, which means that the present value of revenues will surpass the projected pension benefits by 2030.

On the other hand, costs of other government programs (especially costs related to the education sector) will be affected favourably by population aging, which will balance a portion of spending pressures from public pensions and health care. Fougère and Mérette (2000) project that in the next 50 years, education spending will decrease by 1% of GDP, and at the same time, other kind of expenditures, such as child tax benefits and employment insurance, will only decline by 0.3%.

CHAPTER II. THE CANADIAN TRANSFERS SYSTEM.

In this chapter, I describe the principal transfer programs (the Canada Health and Social Transfer Program (CHST), the Equalization Program (EP), and the Territorial Formula Financing Program (TFF)) provided by the Canadian federal government. Then, I analyse the reasons for which some authors believe that Canada's system of intergovernmental transfers needs to be reformed, and show some reforming proposals as well. All of these analyses are made around different debates related to the adequacy of the current Canadian transfer system. Additionally, I talk briefly about the debate in terms of the existence of a vertical fiscal imbalance in Canada.

The Canada Health and Social Transfer Program:

The Canadian federalism applies an intergovernmental redistribution system characterized for using intergovernmental transfers such as the Canada Health and Social Transfer Program (CHST). The CHST was created in 1995, and it has been a controversial federal transfer program since its introduction. The CHST includes health care, post-secondary education, social assistance and social services. Increases in the CHST are determined by the federal government: one increase occurred in 1999 and another in 2000. As stipulated in Boothe and Hermanutz (1999), although the CHST is conceptually simple, it has become more complex in practice since it involves calculations about tax points, associated equalization, floors and supplements. The CHST has been the biggest federal transfer program since 1996. It has two components: cash and tax transfers, and is given on an equal per capita basis to all provinces and territories. Additionally, the CHST gives provinces and territories the flexibility to allocate payments among social programs according to their own priorities. According

to the 2003 federal government budget, in 2002-03, the corresponding values of cash and tax transfers are \$19.1 billion and \$16.2 billion, respectively (total of \$35.3 billion).

According to the Romanow's Report (2002), the CHST does not include any mechanism through which natural increases in health care spending can be considered in the calculation of federal transfers. Additionally, the lack of an escalator formula for increasing federal contributions to provincial and territorial health expenses implies that there is no connection between growth in health expenditures and the economy. This has influenced the demand for increments in transfers by provincial/territorial governments and the hostile characteristic of debates about health care funding in recent years. However, since the federal government is arranging a long-term plan to give growing, sustainable and foreseeable contributions to provinces (for health care and other social programs), the 2003 federal budget contemplates the following aspects: 1) A two-year extension of the five-year legislative plan for CHST (accorded in September 2000) that considers additional \$1.8 billion. Therefore, total cash transfers will be \$21.6 billion and \$22.2 billion in 2006-07 and 2007-08, respectively. 2) A CHST cash supplement of \$2.5 billion to satisfy urgent needs in provincial and territorial health care systems. It will be accounted for by the federal government in 2002-03. 3) If the Federal Minister of Finance believes that for January 2004 there will be enough surplus above the normal Contingency Reserve, the federal government will provide, to provinces and territories, an additional \$2.0 billion for health care at the end of the fiscal year 2003-04. 4) Until 2007-08, legislation will be introduced for cash transfers, which will be distributed as follow: \$19.8 billion in 2003-04, \$20.4 billion in 2004-05, \$21 billion in 2005-06, \$21.6 billion in 2006-07 and \$22.2 billion in 2007-08. 5) There are also planned levels of cash transfers to 2010-11 with the purpose of providing a 10-year funding plan. It will be exposed to first minister's revision of progress on reform, and

before the end of 2007-08, it will be supported by legislation. Therefore, federal cash transfers to provinces and territories -concerning health and other social programs- are expected to double over 10 years (increasing from \$15.5 billion in 2000-01 to \$31.5 billion in 2010-11). It will represent an average annual growth in cash transfers of 7.3% through that period, which will be greater than the estimated 4.7% nominal growth in the economy for the same period. 6) Because tax transfers will remain an essential part of funds provided to provinces and territories, total transfers will be \$48.8 billion in 2007-08 and \$56.0 billion in 2010-11. 7) The budget contemplates a restructuring of the actual CHST (effective on April 1, 2004) with the purpose of increasing transparency and accountability. It consists in separating the CHST into two new transfers: CHS (Canada Health Transfer) and CST (Canada Social Transfer). The CST will support post-secondary education, social assistance and social services, and contains early childhood development. The federal government will distribute the actual CHST (cash and tax transfer) between the CHS and the CST. Therefore, the percentage of health spending with respect to total provincial spending in health and social sectors provided by federal transfers will be the percentage of cash and tax points distributed to the Canada Health Transfer. The remaining cash and tax points will be assigned to the Canada Social Transfer. Since the federal government continues with its commitment of ensuring equal support for all Canadians without taking into consideration their place of residence, total allocation of the CHT and the CST will remain on an equal per capita basis.

The Equalization Program:

The Equalization Program (EP), as per the Constitution Act 1982, tries to guarantee – through equalization payments- that provincial governments possess fiscal capacity ⁵ to supply acceptable levels of public services that have, as a counterpart, acceptable levels of taxation. In other words, it encourages efficiency and equity within a federation by allowing a decentralized provision of public services, and having the benefits of a unitary form of government. The current equalization program works in the following manner:

“Each province’s per capita fiscal capacity (not its actual revenue) is calculated in more than 30 taxation categories – from the personal income tax to resource revenues- and compared with a standard that, historically, has varied from the average of the two wealthiest provinces (Ontario and British Columbia in the late 1950s) to the national average. Since the early 1980s, the measure has been “the representative five-province standard,” which is the average per capita of Quebec, Ontario, Manitoba, Saskatchewan, and British Columbia (in recent years, the five-province standard has tended to run about 98 or 99 percent of the national average).”

“The calculation then taxes each province’s shortfalls and averages from the standard and sums them across categories. A positive sum has no effect –that is, the governments of the wealthier provinces receive nothing and put nothing into the scheme. A negative sum entitles a province to receive equalization payments, although some floors and other variations apply. The federal government makes the payments from its general revenues” (Boothe and Hermanutz, 1999, p.4).

According to the 2003 federal budget, in 2002-03, \$10.3 billion are assigned to eight provinces under the equalization program.

⁵ “The amount of revenue a province could raise if it applied an average tax rate to each provincial or local tax base” (Boothe and Hermanutz, 1999, p. 4)

The Territorial Formula Financing Program:

The Territorial Formula Financing Program (TFF) is an annual unconditional transfer from the federal government to territorial governments. Its purpose is to provide funds to satisfy public services needs in the north since the cost of living is higher there. Even though there are many ways through which territorial governments can raise revenues (by taxation, rentals, etc.), an important percentage of their financial resources comes from the TFF program. According to the 2003 federal budget, under this transfer, \$1.3 billion are allocated to the three territories in 2002-03.

Why The Canadian Transfers System Needs to be Reformed?

According to Boothe and Hermanutz (1999), although Canada's system of redistribution among provinces has been considered one of the best examples of federalism in the world, it has experienced many difficulties throughout the past decade mainly as a consequence of the declining of federal transfers to the provinces. It has happened since the federal government began to try to balance its budget. According to these authors, despite the fact that there had been federal-provincial reviews in terms of equalization in the past, very little changes have been done to overcome problems related to that issue. In addition, many debates have had as their principal themes of discussion the amount of money to distribute throughout the provinces, the correct design of transfer programs, how efficiency and equity have been impacted by transfers, and the level of transfers that should happen outside of the formal equalization program. All of these discussions respond to some authors' conviction that Canada's system of intergovernmental transfers needs to be reformed.

Following, we comment the reasons explaining why that system needs to be improved.

Equity:

In relation to equity, it is common knowledge among academics that transfers done with the purpose of improving the distribution of income among governments generate a worse situation in the distribution among individuals. Thus, an ideal program will balance both intergovernmental and interpersonal equity. For instance, Poschmann's work (1998) calculates the net cost of federal transfers and taxes for each province and for families of different level of incomes. He finds that there is an irregular situation associated with interpersonal distribution among families with similar and dissimilar income brackets. For instance, an Ontario family that earns an income between \$30,000 and \$40,000 *contributes* -to the transfer system- with 2.8% of that income (around \$980); on the other hand, a similar income family from Prince Edward Island *receives* 19.8% of that income (around \$7,000). Additionally, an Alberta family with income between \$30,000 and \$40,000 *contributes* with 9.0% (around \$3,150), while a Newfoundland family with income of/over \$100,000 *receives* benefits for 1.2% (around \$1,200). In addition, the amounts of federal support for welfare, health care, and postsecondary education are differentiated among provinces. In fact, these transfers are not in the formal program, so they are a separate equalization scheme.

Efficiency:

One can frame efficiency into three aspects: how the equalization program influences inefficient inter-provincial migration by individuals, how this program affects policy decisions of provincial governments, and what is the role of provinces expenditures needs in the equalization formula. There are several works related to the first aspect, which I summarize as follow: 1) Boadway and Flatters (1982) find, through their model, that "economically inefficient migration" (people who move from one province

to another to get better *net benefits*⁶) rather than “efficiency-enhancing employment opportunities” can be the consequence of differences between provinces in relation to benefits provided by governments (net of taxes). 2) Courchene (1970,1978) says that inter-governmental transfers may delay economic efficiency through hindering efficiency-enhancing migration. 3) Day and Winer (1994) think that discrepancies in employment insurance (EI) between regions stimulate people to remain in regions with high unemployment rather than to move to regions with better employment opportunities. 4) Scott (1952) and Courchene (1978) believe that the fact that grants discourage labour force to move to provinces with better economic situation (better labour opportunities) implies that equalization transfers - to fix fiscal inequities- provoke inefficient allocation of resources among regions.

In relation to the influence of the equalization program on policy decisions, according to Boothe and Hermanutz (1999), current transfers can generate incentive problems for governments. For instance, the problem of “base taxback”, which means that when the tax base value of a receiving province increases in relation to the standard base, this province loses equalization revenues. Consequently, high taxback rates can discourage a province from investing in economic activities related to particular tax bases. To fight that reality, the federal government applies an “ad hoc” measure with the purpose of reducing the taxback on resource bases, and promoting economic activities (in chosen regions) by using direct federal grants.

On the other hand, Shah (1996) claims that because the current equalization program assumes identical expenditures needs across provinces, the expenditure side is ignored when that program is applied. In addition, the current equalization program tries only to equalize per capita tax burden. Thus, the present program cannot be supported on the

⁶ *Relation between public services received and taxes paid*

bases of economic efficiency and equity. Additionally, Musgrave (1959) disagrees with the application of a pure revenue equalization formula since it allows provinces to opt for additional services but undertake a portion of the increased cost; therefore, it promotes fiscal irresponsibility.

Political Viability:

The political viability of the current transfer system has been decreasing among the last decade as the result of deteriorating relations between Ottawa and the provinces, and increasing level of complicated inter-governmental transfers. For instance, even though the equalization program is an arrangement between the federal government and provincial governments, Ottawa can legislate changes that have significant impact on provincial budgets. Additionally, changes in the equalization program are exposed to the practice of budgetary secrecy, and public discussions about these changes are allowed only after the fact. In addition, the belief that the federal government has tried to eliminate its deficit through diminishing transfers to the provinces, and it has done that without reducing- in more or equal proportion- spending on its own programs, has been the major factor influencing the decline of support for the current equalization program. Another aspect that has intensified discrepancies between provinces, in matters related to the inter-governmental transfer system, is the fact that the federal government has treated provinces differently. For instance, in 1990, the criterion used by the federal government to limit the growth of Canada Assistance Plan (CAP)⁷ - payments to the provinces - was to apply limitations to provinces that did not receive

⁷ From 1966/67 to 1995/96, provinces and territories received federal financial contributions for social assistance plans through the Canada Assistance Plan (CAP).

equalization, which were British Columbia, Alberta, and Ontario. Therefore, the CAP was modified into a form of equalization outside the formal program.

Transparency and Accountability:

The complexity of the current transfer system is so high that few people from the government and academic circles can understand it. Therefore, there are problems of transparency, which implies obstacles to public accountability. As a consequence of that, the public cannot see clearly the actual amount of inter-provincial redistribution and cannot evaluate the value of a government program because they are not sure about how much it costs them in taxes. Additionally, the equalization program is financed by federal taxes collected in every province, and as Boothe and Hermanutz (1999) say: "... part of the equalization entitlement a recipient receives comes from federal revenues collected in that province" (p.7). For instance, Franke and Hermanutz (1997) find that in relation to the federal government amount spent on equalization transfers during the fiscal year 1995/96 (\$8.7 billion), \$5.8 out of \$8.7 billion circulated from the three contributing provinces to the seven receiving provinces, and the remaining came from the receiving provinces own taxpayers.

Sustainability:

The current transfer system is deficient in consistency and affordability. There is an "asymmetric revenue-sharing scheme" that is called "gross equalization scheme". It means that despite the fact that provinces having negative entitlements do not pay into the program, their taxpayers do pay, and they do not receive transfers. In addition, provincial contributions are not always in accordance with provincial fiscal capacity. For instance, because of oil and gas revenues, Alberta is the Canadian province with the

highest fiscal capacity; however, its participation in federal revenues collected does not correspond to that fact since the federal government is not allowed to tax resources directly; on the other hand, the majority of federal revenues (in per capita terms) comes from Ontario. Additionally, if there were an increment in the fiscal capacity of a province, the total amount of equalization would increase. It implies that all provinces would have to pay for this increment. In other words, the extra federal taxes would be received from all provinces although only one province was in better fiscal situation (the relative fiscal capacity of the rest of the provinces would decrease). In addition, the fact that the equalization program is paid by the federal government but is based on provincial revenues implies that big changes in those revenues can produce greater fluctuations in federal expenditures. For example, in the 1980s, the increase of Alberta's energy revenues caused an enormous pressure on the transfer system. As a consequence of that, the federal government reduced the equalization of energy revenue and established the National Energy Program.

The Problem of Externalities:

One of Canada's costs of being in a federation is related to the problem of externalities due to governments working in uncoordinated ways. As a result, provinces' citizens enjoy sub optimal level of services. In other words, we are facing the problem of externalities when there are programs in different areas of jurisdiction that can have a positive or negative impact on other jurisdictions (where the programs are not implemented), or when these programs have contradictory results and thus prevent from achieving provinces or federal government policy goals. As Schwanen (1999) explains, because governments have the tendency of taking into account the benefits or costs of any policy on themselves and their constituents, and not considering the negative or

positive effects of that policy on the rest of the provinces, inefficient levels of services can be provided (expectations of citizens will not be satisfied). For instance, we can find two provinces that provide significantly different welfare benefits implying that people from the less-generous province will move to the other province. Therefore, costs will go up in the more-generous province. On the other hand, Tiebout (1956) creates a local government model to obtain the level of local public goods expenditures that better match the preferences of the population. He considers that this can be done better at local level rather than at the national level, and the provision of governmental services such as police, fire protection, education, hospitals, among others, does not necessarily imply federal activity. In other words, the majority of these governmental services are provided by local governments. Tiebout (1956) thinks that historically, local expenditures have been greater than federal expenditures. Additionally, when a consumer-voter can move freely, he or she will choose the community that best satisfies his or her preferences pattern for public goods. It implies that the local government will not try to adjust to the consumer-voter preferences pattern (as the federal government does). On the contrary, local governments estimate their expenditure and revenue patterns, which will be used by the consumer-voter to make the decision of moving or not. In other words, local governments will attract an optimum number of residents. This is not a perfect solution, but it is the best one considering the restrictions: resource endowments, preferences and institutional rigidities.

Externalities are classified as horizontal externalities (inter-provincial) and vertical externalities (between a province and the federal government). Schwanen (1999) believes that federal transfers can be a weak instrument to avoid inefficient mobility generated by the search for net fiscal benefit, and thus to reduce negative externalities or improve positive ones.

Reforming Proposals:

Boothe and Hermanutz (1999) propose an essential reform to Canadian intergovernmental transfers. It consists of a set of net interprovincial equalization transfers that transfer enough income tax points from the federal government to the provinces. For all governments, these transfers will be “fiscally neutral”, which means that there will not be fiscal winners or losers. In addition, it will be considered a comprehensible equalization formula based on the adjusted personal income (a macroeconomic indicator). Some of the benefits resulting from this proposal will be that in relation to the transfers that governments make and receive, transparency and accountability will be improved, and despite the fact that Ottawa will not longer be the provider of transfers, it will be the “guarantor of the new inter-provincial fund.”

Schwanen (1999) considers that normally, there is a way to solve the externality problem by applying a system of common national standards jointly with federal funding. The purpose is to provide provincially administered programs that produce positive externalities, such as post-secondary education, and to compensate for negative externalities caused by move of citizens, from one province to another one, looking for services (such as health care and welfare). However, because preferences diverge between regions, imposing common standards on governments, taxpayers, and service recipients would be contrary to the benefits of coexisting in a federation (theoretically, in countries with regional or cultural differences, federalism pursues to harmonize these discrepancies). On the other hand, a social policy challenge will be to find more mechanisms to solve vertical and horizontal externalities, and to apply strict and continuous comparison of social and other important inter-provincial differences.

Shah (1996) proposes to add relative expenditure needs of provinces into the equalization formula. According to him, the main purpose of an equalization program

has to be to try to equalize net fiscal benefits across Canadian provinces, and this goal cannot be achieved only by using a pure revenue equalization system. Consequently, optimality demands that in the equalization formula, we have to consider both the revenue and the expenditure sides of local budgetary operations of provinces.

Boadway and Shah (1994) believe that a combination of equity and efficiency can be created by the reduction in net fiscal benefits differentials generated through equalization transfers.

Boadway and Flatters (1982), on the basis of efficiency, argue that an equalization system that completely equalizes discrepancies in residence and source-based taxes (for instance, income taxes and resource taxes or property taxes respectively) will eliminate the net fiscal benefit differences across provinces.

Courchene and Copplestone (1980) think that if we consider Boadway and Flatters's (1982) view about efficiency based on net fiscal benefits differences, we can connect the efficiency criterion with the production and expenditure side as well.

Musgrave (1959) proposes to change the rule of equal tax treatment of equals to a new principle expressing that people having the same level of income should face the same net fiscal benefit obtained from budget operations. In addition, only an equalization program that takes into account both relative expenditures needs of provinces and differential revenue capacities would be compatible with this proposal.

Hanson (1961), Clark (1983), Courchene and Copplestone (1980), Courchene (1984) and Shah (1983a, 1983b, 1984) agree with the so-called fiscal need principle (part of the Canadian Constitution Act 1982), which says that every Canadian should have access to an acceptable level of public services at the same cost in every Canadian region. Additionally, these authors believe in considering both the revenue conditions and expenditure needs to calculate equalization transfers; therefore, the present tax system

could be improved by an expenditure system. To ensure the fiscal need principle, it is necessary to overcome the imbalance between revenues conditions and expenditures needs among provincial governments by providing transfers from the federal government to provinces with comparatively high fiscal needs and/or comparatively low fiscal capacity

The Fiscal Imbalance Debate:

In the early 1980's, people argued about the existence of a fiscal imbalance in favour of the provinces. According to the Department of Finance (2002), Ontario's 1982 budget rejected this idea. They cited a study from the Economic Council of Canada that says: if there is a structural economic problem associated with fiscal imbalance, it implies that one of the levels of government does not have access to the necessary revenues to satisfy its responsibilities. Additionally, if one of the levels of government reports deficits, it does not mean that there is such a structural economic problem. Nor does it imply that such deficits have to be rectified by charging the other level of government.

On the other hand, the debate today focuses on the idea (from provincial governments) that the money is in the federal government and the necessities are in the provinces, which implies a fiscal imbalance. However, to refute that statement, the Department of Finance (2002) cites the point of view of Norrie and Wilson (2000): Vertical fiscal imbalance does not apply to Canada since Canada has a unique system of distribution of taxes where both levels of government have access to all current important revenue sources, such as major tax bases (personal and corporate income taxes, sales taxes and payroll taxes).

The Department of Finance also exposes the following arguments to refute the idea of the existence of a fiscal imbalance in favour of the federal government: There are taxes assigned exclusively to provinces, such as resource royalties taxes, gaming and liquor profits taxes, and property taxes, and some of them are growing quickly. Legally, Canadian provinces can make their own decisions regarding spending, taxes and debt. Comparing Canada to other countries with federations, Canadian provinces have a very high degree of freedom determining their tax policies. For instance, in 2001, it was introduced a new tax-on-income arrangement that allows provinces to adapt their personal income tax systems to their own policy goals. Almost all provinces have decided to reduce taxes in recent years, which seems that they have enough revenues to satisfy their responsibilities. In fact, estimations have showed that provincial tax cuts running since 1995 will impact on future provincial revenues. As a consequence of that, provincial revenues were estimated to decrease by around \$19 billion in 2002.

CHAPTER III. THE CONFERENCE BOARD OF CANADA REPORT (2002)

The Conference Board of Canada (CBC) addresses the topic of vertical fiscal imbalance between the federal and provincial/territorial governments over the long term through the paper “Vertical Fiscal Imbalance, Fiscal Prospects for the Federal and Provincial/Territorial Governments”. Its principal purpose is to project the Public Accounts of the federal and aggregate provincial/territorial governments – this do not consider the fiscal capacity of individual provinces – incorporating the influence of demographic changes on the cost of public health care and education spending (two main areas of government program expenses).

The authors built two “satellite” models to determine a complete long-term profile of public health care and education expenditures. Simultaneously, they predict all the other components of government program spending by using a Board’s macroeconomic model. Additionally, using the model’s fiscal block, they establish debt levels and the corresponding debt-servicing costs for the federal and provincial/territorial governments.

Now, I summarize this Conference Board report focusing on assumptions, methodology, results and conclusions. In addition, I also show the critical position assumed by the Department of Finance (2002) regarding these results.

Assumptions:

The long-term estimations are based on preserving the *status quo* with respect to fiscal and budgetary policy. Consequently, all federal and provincial/territorial tax rates stay at their current levels, and the estimations do not contain new government spending initiatives, unless the changes are included in past federal and provincial/territorial

budgets. The *status quo* assumption allows the authors to value the budgetary capacity of reaction of governments, thus to see the degree of freedom for implementing new initiatives, or the budgetary actions to be done for balancing the books. All budgetary surpluses related to a fiscal year are assumed to reduce debts. Provinces and territories have a constitutional obligation of being responsible for health, education and other significant social programs. The Canadian economy will close the output gap soon by achieving potential output ⁸ by the end of 2003/04 and after that, it will grow at the same rate as its potential output for the rest of the forecast horizon. In addition, there will not be more business cycles when the Canadian economy achieves its potential output; however, the impact of the unavoidable business cycles would not change significantly the estimated average output growth if we consider the fact that there will be acceleration of economic growth during recovery stages that were preceded by periods of economic decline.

The projections of population by age and gender cohort were obtained from Statistics Canada. The following assumptions concerning fertility rates, mortality rates and net international migration flows were made: 1) A constant fertility rate of 1.55 births per woman (lower than the replacement rate of 2.1). 2) A low fertility rate in conjunction with an ageing population will decrease the birth rate over the long term. 3) Because of ageing population, the amount of people getting in higher risk age cohorts will increase. In addition, mortality rates are considered constant. Consequently, the Canada's death rate will increase over the forecast period, and thus the natural increase in the population (births minus deaths) will decrease from around 115,000 in 2000 to 51,000

⁸ "Potential output is defined as a measure of economic activity that can be sustained in an economy, without accelerating inflation, over a long period when all factors of production are fully and efficiently employed" (*The Conference Board report, 2002, p.6*)

in 2020. 4) Immigration is the most important source of population growth. International annual immigration will increase from 200,000 in 2000 to 277,000 by 2019/20. Additionally, considering the out-migration, net immigration will increase from 140,000 in 2000 to 208,000 by 2019/20.

In relation to public education, enrolment rates were considered constant across the forecast period. With respect to total provincial/territorial governments, the CBC assumes that CHST payments increase in proportion to population growth and the rate of inflation between 2006/07 and 2019/20, and because legislation did not include any method for augmenting CHST transfers from 2006/07 forward, the real per capita levels of CHST transfers for the year 2005/06 will remain the same over the rest of the forecast period.

Methodology:

Budgetary revenues for the federal and provincial/territorial governments depend on essential factors from the Board's long-term economic outlook, such as direct taxes (function of personal income and corporate profits), indirect taxes (based on consumer spending or economic activity in general). Consequently, the federal and provincial/territorial governments have access to all principal tax bases: personal and corporate income taxes, sales taxes and payroll taxes, which are considered by the Board's macroeconomic model.

Health care methodology:

The predictions made about health expenditures are based on historical movements in real (inflation-adjusted) public per capita health care spending for each of eighteen age and gender cohorts (from Health's Canada data for public health expenditures by age

and gender cohort). In addition, projections of real per capita health care expenditures and the changing distribution of the population are the basic factors to project public health expenditures from the fiscal year 2001/02 to 2019/20. The CBC used provinces and territories budget documents to get the historical data on public health care spending. The amount of public money spent on health care, for group of men and women, is calculated by dividing the levels of spending by the number of people in the equivalent age and gender cohort. The health expenditures model has an essential component: a Health Price Index (HPI), which represents the average salary in health and social services. But, because observations over history showed that the HPI behaves accordingly with Canada's overall Consumer Price Index (CPI), the CBC estimated HPI using a simple error-correction model attached to the Board's Canadian long-term forecast for the CPI. The per capita health care spending equations were projected in real terms depending on a time trend to get increment in per capita spending concerning inflation. In addition, the projected trends consider the change in the amount of health care services (degree of utilization or access) and the use of new technologies that conduct to the supply of extra services.

The regression results are used to estimate real per capita spending for the expected period, and real estimated expenditures are changed to current dollars through multiplying by the HPI. By multiplying the average cost per capita (by age and gender cohort) and the estimated amount of people in that age/cohort in each year, they get total provincial/territorial public health care spending in current dollars.

Public education methodology:

For the education sector, the CBC uses regression results to predict changes in spending related to three levels of education: elementary/secondary schools, colleges

and universities. The CBC estimates the cost of public education by age cohort over time, which enables to consider the effect of demographic changes on education spending. In addition, the CBC used historical data on public education spending from provincial/territorial government budget documents. At first, the CBC calculated historical education spending levels per student, then using the CPI, real expenditures per student were calculated for three levels: elementary/secondary schools, colleges and universities (considering trend equations). Finally, after obtaining the education spending forecast per student, the CBC multiplied it by the corresponding forecast enrolment level (obtained from the Board's demographic projections)

Results:

The projections show that total provincial and territorial public health expenditures will increase from \$63.5 billion in 2000/01 to \$166.5 billion in 2019/20 in part, due to the fact that Canada's population will keep on growing slowly (4.7 million person increase - 0.7%- over the next 20 years) and ageing. Across the forecast period, there will be an average annual compound growth rate of 5.2% in public health spending which, as a portion of total provincial/territorial budgetary revenues, are estimated to augment from 32.4% in 2000/01 to 44.8% in 2019/20 (12.4 percentage points over the next twenty years). In other words, around 45 cents of every dollar of taxes or federal transfers will be assigned to health care in 2019/20. In addition, the results, for provinces and territories, show that education expenditures will increase by an average of 3.2% per year until 2019/20, and this increase will be partially compensated by the decrease of 0.3% in the student population. Provincial/territorial public education expenditures will reach \$69.6 billion in 2019/20 from \$38.1 billion in 2000/01. The proportion of budgetary revenues allocated to education was 19.5% in 2000/01, and will

decrease by 18.8% in 2019/20. It is important to notice that in absolute and relative values, health expenditures will increase more than education expenditures. In other words, for the forecast period, health expenditures will augment by \$103 billion (162.20%), and education spending will increase by \$31.5 billion (82.68%).

The estimations reveal that fiscal expectations of the federal government and provincial/territorial governments are dissimilar. Federal government surpluses⁹ will increase regularly across the next two decades (achieving \$85.5 billion by 2019/20). In contrast, provinces and territories will jointly be in a deficit situation throughout the estimated period. Despite the fact that in 2000/01, the total provincial/territorial government balance was in a surplus of \$12.0 billion, this will be negative across the forecast period; the corresponding deficit will increase until reaching \$12.3 billion by 2019/20.

Taking into account current revenues and spending structures, the aggregate provincial/territorial net debt will rise by 54% (reaching \$386.9 billion), so public debt charges will increase from \$22.4 billion in 2000/01 to \$39.4 billion by 2019/20. On the other hand, the federal government will achieve multi-billion-dollar surpluses, which are sufficient to almost end its interest-bearing debt by 2019/20. If budgetary surpluses are used only for debt reduction, the amount of interest-bearing debt for the federal government during 2000/01 (\$589.2 billion) will decrease to \$52.7 billion by 2019/20. Additionally, total provincial/territorial budgetary revenues are projected to increase by 3.4% on average per year. But, their corresponding expenditures will grow faster by 4.0% for the forecast period. While federal budgetary expenditures will increase on average by 2.5% per year over the forecast period. Federal budgetary revenues will show an average annual compound growth of 3.5%.

⁹ *Federal Budgetary Balance = Budgetary Revenues - Program Spending - Public Debt Charges.*

Health care results:

The increase in the amount of seniors, and the fact that after the age of 65 people expend more than 50% of their lifetime health care expenses, are important factors influencing the increment in provincial and territorial health care expenditures. The per capita health care cost corresponding to people aged 65 and over will rise from \$7,740 in 2000/01 to \$15,691 in 2019/20. The CBC puts emphasis on the baby boomers group since they constitute a big proportion of the total population, and over the forecast period, ageing baby boomers will become part of the older age cohorts in the overall population. Additionally, 17.4% of Canadian population will be over the age of 65 by 2019/20, contrasting with the 12.5% in 2000/01. Probably, the greater increase in health care costs will happen after the forecast period ends because, by that time, the baby boomers group will gradually get in the more costly age groups concerning health care.

Education results:

The current dollar public education expenditures per student will increase by 3.3% on average per year until 2019/20. In other words, it will rise from \$5,934 in 2000/01 to \$11,042 in 2019/20. In decreasing order, the annual increment in the cost per student across the forecast period will come from universities (3.6%), school boards (3.3%) and colleges (3.0%)

Federal government results:

The CBC predicts that almost all federal program spending (excepting elderly benefits) will slow down their growth rate over the long term, and predicts that federal budgetary

revenues will rise by 4.1% per year, and the federal operating surplus¹⁰ will increase from \$46.3 billion in 2005/06 to \$96.7 billion in 2019/20. The federal government will use the growing operating surplus to pay back the debt, and thus to reduce the interest cost.

Consolidated provincial/territorial governments results:

The total provincial/territorial debt was 23.3% of Canada's GDP in 2000/01. Given that a faster growth of the nominal GDP is projected, this debt-to-GDP ratio is expected to decrease to 16.4%. On a per capita basis, total provincial/territorial debt will rise from \$8,166 in 2000/01 to \$10,894 in 2019/20. The CBC uses the amounts of CHST from the last federal budget for the period 2001/02 to 2005/06, and estimates that payments concerning CHST will grow to 2.8% on average for the rest of the forecast period.

Conclusions:

Finally, the CBC concludes that, with the present fiscal administrations, the vertical fiscal imbalance will increase in the future since they assume that only the federal government has the capacity of carrying into effect new initiatives such as discretionary program spending or tax cuts. The projected federal government budgetary surpluses will allow it to pay down the debt and entering the "virtuous circle"¹¹ of fiscal performance. In other words, the decrease in public debt charges (predicted to decline from \$42.1 billion to \$11.2 billion) is the principal reason for the growing budgetary

¹⁰ *Federal Operating Balance = Budgetary Revenues - Program Spending.*

¹¹ *The "virtuous circle" of debt reduction consisting on increasing surpluses through time and at the same time decreasing debt and debt services.*

surplus and almost the elimination of interest-bearing debt at the federal level. On the contrary, provinces and territories could not implement new policy initiatives across the next twenty years, or be able to increase spending, or cut taxes without increasing their deficits.

The Department of Finance Critical Position in Response to the Conference Board of Canada Position:

The Department of Finance (2002) argues that this report does not prove the existence of a fiscal imbalance, and its results and methodology contradict the ones obtained and used by another Conference Board of Canada report (2001): "The Future Cost of Health Care in Canada, 2000 to 2020".

The arguments used –by the Department of Finance (2002)- to criticize the Conference Board report (2002) are:

The definition of vertical fiscal imbalance used in that report, which is: "the distribution of revenue resources between the federal and provincial/territorial orders of government is inconsistent with the cost of meeting their respective constitutional spending responsibilities", is not applicable to Canada since the distribution of revenue resources can be modified according to federal and provincial tax policy decisions. In other words, this distribution is not a restriction imposed on governments in Canada.

Since long-term fiscal estimations are very sensitive to the assumptions chosen, a small change in an assumption can provoke an alteration in any projection (spending or revenues) by billions of dollars over the period of twenty years. For instance, if each year, federal program spending were to grow 1% faster than the value considered by the Conference Board report (2002), the surplus recorded by the federal government would be less than \$2 billion in 2019-20, while in the report (2002), it was projected a federal

government surplus of \$85 billion. On the other hand, if each year, federal revenues were to grow 1% slower, it would imply the existence of a federal deficit of \$15 billion by 2019-20.

The Conference Board report (2002) assumes that there will not be any new tax cuts or spending measures for the next 20 years, and all surpluses will be used exclusively for debt reduction, which means that federal surpluses will be inflated. For the Department of Finance (2002), these are very unrealistic assumptions.

The Conference Board report (2002) contradicts what it has been indicated by provinces, which is that federal revenues grow faster than provincial revenues. In that report, both levels of government have equal growth rates.

CHAPTER IV. METHODOLOGY.

Data Sources:

The main source of data used comes from Statistics Canada: projected Canadian population by age group (see Annex A), federal transfers, federal taxes, public debt charges, federal net debt, provincial program spending, provincial taxes, transfers from the federal government, debt service and provincial net debt.¹² In addition, Chantal Hicks¹³ gave me, in connection to her paper (1998), the distributions of provincial program spending by single age for 1995, which allows me to obtain (through my calculations) the percentage distributions of provincial program spending – health care, education and other expenditures - by age group.

Following, I describe the methodology used to get these distributions: I calculate (from the distribution by single age) the arithmetic means of spending programs per age group, then I multiply each arithmetic mean by its corresponding population by age group. After that, I calculate the percentage distribution by age group. It is pertinent to note that I could only get the distributions of program spending by single age related to 1995 population; therefore, I assume that from 1995 to 2000, that distribution did not change.

Assumptions:

Real revenues from both levels of government (federal taxes, provincial taxes and transfers from the federal government) are assumed to grow according to the predicted

¹² Table 2.5, *Provincial and Territorial Government Revenue and Expenditures*; Table 1.9, *Provincial and Territorial General Government Net Debt and Net Debt Per Capita*; Table 2.2, *Federal Government Revenue and Expenditures*; Table 1.6, *Federal Government Net Debt, Net Debt Per Capita and Net Debt as a Percentage of the GDP. (Financial Management System)*. Statistics Canada, Catalogue No 68-213.

¹³ Chantal Hicks, *Statistics Canada, Division of National Accounts*.

population growth rate. The effective interest rates applicable to federal and provincial/territorial debts remain constant over the forecast period. To make the estimations, I preserve the *status quo* concerning fiscal and budgetary policies from both levels of government. Because I am interested in comparing my findings with those of the Conference Board, I work with the same assumption regarding that all surpluses related to a fiscal year are used to reduce debts. Provinces and territories are responsible for health, education and other important social programs. In relation to health care and education spending, as data supplied by Hicks (1998) suggests, the first increases and the latter decreases with population aging (see distributions of provincial program spending in Annex A).

To calculate the distributions of provincial program spending by single age, Hicks (1998) made the following considerations:

“Provincial and local governments fund programs that target persons of many different ages. Some apply to people of all ages; others (such as Income Assistance) are not given to seniors because they might duplicate the mainly federally funded old age programs; while others are directed mainly to the young, education being the most prominent of these. Overall, the average age for receiving a transfer from the provincial government is 37.2, more than eight years younger than the average age for paying provincial taxes” (p. 42).

As I mentioned in Chapter III, according to the Conference Board of Canada report (2002), Statistics Canada used the following assumptions to project Canadian population by age: 1) A constant fertility rate of 1.55 births per woman (lower than the replacement rate of 2.1). 2) A low fertility rate in conjunction with an ageing population will decrease the birth rate over the long term. 3) Because of ageing population, the amount of people getting in higher risk age cohorts will increase. In

addition, mortality rates are considered constant. Consequently, the Canada's death rate will increase over the forecast period, and thus the natural increase in the population (births minus deaths) will decrease from around 115,000 in 2000 to 51,000 in 2020. 4) Immigration is the most important source of population growth. International annual immigration will increase from 200,000 in 2000 to 277,000 by 2019/20. Additionally, considering the out-migration, net immigration will increase from 140,000 in 2000 to 208,000 by 2019/20.

I assume that federal transfers will be assigned to provinces and territories taking into account the amount of population per province or territory. This reflects my belief that the majority of federal transfers are not provided directly to individuals while provincial and territorial spending programs are. I divide provincial and territorial program spending in three categories: health, education and other programs, and the same classification applies for the distributions of provincial and territorial program spending by age group. In addition, provincial and territorial expenditures are equal to the sum of program spending and debt services. I divide provincial and territorial revenues into two categories: provincial/territorial taxes and transfers from the federal government. On the other hand, federal government revenues are expressed as federal taxes, and federal expenditures are the sum of federal transfers (that include other expenditures) and debt charges.

I make the projections using fiscal accounts values in real terms. Following, I show the Consumer Price Indexes (CPI) used to convert the Statistics Canada data –for the base years- into values in real terms:

Consumer Prince Index			
(1992=100)			
1997		107.6	
2000		113.5	
2001		116.4	
Source: Canadian Economic Observer			
Cat. 11-210,2001/02			

Following, I show the differences I have found so far between the Conference Board report and my paper:

With respect to education spending, the CBC uses regression results to predict changes in spending related to three levels of education: elementary/secondary schools, colleges and universities. The CBC uses historical data on public education spending from provincial/territorial government budget documents and also considers enrolment rates for public education. In my paper, I do not use either of the above mentioned methodologies. To do my projections, I distribute provincial/territorial education spending among the population by age group.

With respect to health care spending, the CBC predictions are based on historical movements in public per capita health care spending. The Conference Board's health expenditure model considers a Health Price Index (HPI) that represents the average salary in health and social services. The CBC estimates HPI using a simple error-correction model attached to the Board's Canadian long-term forecast for the Consumer Price Index (CPI). The CBC uses regression results to predict health care spending, and considers the change in the amount of health care services (degree of utilization or

access) and the use of new technology that conduct to the supply of extra services. On the other hand, for my projections, I only use the CPI to convert the nominal health spending values into values in real terms, and I distribute provincial/territorial health care spending among the population by age group. Besides, I do not work with any regression.

With respect to the data, I see that the CBC uses many resources: Department of Finance Canada, Health Canada, Statistics Canada, Canadian Institute for Health Information, and Provincial/Territorial Department of Finance. While my only data source is Statistics Canada, except for Chantal Hicks (1998) who gave me the distributions of provincial program spending by single age for 1995.

The CBC projections are expressed in nominal terms, while my estimations are expressed in real terms. Therefore, I converted the CBC projected values into real term values.

The Models.

I develop two numerical models using the General Algebraic Modeling System (GAMS) and work with them to project fiscal balances of federal and consolidated provincial and territorial governments. The models consist mainly of textbook budget constraints, but taking into consideration the impact of the upcoming demographic shift on program spending. Since both levels of government are treated separately, the equations are also separated as follow:

(i) For the Federal Government.

- Equations:

I first calculate the amount of federal transfers in per capita terms for the base year by using equation 1):

$$1) u(g) = a \div b$$

Where g = generations, $b = \sum_g c(g)$, $u(g)$ = per capita federal transfers, a = federal

transfers, b = total population, and $c(g)$ = population by age group. Federal transfers and total population are given.

Second, I project federal transfers by using equation 2):

$$2) \sum_g (d(g,t) \times u(g)) = v(t)$$

Where t = years, $d(g, t)$ = projected population for each year by age group, and $v(t)$ = projected federal transfers. Projected population for each year by age group is given.

Finally, the third equation represents the federal fiscal balance:

$$3) y(t+1) - y(t) = v(t) + rf(t) \times y(t) - e(t)$$

Where $rf(t)$ = interest rate on federal debt, $y(t)$ = federal net debt, and $e(t)$ = federal taxes (including other expenditures). This equation allows us to project federal net debts, debt services, and taxes. Federal taxes are given for the base year. Federal net debt and debt service are also given for the base year, which enables to obtain the effective interest rate. I obtained the following effective interest rates on federal debts in our simulations: Simulation considering Statistics Canada data and base year 2000: 5.80%, simulation considering Statistics Canada data and base year 1997: 5.39%, simulation considering Statistics Canada data and base year 2001: 5.19%, and simulation considering the Conference Board of Canada data and base year 1997/98: 7.06%.

(ii) For Consolidated Provincial and Territorial Governments.

- Equations:

The first two equations serve to determine $x(j, g)$: the amount of money of program j spent for each individual of age group:

$$1) \quad x(j, g+1)/x(j, g) = f(j, g+1)/f(j, g)$$

$$2) \quad \sum_g (c(g) \times x(j, g)) = h(j)$$

Where g = generations, j = program spending, $x(j, g)$ = amount of money expended in provincial and territorial programs per generation, $f(j, g)$ = percentage distributions of provincial and territorial program spending by age group, $h(j)$ = provincial and territorial program spending, and $c(g)$ = population by age group. The percentage distributions of provincial and territorial program spending by age group, population by age group and provincial and territorial program spending are given for the base year.

The third equation projects provincial and territorial spending for all programs:

$$3) \quad \sum_j \sum_g (d(g, t) \times x(j, g)) = w(t)$$

Where t = years, $d(g, t)$ = projected population for each year by age group, and $w(t)$ = projected provincial and territorial program spending. Projected population for each year by age group is given.

The last equation represents the consolidated provincial and territorial fiscal balance:

$$4) \quad z(t+1) - z(t) = w(t) + rp(t) \times z(t) - e(t) - k(t)$$

Where $z(t)$ = provincial and territorial net debt, $rp(t)$ = interest rate on provincial debt, $e(t)$ = provincial and territorial taxes, and $k(t)$ = federal transfers. This equation allows us to project aggregate provincial and territorial net debts, debt services, taxes and transfers from the federal government. Provincial/territorial taxes and federal transfers are given

for the base year, as well as provincial/territorial net debt and debt service, which enables to obtain the effective interest rate. I obtained the following effective interest rates on consolidated provincial/territorial debts in our simulations: Simulation considering Statistics Canada data and base year 2000: 10.41%, simulation considering Statistics Canada data and base year 1997: 10.12%, simulation considering Statistics Canada data and base year 2001: 10.43%, and simulation considering the Conference Board data and base year 1997/98: 8.36%.

CHAPTER V. RESULTS.

My goal is to determine if there is a vertical fiscal imbalance problem in Canada. To achieve that goal, I establish a comparative analysis between my projections -which have been conducted by using the General Algebraic Modeling System (GAMS)- and those of the Conference Board (expressed in real terms¹⁴). This analysis implied running a variety of simulations using different data and base years, including simulations with the purpose of replicating the Conference Board projections tendency with respect to consolidated provincial/territorial and federal budgetary balances or the Conference Board projected values. Following, I show that the results are very sensitive to the choice of the initial year of the simulation period and how projections on education spending are made.

First Simulation:

I projected fiscal accounts (for both levels of government) to year 2026 using year 2000 as the initial year. The results show provincial and territorial surpluses across the forecast period (see Tables 1 and 1-A). Surplus reaches \$167.89 billion in 2026, which means that from 2000 to 2026, provincial and territorial surpluses will increase by an average of 11.72% per year. The federal government (see Tables 2 and 2-A) benefits from surpluses across the forecast period as well, but comparing with provincial and territorial governments, federal surpluses are lower in magnitude. By year 2026, the federal surplus reaches \$52.47 billion, representing an increase of 7.23% on average per year.

¹⁴ I used the Conference Board of Canada (2002)'s real and estimated Consumer Price Indexes(see annex A) to convert nominal values showed in tables A, A1, B and B1(see annex A) into real terms values (see Tables 3, 3-A, 4, and 4-A).

These findings contrast significantly with the Conference Board results (see Tables 3,3-A, 4 and 4-A) and clearly, do not demonstrate the existence of a vertical fiscal imbalance in Canada. However, by choosing another base year (2001), the story changes radically. Year 2001 differs from year 2000 by reporting a provincial/territorial deficit of \$4.11 billion (rather than a surplus of \$9.45 billion reported for year 2000).

Second Simulation:

Projecting from year 2001 to year 2026 (see Tables 5,5-A, 6 and 6-A) generates provincial and territorial deficits across the forecast period. Deficit reaches \$23.79 billion in 2026, representing an average deficit increase of 7.54% per year. On the other hand, the federal government still benefits from surpluses throughout the projected period, reaching \$36.37 billion in 2026.

These last values are closer to the projections obtained by the Conference Board as they show similar tendencies with respect to provincial/territorial and federal budgetary balances. However, budget balance sizes of both levels of government differ as reported in the following table:

	Provincial/Territorial Budget Balance last year projections (in millions of dollars)	Federal Budget Balance last year projections (in millions of dollars)
Projections 2000-2026	\$167,893.93	\$52,474.23
Projections 2001-2026	-\$23,798.70	\$36,378.67
The CBC Projections (1997/98-2019/20)	-\$7,339.11	\$51,109.45

I do not pursue the comparison of my projections – using 2000 as the base year – with the Conference Board estimations since I understand that provincial and territorial surpluses obtained by my simulation would be the result of the fact that the year 2000 is a projection starting point showing a consolidated provincial and territorial surplus of \$9.45 billion. It means that if I ran my models with a starting point showing a surplus, I have found it is likely that the projected period would follow that tendency; therefore, I would obtain surpluses values, and vice versa. On the other hand, although the Conference Board reports a consolidated provincial/territorial budgetary surplus of \$12.02 billion in real terms for year 2000/01, they project a provincial/territorial budgetary deficit of \$7.33 billion in real terms at the end of the forecast period -a very different result from mine-. Thus, I will focus on another starting point year that reports a provincial/territorial deficit to see if I can replicate the Conference Board tendency.

Third Simulation:

Here, I try to replicate the Conference Board tendency, with respect to consolidated provincial/territorial and federal budgetary balances, by projecting my models using 1997/98 as the base year (see Tables 7, 7-A, 8 and 8-A). This year reports a consolidated provincial/territorial budgetary deficit of \$3.02 billion (the Conference Board shows a deficit of \$3.03 billion in real terms for 1997/98). I obtain slight provincial and territorial surpluses from 2008 to 2020, the bigger one corresponds to the year 2016 (\$1.17 billion), while the Conference Board gets continuous increasing deficits from 2004/05 to 2014/15, reaching a deficit of \$7.33 billion in real terms by 2019/20. With respect to the federal government, although both projections show surpluses across the forecast period, there is a big difference in their magnitudes. For instance, according to the Conference Board, in 2019/20, there will be a federal surplus

of \$51.10 billion in real terms, while my projections, for the same year, predict a federal surplus of \$25.47 billion, which implies a difference of \$25.63 billion between both projections.

Fourth Simulation:

Due to the discrepancies found so far between my simulations results and those of the Conference Board, an important question arises: what is the possible cause of these discrepancies? I imagine the use of different data (from both researchers)¹⁵ as a possible answer. Therefore, I will try to replicate the Conference Board results by running my models not only considering 1997/98 as the base year, but also using the same data used by the Conference Board for that particular year (see Tables 11, 11-A, 12 and 12-A). Following, I analyse the results:

(i) For the Federal Government:

In relation to the federal government, I project surpluses throughout the forecast period; however, again, surplus sizes are very dissimilar from the Conference Board projections. In 2020, federal surplus reaches \$25.89 billion in my simulation, while the Conference Board reports a surplus of \$51.10 billion in real terms for 2019/20. It implies that the latter value is \$25.21 billion higher than the first one. Additionally, I see that the Conference Board not only projects greater real average annual growth rates of taxes and transfers (see Table 19), but also greater real average annual decrease rates of net debts and debt services. Thus, total revenues (from the Conference Board report) increase at a higher speed than total spending generating a projected federal surplus for

¹⁵ Data sources used by the Conference Board (Department of Finance Canada, Health Canada, Statistics Canada , Canadian Institute for Health Information and Provincial/Territorial Department of Finance) are different from mine (basically Statistics Canada). See tables 9, 9-A, 10, and 10-A..

2019/20. From 1998 to 2020, my simulation shows a federal surplus increase of \$23.54 billion (1002.60%), reaching a surplus of \$25.89 billion at the end of the forecast period. While, the Conference Board projections show a surplus increase of \$47.88 billion (1,484.12%) from 1997/98 to 2019/20.

(ii) For Provincial and Territorial Governments:

Increasing deficits occur across the projected period, which is similar to the Conference Board results, but deficit sizes are dissimilar. For instance, according to the Conference Board, the year 2019/20 will report a deficit of \$7.33 billion in real terms, while the corresponding deficit value obtained from my simulation is \$9.77 billion. It means that the Conference Board projected provincial/territorial deficit (for 2019/20) will be \$2.44 billion lower than my projection.

The reasons behind these projections differences (see Tables 13 and 13-A) are related to the following:

For provincial and territorial governments, according to my calculations and comparing both projections, the Conference Board projected higher real average annual growth rates of taxes, transfers, health care spending, education spending, other spending, and lower real average annual growth rates of debt services and net debts. In other words, higher real average annual growth rates of total revenues and total expenditures. In addition, the Conference Board provincial/territorial total expenditures real average annual growth rate (1.94%) is slightly higher than the corresponding total revenue one (1.91%) -see Table 14-. It is important to note that health care and education spending are the categories showing greater dissimilarities (with respect to my simulations) between real average annual growth rates: 2.40 and 1.64 percentage points of difference, respectively. The biggest difference can be found in education

spending because according to my simulation, it will decrease by 0.38% on average per year across the forecast period, but for the Conference Board, it will increase by 1.26% in real terms on average per year.

On the other hand, with respect to health care spending, both projections show an increasing tendency across the projected period. For me, however, the real average increase per year (1.01%) is lower than the corresponding value predicted by the Conference Board (3.41%). It seems that I am more optimistic than the Conference Board report (2002) in relation to the impact that population aging will have on provincial/territorial health care spending in Canada.

Fifth Simulation:

Since I discovered a strong discrepancy between both projections in relation to the way provincial/territorial education spending is treated¹⁶, I decided to repeat all the simulations I have done so far (for provincial/territorial governments) considering a different percentage distribution of education spending across age groups. The new education distribution assigns the same percentage of education spending to each age group, which means that education spending does not decline with population aging as I assumed before. For me, the more reasonable percentage distribution of education spending across age groups is the one consistent with the expectation that education spending will decrease with population aging as student population is expected to decline in the long run (see graph 1 in Annex A). Following, I present the new simulations results (for practical reasons, now and then, I will refer to both types of education distributions as the new one and the old one)

¹⁶ *It seems that the Conference Board distributed education spending homogeneously among the student population (classified by levels of education) through calculating education spending by level in per capita terms.*

(i) Projections with base years 2000 and 2001:

If I compare the projections (see Tables 15, 15-A, 16 and 16-A) with both kinds of percentage education distributions, I can see that with the new education distribution, projected provincial/territorial amounts of education spending will increase across the forecast period rather than decrease as projected in the previous simulations. Therefore, net debts and debt services will be higher than before and provincial/territorial budget balances will reach smaller surpluses or higher deficits depending on the cases.

(ii) Projections with base year 1997 and different data sources (the Conference Board data and Statistics Canada data):

As I said above, with the new education distribution, projected amounts of provincial/territorial education spending increase across the forecast period; therefore, net debts and debt services rise affecting negatively provincial/territorial budget balances (see Tables 17- 17-A, 18 and 18-A). If we focus our attention on the projections considering the Conference Board data, we can see how provincial/territorial deficits obtained before (for instance, a deficit of \$9.77 billion in 2020) increase with the new education distribution. In fact, provincial/territorial deficits (with the new education distribution) increase by 9.11% on average per year (contrasting with the 4.14% average annual increase corresponding to the old education distribution), augmenting by \$26.25 billion (634.13%) from 1998 to 2020, and reaching \$30.39 billion in 2020.

These findings are very significant since they are closer to the Conference Board projections; however, my simulation predicts higher provincial/territorial deficits across the forecast period. For instance, by 2020, provincial/territorial deficit (from my

simulation) reaches \$30.39 billion contrasting with \$7.33 billion in real terms (the corresponding value predicted by the Conference Board). It implies a difference of \$23.06 billion between both projections.

With respect to the projections using data from Statistics Canada, the findings are more surprising. Before, I predicted a provincial/territorial surplus of \$606.02 million in 2020, and decreasing deficits from 1997 to 2007. On the other hand, with the new education distribution, there will be increasing provincial/territorial deficits throughout the forecast period, reaching \$31.42 billion by 2020, and representing a deficit increase of \$28.39 billion (937.41%) from 1997 to 2020 (an average annual deficit increase of 10.82%). Contrasting these estimations with the Conference Board ones, both show the same tendency with respect to provincial/territorial and federal budgetary balances. In fact, my simulation (with the new education distribution) predicts higher levels of provincial/territorial deficits, reaching \$31.42 billion by 2020 and representing \$24.09 billion more than the Conference Board projected value for 2019/20 (\$7.33 billion in real terms).

CONCLUSIONS.

Based on my simulations results and the comparative analysis made between the Conference Board projections and my estimations, I have found the following:

This kind of projection is very sensitive to values of the base year accounts. In other words, if we run a model with a starting point showing a surplus, it is very likely that projections will follow the same tendency, and vice versa. Additionally, these projections are affected by the kind of assumptions made when running the models. For instance, the Conference Board projects higher real annual growth rates of total provincial and territorial revenues and expenditures, as well as higher real annual growth rates of federal taxes and transfers, and higher real annual decrease rates of federal net debts and debt services. All of that caused significant differences in the magnitudes of projected surpluses or deficits obtained by both researchers.

My results show a more optimistic picture than the Conference Board's in relation to the impact that population aging will have on provincial and territorial health care spending in Canada. Despite the fact that both projections show an increasing tendency in health care spending across the forecast period, my corresponding real average growth rate of health care spending per year (1.01%) is lower than that of the Conference Board (3.41%). As a consequence of that, important differences can be found in the amounts of projected health care spending.

It is clear that we both treat provincial and territorial education spending differently. While my simulation projected a real average annual decrease of 0.38% in provincial and territorial education spending across the forecast period, the Conference Board predicts a real average annual increase of 1.26% in education spending. My simulation findings are consistent with the expectation that education spending will decrease with

population aging as student population is expected to decline in the long run. Additionally, this assumption is expressed in the percentage education distribution per age group used (by me) to project provincial and territorial fiscal accounts. However, apparently, the Conference Board did not distribute education spending taking into account Canadian population structure by age group in the same way I did. It seems that they distributed education spending homogeneously among the student population (classified by levels of education) through calculating education spending by level in per capita terms. This methodological difference seems to be the principal reason why I could not replicate the Conference Board projections tendency, with respect to consolidated provincial/territorial budgetary balances, in my simulation using 1997/98 as the base year and the data from Statistics Canada (my main data source). Additionally, I could obtain projected values that reinforce the Conference Board projections - for provincial/territorial and federal governments- by replacing my initial percentage education distribution per age group for an unrealistic one that assigns the same percentage education spending to each age group. As a consequence of that, the projected values (considering the new percentage education distribution) reveal that education spending does not decline with population aging; on the contrary, it increases.

To summarize, the level of sensitivity of this type of projections to the base year and assumptions on various spending programs is too high to support any definitive conclusion with respect to the existence of a vertical fiscal imbalance problem in Canada.

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TABLE 1

Statistics Canada data

PROVINCIAL/TERRITORIAL GOVERNMENTS

BASE YEAR 2000 (in millions term)

TABLE 1												
Statistics Canada data												
PROVINCIAL/TERRITORIAL GOVERNMENTS												
BASE YEAR 2000 (in millions term)												
YEAR	REVENUES			EXPENDITURES					NET	BUDGET		
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT	BALANCE		
2000	122,263.40	86,279.30	208,542.70	62,319.82	45,163.00	68,090.75	23,511.07	199,084.64	225,696.90	9,458.06		
2001	123,266.60	86,987.20	210,253.80	62,942.16	45,238.27	68,512.84	22,525.81	199,219.08	216,238.80	11,034.72		
2002	124,278.50	87,701.29	211,979.79	63,538.15	45,223.27	68,941.43	21,376.31	199,079.16	205,204.00	12,900.63		
2003	125,271.70	88,402.18	213,673.88	64,152.64	45,145.98	69,387.89	20,032.43	198,718.94	192,303.30	14,954.94		
2004	126,245.40	89,089.33	215,334.73	64,772.91	45,010.56	69,876.39	18,474.55	198,134.41	177,348.30	17,200.32		
2005	127,201.30	89,763.85	216,965.15	65,413.24	44,766.20	70,400.72	16,682.77	197,262.93	160,147.90	19,702.22		
2006	128,142.40	90,427.98	218,570.38	66,093.75	44,503.33	71,006.00	14,630.37	196,233.45	140,445.70	22,336.93		
2007	129,068.00	91,081.18	220,149.18	66,780.51	44,251.02	71,725.16	12,303.50	195,060.19	118,108.70	25,088.99		
2008	129,981.30	91,725.68	221,706.98	67,501.13	43,998.38	72,463.45	9,689.95	193,652.91	93,019.68	28,054.07		
2009	130,881.50	92,360.91	223,242.41	68,207.97	43,702.70	73,236.37	6,767.53	191,914.57	64,965.58	31,327.84		
2010	131,771.30	92,988.86	224,760.16	68,887.86	43,345.24	74,035.59	3,504.08	189,772.77	33,637.73	34,987.39		
2011	132,647.20	93,606.98	226,254.18	69,586.68	42,991.51	74,872.38	-140.60	187,309.97	-1,349.70	38,944.21		
2012	133,512.00	94,217.25	227,729.25	70,403.40	42,678.40	75,809.18	-4,197.47	184,693.51	-40,294.00	43,035.74		
2013	134,366.50	94,820.22	229,186.72	71,189.44	42,408.41	76,716.72	-8,680.54	181,634.03	-83,329.70	47,552.69		
2014	135,208.20	95,414.21	230,622.41	71,979.13	42,143.07	77,631.74	-13,634.11	178,119.83	-130,882.00	52,502.58		
2015	136,037.60	95,999.50	232,037.10	72,773.20	41,870.83	78,548.53	-19,103.40	174,089.16	-183,385.00	57,947.94		
2016	136,853.90	96,575.54	233,429.44	73,583.64	41,616.03	79,427.90	-25,139.90	169,487.67	-241,333.00	63,941.77		
2017	137,655.10	97,140.91	234,796.01	74,381.22	41,449.77	80,233.53	-31,800.80	164,263.72	-305,275.00	70,532.29		
2018	138,440.30	97,695.06	236,135.36	75,216.38	41,339.12	81,008.93	-39,148.19	158,416.24	-375,807.00	77,719.12		
2019	139,207.70	98,236.58	237,444.28	76,092.20	41,255.06	81,781.39	-47,244.26	151,884.39	-453,526.00	85,559.89		
2020	139,954.40	98,763.52	238,717.92	76,994.57	41,214.47	82,528.23	-56,157.02	144,580.25	-539,085.00	94,137.67		
2021	140,678.80	99,274.74	239,953.54	77,903.10	41,191.05	83,216.75	-65,963.47	136,347.43	-633,223.00	103,606.11		
2022	141,379.40	99,769.12	241,148.52	78,904.98	41,215.44	83,800.87	-76,756.21	127,165.08	-736,829.00	113,983.44		
2023	142,053.00	100,244.40	242,297.40	79,857.38	41,260.98	84,350.61	-88,629.94	116,839.03	-850,812.00	125,458.37		
2024	142,697.90	100,699.50	243,397.40	80,764.97	41,313.40	84,839.73	-101,699.02	105,219.08	-976,270.00	138,178.32		
2025	143,313.40	101,133.90	244,447.30	81,650.13	41,380.03	85,247.24	-116,093.37	92,184.03	-1,114,450.00	152,263.27		
2026	143,894.70	101,544.10	245,438.80	82,486.47	41,442.55	85,570.30	-131,954.45	77,544.87	-1,266,710.00	167,893.93		

TABLE 1-A

Statistics Canada data

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS									
	BASE YEAR 2000									
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
2000										
2001	0.82	0.82	0.82	1.00	0.17	0.62	-4.19	0.07	-4.19	16.67
2002	0.82	0.82	0.82	0.95	-0.03	0.63	-5.10	-0.07	-5.10	16.91
2003	0.80	0.80	0.80	0.97	-0.17	0.65	-6.29	-0.18	-6.29	15.92
2004	0.78	0.78	0.78	0.97	-0.30	0.70	-7.78	-0.29	-7.78	15.01
2005	0.76	0.76	0.76	0.99	-0.54	0.75	-9.70	-0.44	-9.70	14.55
2006	0.74	0.74	0.74	1.04	-0.59	0.86	-12.30	-0.52	-12.30	13.37
2007	0.72	0.72	0.72	1.04	-0.57	1.01	-15.90	-0.60	-15.90	12.32
2008	0.71	0.71	0.71	1.08	-0.57	1.03	-21.24	-0.72	-21.24	11.82
2009	0.69	0.69	0.69	1.05	-0.67	1.07	-30.16	-0.90	-30.16	11.67
2010	0.68	0.68	0.68	1.00	-0.82	1.09	-48.22	-1.12	-48.22	11.68
2011	0.66	0.66	0.66	1.01	-0.82	1.13	-104.01	-1.30	-104.01	11.31
2012	0.65	0.65	0.65	1.17	-0.73	1.25	2,885.40	-1.40	2,885.40	10.51
2013	0.64	0.64	0.64	1.12	-0.63	1.20	106.80	-1.66	106.80	10.50
2014	0.63	0.63	0.63	1.11	-0.63	1.19	57.07	-1.93	57.07	10.41
2015	0.61	0.61	0.61	1.10	-0.65	1.18	40.11	-2.26	40.11	10.37
2016	0.60	0.60	0.60	1.11	-0.61	1.12	31.60	-2.64	31.60	10.34
2017	0.59	0.59	0.59	1.08	-0.40	1.01	26.50	-3.08	26.50	10.31
2018	0.57	0.57	0.57	1.12	-0.27	0.97	23.10	-3.56	23.10	10.19
2019	0.55	0.55	0.55	1.16	-0.20	0.95	20.68	-4.12	20.68	10.09
2020	0.54	0.54	0.54	1.19	-0.10	0.91	18.87	-4.81	18.87	10.03
2021	0.52	0.52	0.52	1.18	-0.06	0.83	17.46	-5.69	17.46	10.06
2022	0.50	0.50	0.50	1.29	0.06	0.70	16.36	-6.73	16.36	10.02
2023	0.48	0.48	0.48	1.21	0.11	0.66	15.47	-8.12	15.47	10.07
2024	0.45	0.45	0.45	1.14	0.13	0.58	14.75	-9.95	14.75	10.14
2025	0.43	0.43	0.43	1.10	0.16	0.48	14.15	-12.39	14.15	10.19
2026	0.41	0.41	0.41	1.02	0.15	0.38	13.66	-15.88	13.66	10.27
average	0.63	0.63	0.63	1.08	-0.33	0.88	116.81	-3.47	116.81	11.72

% a.v.= percentage annual variation

TABLE 2 Statistics Canada data THE FEDERAL GOVERNMENT BASE YEAR 2000(in millions term)									
YEAR	REVENUES		EXPENDITURES			NET		BUDGET	
	taxes	transfers	debt serv.	total spend.		DEBT		BALANCE	
2000	173,744.50	136,466.10	28,734.99	165,201.09		494,918.90		8,543.41	
2001	175,170.00	137,585.80	28,238.95	165,824.75		486,375.30		9,345.25	
2002	176,608.00	138,715.20	27,696.35	166,411.55		477,029.80		10,196.45	
2003	178,019.40	139,823.80	27,104.34	166,928.14		466,833.20		11,091.26	
2004	179,403.20	140,910.60	26,460.36	167,370.96		455,741.70		12,032.24	
2005	180,761.50	141,977.50	25,761.76	167,739.26		443,709.30		13,022.24	
2006	182,098.90	143,028.00	25,005.69	168,033.69		430,687.00		14,065.21	
2007	183,414.30	144,061.10	24,189.04	168,250.14		416,621.50		15,164.16	
2008	184,712.10	145,080.50	23,308.61	168,389.11		401,457.30		16,322.99	
2009	185,991.30	146,085.20	22,360.89	168,446.09		385,134.10		17,545.21	
2010	187,255.80	147,078.40	21,342.21	168,420.61		367,588.80		18,835.19	
2011	188,500.60	148,056.10	20,248.63	168,304.73		348,753.50		20,195.87	
2012	189,729.50	149,021.40	19,076.05	168,097.45		328,557.50		21,632.05	
2013	190,943.70	149,975.10	17,820.08	167,795.18		306,925.30		23,148.52	
2014	192,139.90	150,914.60	16,476.07	167,390.67		283,776.60		24,749.23	
2015	193,318.50	151,840.30	15,039.12	166,879.42		259,027.20		26,439.08	
2016	194,478.50	152,751.40	13,504.06	166,255.46		232,588.00		28,223.04	
2017	195,617.00	153,645.70	11,865.43	165,511.13		204,364.90		30,105.87	
2018	196,732.90	154,522.10	10,117.47	164,639.57		174,258.90		32,093.33	
2019	197,823.40	155,378.70	8,254.13	163,632.83		142,165.50		34,190.57	
2020	198,884.50	156,212.10	6,269.02	162,481.12		107,974.90		36,403.38	
2021	199,914.00	157,020.70	4,155.44	161,176.14		71,571.40		38,737.86	
2022	200,909.60	157,802.60	1,906.31	159,708.91		32,833.50		41,200.69	
2023	201,866.70	158,554.40	-485.79	158,068.61		-8,367.12		43,798.09	
2024	202,783.20	159,274.30	-3,028.71	156,245.59		-52,165.20		46,537.61	
2025	203,657.80	159,961.20	-5,730.68	154,230.52		-98,702.80		49,427.28	
2026	204,483.90	160,610.10	-8,600.43	152,009.67		-148,130.00		52,474.23	

TABLE 2-A Statistics Canada data						
YEAR	THE FEDERAL GOVERNMENT					
	BASE YEAR 2000					
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
2000						
2001	0.82	0.82	-1.73	0.38	-1.73	9.39
2002	0.82	0.82	-1.92	0.35	-1.92	9.11
2003	0.80	0.80	-2.14	0.31	-2.14	8.78
2004	0.78	0.78	-2.38	0.27	-2.38	8.48
2005	0.76	0.76	-2.64	0.22	-2.64	8.23
2006	0.74	0.74	-2.93	0.18	-2.93	8.01
2007	0.72	0.72	-3.27	0.13	-3.27	7.81
2008	0.71	0.71	-3.64	0.08	-3.64	7.64
2009	0.69	0.69	-4.07	0.03	-4.07	7.49
2010	0.68	0.68	-4.56	-0.02	-4.56	7.35
2011	0.66	0.66	-5.12	-0.07	-5.12	7.22
2012	0.65	0.65	-5.79	-0.12	-5.79	7.11
2013	0.64	0.64	-6.58	-0.18	-6.58	7.01
2014	0.63	0.63	-7.54	-0.24	-7.54	6.91
2015	0.61	0.61	-8.72	-0.31	-8.72	6.83
2016	0.60	0.60	-10.21	-0.37	-10.21	6.75
2017	0.59	0.59	-12.13	-0.45	-12.13	6.67
2018	0.57	0.57	-14.73	-0.53	-14.73	6.60
2019	0.55	0.55	-18.42	-0.61	-18.42	6.53
2020	0.54	0.54	-24.05	-0.70	-24.05	6.47
2021	0.52	0.52	-33.71	-0.80	-33.71	6.41
2022	0.50	0.50	-54.12	-0.91	-54.12	6.36
2023	0.48	0.48	-125.48	-1.03	-125.48	6.30
2024	0.45	0.45	523.45	-1.15	523.45	6.25
2025	0.43	0.43	89.21	-1.29	89.21	6.21
2026	0.41	0.41	50.08	-1.44	50.08	6.16
average	0.63	0.63	11.80	-0.32	11.80	7.23

% a.v.= percentage annual variation

TABLE 3
THE CONFERENCE BOARD PROJECTIONS (*)

PROVINCIAL/TERRITORIAL GOVERNMENTS
(in millions term)

YEAR	REVENUES				EXPENDITURES						NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT				
1997/98	125,234.69	22,009.28	147,243.97	47,631.73	31,734.69	50,923.93	19,988.87	150,279.22	239,006.49	-3,035.25			
1998/99	129,000.00	24,067.95	153,067.95	50,426.08	33,483.93	50,543.62	20,104.68	154,558.31	239,925.62	-1,490.36			
1999/00	138,350.72	24,240.11	162,590.83	53,422.66	34,475.72	52,166.37	19,871.40	159,936.15	234,902.88	2,654.68			
2000/01	145,752.41	25,612.42	171,364.83	55,584.43	33,371.83	50,748.03	19,636.05	159,340.33	220,037.62	12,024.50			
2001/02	133,508.98	28,344.74	161,853.72	58,469.63	35,461.08	51,171.09	18,284.00	163,385.80	216,349.87	-1,532.08			
2002/03	136,428.57	29,004.18	165,432.75	59,786.13	35,878.03	51,924.81	18,311.61	165,900.58	211,757.73	-467.84			
2003/04	139,750.41	29,526.19	169,276.60	61,491.00	36,261.87	52,841.24	19,049.10	169,643.21	207,791.33	-366.61			
2004/05	141,043.34	29,936.60	170,979.94	63,410.11	36,643.66	53,725.52	19,097.11	172,876.40	205,685.39	-1,896.47			
2005/06	142,871.35	30,363.06	173,234.41	65,477.51	36,989.74	54,594.32	19,050.51	176,112.08	205,153.91	-2,877.66			
2006/07	144,906.35	30,459.75	175,366.10	67,437.31	37,357.59	55,256.19	19,109.91	179,160.99	204,979.10	-3,794.89			
2007/08	147,782.25	30,820.94	178,603.19	69,496.21	37,745.83	55,961.31	19,223.07	182,426.40	204,758.73	-3,823.22			
2008/09	150,450.89	31,155.51	181,606.40	71,684.52	38,121.28	56,635.42	19,343.75	185,784.97	204,975.45	-4,178.57			
2009/10	153,266.62	31,522.28	184,788.90	74,036.52	38,474.80	57,341.86	19,510.59	189,363.77	205,807.16	-4,574.87			
2010/11	156,081.78	31,900.29	187,982.07	76,533.00	38,799.14	58,029.41	19,713.06	193,074.61	207,208.75	-5,092.54			
2011/12	158,852.22	32,254.75	191,106.97	79,026.04	39,109.78	58,690.36	20,134.41	196,960.59	209,126.67	-5,853.62			
2012/13	162,008.29	32,640.19	194,648.48	81,567.68	39,432.32	59,406.08	20,851.52	201,257.60	211,836.33	-6,609.12			
2013/14	165,289.78	33,029.11	198,318.89	84,049.42	39,727.15	60,127.96	21,574.14	205,478.67	214,836.83	-7,159.78			
2014/15	168,581.56	33,399.20	201,980.77	86,478.12	39,953.58	60,836.21	22,114.72	209,382.63	217,821.62	-7,401.86			
2015/16	172,036.36	33,771.43	205,807.79	88,949.35	40,145.45	61,563.64	22,456.49	213,114.94	220,601.30	-7,307.14			
2016/17	175,604.96	34,149.49	209,754.45	91,480.28	40,400.13	62,317.43	22,751.91	216,949.75	223,306.62	-7,195.29			
2017/18	179,123.44	34,525.56	213,649.00	94,059.85	40,752.49	63,062.34	23,039.28	220,913.97	226,116.58	-7,264.96			
2018/19	182,785.71	34,910.87	217,696.58	96,736.87	41,159.95	63,787.55	23,308.91	224,993.28	228,719.17	-7,296.70			
2019/20	186,707.54	35,331.94	222,039.47	99,573.56	41,645.93	64,572.97	23,586.12	229,378.59	231,407.30	-7,339.11			

(*) I converted the CBC nominal values in real term values.

Source: Hales, St-Maurice, Antunes. "Vertical Fiscal Imbalance. Fiscal Prospects for the Federal and Provincial/Territorial Governments". The Conference Board of Canada. July 2002.

TABLE 3-A
THE CONFERENCE BOARD PROJECTIONS (*)
Author's calculations

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS										
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balance % a.v.	
1997/98											
1998/99	3.01	9.35	3.96	5.87	5.51	-0.75	0.58	2.85	0.38	-50.90	
1999/00	7.25	0.72	6.22	5.94	2.96	3.21	-1.16	3.48	-2.09	-278.12	
2000/01	5.35	5.66	5.40	4.05	-3.20	-2.72	-1.18	-0.37	-6.33	352.96	
2001/02	-8.40	10.67	-5.55	5.19	6.26	0.83	-6.89	2.54	-1.68	-112.74	
2002/03	2.19	2.33	2.21	2.25	1.18	1.47	0.15	1.54	-2.12	-69.46	
2003/04	2.43	1.80	2.32	2.85	1.07	1.76	4.03	2.26	-1.87	-21.64	
2004/05	0.93	1.39	1.01	3.12	1.05	1.67	0.25	1.91	-1.01	417.30	
2005/06	1.30	1.42	1.32	3.26	0.94	1.62	-0.24	1.87	-0.26	51.74	
2006/07	1.42	0.32	1.23	2.99	0.99	1.21	0.31	1.73	-0.09	31.87	
2007/08	1.98	1.19	1.85	3.05	1.04	1.28	0.59	1.82	-0.11	0.75	
2008/09	1.81	1.09	1.68	3.15	0.99	1.20	0.63	1.84	0.11	9.29	
2009/10	1.87	1.18	1.75	3.28	0.93	1.25	0.86	1.93	0.41	9.48	
2010/11	1.84	1.20	1.73	3.37	0.84	1.20	1.04	1.96	0.68	11.32	
2011/12	1.77	1.11	1.66	3.26	0.80	1.14	2.14	2.01	0.93	14.95	
2012/13	1.99	1.19	1.85	3.22	0.82	1.22	3.56	2.18	1.30	12.91	
2013/14	2.03	1.19	1.89	3.04	0.75	1.22	3.47	2.10	1.42	8.33	
2014/15	1.99	1.12	1.85	2.89	0.57	1.18	2.51	1.90	1.39	3.38	
2015/16	2.05	1.11	1.89	2.86	0.48	1.20	1.55	1.78	1.28	-1.28	
2016/17	2.07	1.12	1.92	2.85	0.63	1.22	1.32	1.80	1.23	-1.53	
2017/18	2.00	1.10	1.86	2.82	0.87	1.20	1.26	1.83	1.26	0.97	
2018/19	2.04	1.12	1.89	2.85	1.00	1.15	1.17	1.85	1.15	0.44	
2019/20	2.15	1.21	1.99	2.93	1.18	1.23	1.19	1.95	1.18	0.58	
average	1.87	2.21	1.91	3.41	1.26	1.09	0.78	1.94	-0.13	17.75	

(*) I converted the CBC nominal values in real term values.

Source: Hales, St-Maurice, Antunes. "Vertical Fiscal Imbalance. Fiscal Prospects for the Federal and Provincial/Territorial Governments". The Conference Board of Canada. July 2002.
% a.v.= percentage annual variation

TABLE 4 THE CONFERENCE BOARD PROJECTIONS (*) THE FEDERAL GOVERNMENT (in millions term)						
YEAR	REVENUES		EXPENDITURES			NET DEBT
	taxes	transfers	debt serv.	total spend.		
1997/98	142,079.78	100,884.04	37,969.39	138,853.43	537,762.52	3,226.35
1998/99	142,948.58	102,289.26	38,011.02	140,300.28	529,682.28	2,648.30
1999/00	149,017.99	100,506.29	37,452.34	137,958.63	507,667.27	11,059.35
2000/01	156,246.72	104,416.45	36,827.65	141,244.09	478,895.89	15,002.62
2001/02	148,845.17	110,179.64	33,532.93	143,712.57	463,112.06	5,132.59
2002/03	149,245.61	113,650.79	32,833.75	146,484.54	449,517.96	2,761.07
2003/04	151,910.80	114,250.41	33,888.71	148,139.12	436,549.92	3,771.69
2004/05	152,124.40	116,256.02	33,645.26	149,901.28	425,918.14	2,223.11
2005/06	154,670.09	118,090.77	33,095.50	151,186.27	415,374.90	3,483.82
2006/07	157,589.78	119,750.00	32,481.42	152,231.42	401,979.10	5,358.36
2007/08	160,605.46	121,546.28	31,679.82	153,226.10	386,669.95	7,379.36
2008/09	163,641.37	123,311.01	30,744.05	154,055.06	369,603.42	9,586.31
2009/10	166,726.81	125,187.00	29,672.75	154,859.75	350,986.85	11,867.06
2010/11	169,742.47	127,099.00	28,434.72	155,533.72	330,483.50	14,208.75
2011/12	173,007.74	129,065.45	27,261.08	156,326.53	307,522.87	16,681.21
2012/13	176,870.86	131,283.15	26,154.70	157,437.85	282,355.66	19,433.01
2013/14	180,864.59	133,433.31	24,686.53	158,119.84	254,067.03	22,744.75
2014/15	184,764.59	135,509.95	22,651.19	158,161.14	222,241.38	26,603.45
2015/16	188,619.48	137,642.86	20,099.35	157,742.21	186,746.10	30,877.27
2016/17	192,505.73	139,850.51	17,226.46	157,076.97	147,515.27	35,428.75
2017/18	196,251.25	142,037.41	14,055.49	156,092.89	104,413.97	40,158.35
2018/19	200,141.03	144,201.47	10,561.66	154,763.13	56,868.13	45,377.90
2019/20	204,362.44	146,525.72	6,727.27	153,252.99	4,602.27	51,109.45

(*) I converted the CBC nominal values in real term values.

Source: The Conference Board of Canada Report, July 2002

TABLE 4-A THE CONFERENCE BOARD PROJECTIONS (*) Author's calculations							
YEAR	FEDERAL GOVERNMENT						
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
1997/98							
1998/99	0.61	1.39	0.11	1.04	-1.50	-17.92	
1999/00	4.25	-1.74	-1.47	-1.67	-4.16	317.60	
2000/01	4.85	3.89	-1.67	2.38	-5.67	35.66	
2001/02	-4.74	5.52	-8.95	1.75	-3.30	-65.79	
2002/03	0.27	3.15	-2.09	1.93	-2.94	-46.21	
2003/04	1.79	0.53	3.21	1.13	-2.88	36.60	
2004/05	0.14	1.76	-0.72	1.19	-2.44	-41.06	
2005/06	1.67	1.58	-1.63	0.86	-2.48	56.71	
2006/07	1.89	1.41	-1.86	0.69	-3.22	53.81	
2007/08	1.91	1.50	-2.47	0.65	-3.81	37.72	
2008/09	1.89	1.45	-2.95	0.54	-4.41	29.91	
2009/10	1.89	1.52	-3.48	0.52	-5.04	23.79	
2010/11	1.81	1.53	-4.17	0.44	-5.84	19.73	
2011/12	1.92	1.55	-4.13	0.51	-6.95	17.40	
2012/13	2.23	1.72	-4.06	0.71	-8.18	16.50	
2013/14	2.26	1.64	-5.61	0.43	-10.02	17.04	
2014/15	2.16	1.56	-8.24	0.03	-12.53	16.97	
2015/16	2.09	1.57	-11.27	-0.26	-15.97	16.06	
2016/17	2.06	1.60	-14.29	-0.42	-21.01	14.74	
2017/18	1.95	1.56	-18.41	-0.63	-29.22	13.35	
2018/19	1.98	1.52	-24.86	-0.85	-45.54	13.00	
2019/20	2.11	1.61	-36.30	-0.98	-91.91	12.63	
average	1.68	1.72	-7.06	0.45	-13.14	26.28	

Source: The Conference Board of Canada Report, July 2002

(*) I converted the CBC nominal values in real term values.

% a.v.= percentage annual variation

TABLE 5

BASE YEAR=2001

Statistics Canada data

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

YEAR	(in millions term)										
	REVENUES			EXPENDITURES					NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT		
2001	118,564.40	78,277.49	196,841.89	64,046.39	46,567.87	68,657.22	21,687.34	200,958.82	207,743.10	-4,116.93	
2002	119,537.70	78,920.07	198,457.77	64,652.84	46,552.43	69,086.71	22,117.12	202,409.10	211,860.00	-3,951.33	
2003	120,493.10	79,550.79	200,043.89	65,278.11	46,472.87	69,534.11	22,529.61	203,814.70	215,811.20	-3,770.81	
2004	121,429.60	80,169.14	201,598.74	65,909.26	46,333.47	70,023.64	22,923.26	205,189.63	219,582.00	-3,590.89	
2005	122,349.00	80,776.12	203,125.12	66,560.82	46,081.93	70,549.07	23,298.12	206,489.94	223,172.80	-3,364.82	
2006	123,254.20	81,373.76	204,627.96	67,253.28	45,811.33	71,155.64	23,649.38	207,869.63	226,537.50	-3,241.67	
2007	124,144.60	81,961.55	206,106.15	67,952.08	45,551.61	71,876.30	23,987.79	209,367.78	229,779.10	-3,261.63	
2008	125,023.00	82,541.52	207,564.52	68,685.34	45,291.54	72,616.15	24,328.28	210,921.31	233,040.70	-3,356.79	
2009	125,888.90	83,113.15	209,002.05	69,404.59	44,987.17	73,390.70	24,678.71	212,461.17	236,397.40	-3,459.12	
2010	126,744.70	83,678.22	210,422.92	70,096.40	44,619.20	74,191.60	25,039.82	213,947.02	239,856.50	-3,524.10	
2011	127,587.30	84,234.45	211,821.75	70,807.48	44,255.07	75,030.16	25,407.71	215,500.42	243,380.50	-3,678.67	
2012	128,419.10	84,783.61	213,202.71	71,638.53	43,932.76	75,968.94	25,791.73	217,331.96	247,059.10	-4,129.25	
2013	129,240.90	85,326.21	214,567.11	72,438.37	43,654.84	76,878.39	26,222.81	219,194.41	251,188.40	-4,627.30	
2014	130,050.50	85,860.73	215,911.23	73,241.90	43,381.70	77,795.33	26,705.87	221,124.80	255,815.60	-5,213.57	
2015	130,848.30	86,387.42	217,235.72	74,049.91	43,101.46	78,714.06	27,250.13	223,115.56	261,029.10	-5,879.84	
2016	131,633.40	86,905.78	218,539.18	74,874.56	42,839.16	79,595.28	27,863.94	225,172.94	266,908.80	-6,633.76	
2017	132,404.00	87,414.54	219,818.54	75,686.14	42,668.02	80,402.61	28,556.47	227,313.24	273,542.50	-7,494.70	
2018	133,159.30	87,913.21	221,072.51	76,535.95	42,554.12	81,179.64	29,338.87	229,608.58	281,037.10	-8,536.07	
2019	133,897.50	88,400.51	222,298.01	77,427.14	42,467.59	81,953.73	30,229.97	232,078.43	289,573.00	-9,780.42	
2020	134,615.70	88,874.69	223,490.39	78,345.34	42,425.81	82,702.14	31,251.00	234,724.29	299,353.40	-11,233.90	
2021	135,312.50	89,334.72	224,647.22	79,269.80	42,401.70	83,392.11	32,423.76	237,487.37	310,587.30	-12,840.15	
2022	135,986.30	89,779.60	225,765.90	80,289.27	42,426.81	83,977.47	33,764.20	240,457.75	323,427.40	-14,691.85	
2023	136,634.20	90,207.32	226,841.52	81,258.37	42,473.68	84,528.37	35,297.94	243,558.36	338,119.10	-16,716.84	
2024	137,254.50	90,616.86	227,871.36	82,181.88	42,527.64	85,018.51	37,043.09	246,771.12	354,835.90	-18,899.76	
2025	137,846.50	91,007.71	228,854.21	83,082.57	42,596.23	85,426.88	39,016.13	250,121.81	373,735.60	-21,267.60	
2026	138,405.60	91,376.85	229,782.45	83,933.58	42,660.59	85,750.63	41,236.35	253,581.15	395,003.10	-23,798.70	

TABLE 5-A

(BASE YEAR 2001)

Statistics Canada data

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS									
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
2001										
2002	0.82	0.82	0.82	0.95	-0.03	0.63	1.98	0.72	1.98	-4.02
2003	0.80	0.80	0.80	0.97	-0.17	0.65	1.87	0.69	1.87	-4.57
2004	0.78	0.78	0.78	0.97	-0.30	0.70	1.75	0.67	1.75	-4.77
2005	0.76	0.76	0.76	0.99	-0.54	0.75	1.64	0.63	1.64	-6.30
2006	0.74	0.74	0.74	1.04	-0.59	0.86	1.51	0.67	1.51	-3.66
2007	0.72	0.72	0.72	1.04	-0.57	1.01	1.43	0.72	1.43	0.62
2008	0.71	0.71	0.71	1.08	-0.57	1.03	1.42	0.74	1.42	2.92
2009	0.69	0.69	0.69	1.05	-0.67	1.07	1.44	0.73	1.44	3.05
2010	0.68	0.68	0.68	1.00	-0.82	1.09	1.46	0.70	1.46	1.88
2011	0.66	0.66	0.66	1.01	-0.82	1.13	1.47	0.73	1.47	4.39
2012	0.65	0.65	0.65	1.17	-0.73	1.25	1.51	0.85	1.51	12.25
2013	0.64	0.64	0.64	1.12	-0.63	1.20	1.67	0.86	1.67	12.06
2014	0.63	0.63	0.63	1.11	-0.63	1.19	1.84	0.88	1.84	12.67
2015	0.61	0.61	0.61	1.10	-0.65	1.18	2.04	0.90	2.04	12.78
2016	0.60	0.60	0.60	1.11	-0.61	1.12	2.25	0.92	2.25	12.82
2017	0.59	0.59	0.59	1.08	-0.40	1.01	2.49	0.95	2.49	12.98
2018	0.57	0.57	0.57	1.12	-0.27	0.97	2.74	1.01	2.74	13.89
2019	0.55	0.55	0.55	1.16	-0.20	0.95	3.04	1.08	3.04	14.58
2020	0.54	0.54	0.54	1.19	-0.10	0.91	3.38	1.14	3.38	14.86
2021	0.52	0.52	0.52	1.18	-0.06	0.83	3.75	1.18	3.75	14.30
2022	0.50	0.50	0.50	1.29	0.06	0.70	4.13	1.25	4.13	14.42
2023	0.48	0.48	0.48	1.21	0.11	0.66	4.54	1.29	4.54	13.78
2024	0.45	0.45	0.45	1.14	0.13	0.58	4.94	1.32	4.94	13.06
2025	0.43	0.43	0.43	1.10	0.16	0.48	5.33	1.36	5.33	12.53
2026	0.41	0.41	0.41	1.02	0.15	0.38	5.69	1.38	5.69	11.90
average	0.62	0.62	0.62	1.09	-0.35	0.89	2.61	0.93	2.61	7.54

% a.v.= percentage annual variation

TABLE 6

(BASE YEAR 2001)

Statistics Canada data

THE FEDERAL GOVERNMENT

(in millions term)

TABLE 6 (BASE YEAR 2001) Statistics Canada data						
YEAR	THE FEDERAL GOVERNMENT (in millions term)					
	REVENUES	EXPENDITURES			NET	BUDGET
	taxes	transfers	debt serv.	total spend.	DEBT	BALANCE
2001	166,378.90	134,835.90	24,359.08	159,194.98	468,470.80	7,183.92
2002	167,744.70	135,942.80	23,985.53	159,928.33	461,286.90	7,816.37
2003	169,085.30	137,029.20	23,579.11	160,608.31	453,470.60	8,476.99
2004	170,399.60	138,094.30	23,138.34	161,232.64	444,993.70	9,166.96
2005	171,689.70	139,139.90	22,661.69	161,801.59	435,826.90	9,888.11
2006	172,960.00	140,169.30	22,147.54	162,316.84	425,938.80	10,643.16
2007	174,209.30	141,181.80	21,594.13	162,775.93	415,295.70	11,433.37
2008	175,442.10	142,180.90	20,999.63	163,180.53	403,862.40	12,261.57
2009	176,657.10	143,165.50	20,362.07	163,527.57	391,600.80	13,129.53
2010	177,858.10	144,138.90	19,679.38	163,818.28	378,471.40	14,039.82
2011	179,040.40	145,097.00	18,949.34	164,046.34	364,431.50	14,994.06
2012	180,207.60	146,043.00	18,169.70	164,212.70	349,437.50	15,994.90
2013	181,360.90	146,977.60	17,338.01	164,315.61	333,442.50	17,045.29
2014	182,497.00	147,898.30	16,451.71	164,350.01	316,397.20	18,146.99
2015	183,616.50	148,805.60	15,508.12	164,313.72	298,250.20	19,302.78
2016	184,718.30	149,698.50	14,504.43	164,202.93	278,947.40	20,515.37
2017	185,799.70	150,574.80	13,437.69	164,012.49	258,432.00	21,787.21
2018	186,859.60	151,433.80	12,304.82	163,738.62	236,644.90	23,120.98
2019	187,895.40	152,273.20	11,102.60	163,375.80	213,523.90	24,519.60
2020	188,903.20	153,090.00	9,827.66	162,917.66	189,004.40	25,985.54
2021	189,881.00	153,882.40	8,476.49	162,358.89	163,018.80	27,522.11
2022	190,826.60	154,648.70	7,045.42	161,694.12	135,496.70	29,132.48
2023	191,735.70	155,385.50	5,530.62	160,916.12	106,364.20	30,819.58
2024	192,606.20	156,090.90	3,928.09	160,018.99	75,544.63	32,587.21
2025	193,437.00	156,764.20	2,233.66	158,997.86	42,957.46	34,439.14
2026	194,221.60	157,400.00	442.93	157,842.93	8,518.36	36,378.67

TABLE 6-A (BASE YEAR 2001) Statistics Canada data						
YEAR	THE FEDERAL GOVERNMENT					
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
2001						
2002	0.82	0.82	-1.53	0.46	-1.53	8.80
2003	0.80	0.80	-1.69	0.43	-1.69	8.45
2004	0.78	0.78	-1.87	0.39	-1.87	8.14
2005	0.76	0.76	-2.06	0.35	-2.06	7.87
2006	0.74	0.74	-2.27	0.32	-2.27	7.64
2007	0.72	0.72	-2.50	0.28	-2.50	7.42
2008	0.71	0.71	-2.75	0.25	-2.75	7.24
2009	0.69	0.69	-3.04	0.21	-3.04	7.08
2010	0.68	0.68	-3.35	0.18	-3.35	6.93
2011	0.66	0.66	-3.71	0.14	-3.71	6.80
2012	0.65	0.65	-4.11	0.10	-4.11	6.67
2013	0.64	0.64	-4.58	0.06	-4.58	6.57
2014	0.63	0.63	-5.11	0.02	-5.11	6.46
2015	0.61	0.61	-5.74	-0.02	-5.74	6.37
2016	0.60	0.60	-6.47	-0.07	-6.47	6.28
2017	0.59	0.59	-7.35	-0.12	-7.35	6.20
2018	0.57	0.57	-8.43	-0.17	-8.43	6.12
2019	0.55	0.55	-9.77	-0.22	-9.77	6.05
2020	0.54	0.54	-11.48	-0.28	-11.48	5.98
2021	0.52	0.52	-13.75	-0.34	-13.75	5.91
2022	0.50	0.50	-16.88	-0.41	-16.88	5.85
2023	0.48	0.48	-21.50	-0.48	-21.50	5.79
2024	0.45	0.45	-28.98	-0.56	-28.98	5.74
2025	0.43	0.43	-43.14	-0.64	-43.14	5.68
2026	0.41	0.41	-80.17	-0.73	-80.17	5.63
average	0.62	0.62	-11.69	-0.03	-11.69	6.71

% a.v.= percentage annual variation

TABLE 7

BASE YEAR=1997

(Statistics Canada Data)

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

TABLE 7 BASE YEAR=1997 (Statistics Canada Data)												
PROVINCIAL/TERRITORIAL GOVERNMENTS (in millions term)												
YEAR	REVENUES			EXPENDITURES					NET		BUDGET BALANCE	
	taxes	transfers	total reven.	health spen.	EXPENDITURES		debt serv.	total spend.	DEBT			
					education sp.	others spen.						
1997	109,326.20	67,189.59	176,515.79	51,571.56	39,815.99	65,419.14	22,737.83	179,544.52	224,671.00	-3,028.73		
1998	110,277.70	67,774.38	178,052.08	52,148.02	39,973.35	65,799.92	23,044.36	180,965.65	227,699.80	-2,913.57		
1999	111,192.90	68,336.79	179,529.69	52,698.31	40,069.92	66,179.21	23,339.23	182,286.67	230,613.40	-2,756.98		
2000	112,107.50	68,898.92	181,006.42	53,233.04	40,137.79	66,531.10	23,618.27	183,520.20	233,370.60	-2,513.78		
2001	113,027.30	69,464.22	182,491.52	53,764.63	40,204.69	66,943.52	23,872.68	184,785.52	235,884.40	-2,294.00		
2002	113,955.20	70,034.46	183,989.66	54,273.72	40,191.36	67,362.30	24,104.86	185,932.24	238,178.50	-1,942.58		
2003	114,865.90	70,594.16	185,460.06	54,798.61	40,122.67	67,798.53	24,301.47	187,021.28	240,121.20	-1,561.22		
2004	115,758.70	71,142.89	186,901.59	55,328.44	40,002.32	68,275.84	24,459.48	188,066.08	241,682.50	-1,164.49		
2005	116,635.20	71,681.53	188,316.73	55,875.40	39,785.15	68,788.16	24,577.33	189,026.04	242,847.00	-709.31		
2006	117,498.10	72,211.88	189,709.98	56,456.69	39,551.53	69,379.58	24,649.14	190,036.94	243,556.50	-326.96		
2007	118,346.90	72,733.50	191,080.40	57,043.31	39,327.29	70,082.26	24,682.23	191,135.09	243,883.50	-54.69		
2008	119,184.30	73,248.16	192,432.46	57,658.86	39,102.77	70,803.64	24,687.78	192,253.05	243,938.30	179.41		
2009	120,009.70	73,755.44	193,765.14	58,262.64	38,839.99	71,558.86	24,669.63	193,331.12	243,759.00	434.02		
2010	120,825.60	74,256.89	195,082.49	58,843.39	38,522.29	72,339.77	24,625.72	194,331.17	243,325.10	751.32		
2011	121,628.80	74,750.49	196,379.29	59,440.32	38,207.92	73,157.40	24,549.68	195,355.32	242,573.80	1,023.97		
2012	122,421.70	75,237.82	197,659.52	60,137.96	37,929.66	74,072.74	24,446.07	196,586.43	241,550.00	1,073.09		
2013	123,205.20	75,719.33	198,924.53	60,809.39	37,689.71	74,959.49	24,337.46	197,796.05	240,476.90	1,128.48		
2014	123,977.00	76,193.67	200,170.67	61,483.93	37,453.89	75,853.55	24,223.26	199,014.63	239,348.50	1,156.04		
2015	124,737.50	76,661.06	201,398.56	62,162.22	37,211.94	76,749.34	24,106.28	200,229.78	238,192.60	1,168.78		
2016	125,486.00	77,121.05	202,607.05	62,854.48	36,985.49	77,608.57	23,988.00	201,436.54	237,023.90	1,170.51		
2017	126,220.60	77,572.54	203,793.14	63,535.77	36,837.73	78,395.75	23,869.55	202,638.80	235,853.50	1,154.34		
2018	126,940.70	78,015.06	204,955.76	64,249.16	36,739.39	79,153.39	23,752.73	203,894.67	234,699.20	1,061.09		
2019	127,644.30	78,447.49	206,091.79	64,997.28	36,664.68	79,908.16	23,645.36	205,215.48	233,638.30	876.31		
2020	128,329.00	78,868.28	207,197.28	65,768.08	36,628.61	80,637.88	23,556.69	206,591.26	232,762.10	606.02		

TABLE 7-A

BASE YEAR=1997

(Statistics Canada Data)

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS									
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
1997										
1998	0.87	0.87	0.87	1.12	0.40	0.58	1.35	0.79	1.35	-3.80
1999	0.83	0.83	0.83	1.06	0.24	0.58	1.28	0.73	1.28	-5.37
2000	0.82	0.82	0.82	1.01	0.17	0.53	1.20	0.68	1.20	-8.82
2001	0.82	0.82	0.82	1.00	0.17	0.62	1.08	0.69	1.08	-8.74
2002	0.82	0.82	0.82	0.95	-0.03	0.63	0.97	0.62	0.97	-15.32
2003	0.80	0.80	0.80	0.97	-0.17	0.65	0.82	0.59	0.82	-19.63
2004	0.78	0.78	0.78	0.97	-0.30	0.70	0.65	0.56	0.65	-25.41
2005	0.76	0.76	0.76	0.99	-0.54	0.75	0.48	0.51	0.48	-39.09
2006	0.74	0.74	0.74	1.04	-0.59	0.86	0.29	0.53	0.29	-53.91
2007	0.72	0.72	0.72	1.04	-0.57	1.01	0.13	0.58	0.13	-83.27
2008	0.71	0.71	0.71	1.08	-0.57	1.03	0.02	0.58	0.02	-428.06
2009	0.69	0.69	0.69	1.05	-0.67	1.07	-0.07	0.56	-0.07	141.91
2010	0.68	0.68	0.68	1.00	-0.82	1.09	-0.18	0.52	-0.18	73.11
2011	0.66	0.66	0.66	1.01	-0.82	1.13	-0.31	0.53	-0.31	36.29
2012	0.65	0.65	0.65	1.17	-0.73	1.25	-0.42	0.63	-0.42	4.80
2013	0.64	0.64	0.64	1.12	-0.63	1.20	-0.44	0.62	-0.44	5.16
2014	0.63	0.63	0.63	1.11	-0.63	1.19	-0.47	0.62	-0.47	2.44
2015	0.61	0.61	0.61	1.10	-0.65	1.18	-0.48	0.61	-0.48	1.10
2016	0.60	0.60	0.60	1.11	-0.61	1.12	-0.49	0.60	-0.49	0.15
2017	0.59	0.59	0.59	1.08	-0.40	1.01	-0.49	0.60	-0.49	-1.38
2018	0.57	0.57	0.57	1.12	-0.27	0.97	-0.49	0.62	-0.49	-8.08
2019	0.55	0.55	0.55	1.16	-0.20	0.95	-0.45	0.65	-0.45	-17.41
2020	0.54	0.54	0.54	1.19	-0.10	0.91	-0.38	0.67	-0.38	-30.84
average	0.70	0.70	0.70	1.06	-0.36	0.91	0.16	0.61	0.16	-21.05

% a.v.= percentage annual variation

TABLE 8 (BASE YEAR 1997) (Statistics Canada Data)						
YEAR	THE FEDERAL GOVERNMENT (in millions term)					
	REVENUES	EXPENDITURES			NET DEBT	BUDGET BALANCE
		taxes	transfers	debt serv.		
1997	156,332.70	122,646.80	29,489.00	152,135.80	546,842.00	4,196.90
1998	157,693.40	123,714.30	29,262.67	152,976.97	542,645.00	4,716.43
1999	159,002.00	124,740.90	29,008.33	153,749.23	537,928.40	5,252.77
2000	160,309.90	125,767.00	28,725.06	154,492.06	532,675.60	5,817.84
2001	161,625.20	126,798.90	28,411.32	155,210.22	526,857.60	6,414.98
2002	162,952.00	127,839.80	28,065.38	155,905.18	520,442.50	7,046.82
2003	164,254.30	128,861.50	27,685.37	156,546.87	513,395.60	7,707.43
2004	165,531.00	129,863.10	27,269.74	157,132.84	505,688.10	8,398.16
2005	166,784.30	130,846.40	26,816.85	157,663.25	497,289.80	9,121.05
2006	168,018.30	131,814.50	26,324.98	158,139.48	488,168.60	9,878.82
2007	169,231.90	132,766.60	25,792.24	158,558.84	478,289.60	10,673.06
2008	170,429.40	133,706.10	25,216.68	158,922.78	467,616.30	11,506.62
2009	171,609.70	134,632.00	24,596.16	159,228.16	456,109.50	12,381.54
2010	172,776.50	135,547.40	23,928.47	159,475.87	443,727.90	13,300.63
2011	173,925.00	136,448.40	23,211.21	159,659.61	430,427.10	14,265.39
2012	175,058.90	137,338.00	22,441.93	159,779.93	416,161.60	15,278.97
2013	176,179.20	138,216.90	21,617.99	159,834.89	400,882.50	16,344.31
2014	177,282.90	139,082.70	20,736.60	159,819.30	384,538.10	17,463.60
2015	178,370.40	139,935.90	19,794.86	159,730.76	367,074.50	18,639.64
2016	179,440.60	140,775.60	18,789.70	159,565.30	348,434.80	19,875.30
2017	180,491.10	141,599.70	17,717.89	159,317.59	328,559.30	21,173.51
2018	181,520.80	142,407.50	16,576.08	158,983.58	307,385.70	22,537.22
2019	182,526.90	143,196.80	15,360.73	158,557.53	284,848.40	23,969.37
2020	183,506.00	143,964.90	14,068.16	158,033.06	260,879.00	25,472.94

TABLE 8-A

(BASE YEAR 1997)

(Statistics Canada Data)

YEAR	FEDERAL GOVERNMENT					
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balance % a.v.
1997						
1998	0.87	0.87	-0.77	0.55	-0.77	12.38
1999	0.83	0.83	-0.87	0.50	-0.87	11.37
2000	0.82	0.82	-0.98	0.48	-0.98	10.76
2001	0.82	0.82	-1.09	0.46	-1.09	10.26
2002	0.82	0.82	-1.22	0.45	-1.22	9.85
2003	0.80	0.80	-1.35	0.41	-1.35	9.37
2004	0.78	0.78	-1.50	0.37	-1.50	8.96
2005	0.76	0.76	-1.66	0.34	-1.66	8.61
2006	0.74	0.74	-1.83	0.30	-1.83	8.31
2007	0.72	0.72	-2.02	0.27	-2.02	8.04
2008	0.71	0.71	-2.23	0.23	-2.23	7.81
2009	0.69	0.69	-2.46	0.19	-2.46	7.60
2010	0.68	0.68	-2.71	0.16	-2.71	7.42
2011	0.66	0.66	-3.00	0.12	-3.00	7.25
2012	0.65	0.65	-3.31	0.08	-3.31	7.11
2013	0.64	0.64	-3.67	0.03	-3.67	6.97
2014	0.63	0.63	-4.08	-0.01	-4.08	6.85
2015	0.61	0.61	-4.54	-0.06	-4.54	6.73
2016	0.60	0.60	-5.08	-0.10	-5.08	6.63
2017	0.59	0.59	-5.70	-0.16	-5.70	6.53
2018	0.57	0.57	-6.44	-0.21	-6.44	6.44
2019	0.55	0.55	-7.33	-0.27	-7.33	6.35
2020	0.54	0.54	-8.41	-0.33	-8.41	6.27
average	0.70	0.70	-3.14	0.17	-3.14	8.17

% a.v.= percentage annual variation

TABLE 9

PROVINCIAL GOVERNMENTS (In millions term) DATA BASE YEAR 1997												
THE C.B. (*) MY MODEL	REVENUES				EXPENDITURES					NET		BUDGET
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	total spend.	DEBT	239,006.49	BALANCE
	125,234.69	22,009.28	147,243.97	47,631.73	31,734.69	50,923.93	19,988.87	150,279.22				
	109,326.20	67,189.59	176,515.79	51,571.56	39,815.99	65,419.14	22,737.83	179,544.52		224,671.00		-3,035.25
												-3,028.73

* C.B. = The Conference Board of Canada

TABLE 9-A

PROVINCIAL GOVERNMENTS DATA DIFFERENCES (In millions term) BASE YEAR 1997												
DIFFERENCE	taxes	transfers	total rev.	health	education	other spen	debt serv	total spen	net debt	b balance		
	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine		
	15,908.49	-45,180.31	-29,271.82	-3,939.83	-8,081.30	-14,495.21	-2,748.96	-29,265.30	14,335.49	-6.52		

* C.B. = The Conference Board of Canada

TABLE 10

FEDERAL GOVERNMENT (in millions term) DATA BASE YEAR 1997						
	REVENUES		EXPENDITURES			NET DEBT
	taxes	transfers	debt serv.	total spend.		
THE C.B. (*)	142,079.78	100,884.04	37,969.39	138,853.43		537,762.52
MY MODEL	156,332.70	122,646.80	29,489.00	152,135.80		546,842.00
						4,196.90

* C.B.= The Conference Board of Canada

TABLE 10-A

FEDERAL GOVERNMENT DATA DIFFERENCES (in millions term) BASE YEAR 1997						
	taxes	transfers	debt serv	total spen	net debt	b balance
	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine	C.B. vs mine
DIFFERENCE	-14,252.92	-21,762.76	8,480.39	-13,282.37	-9,079.48	-970.55

* C.B.= The Conference Board of Canada

TABLE 11

BASE YEAR 1998

(The Conference Board data)

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

YEAR	REVENUES			EXPENDITURES					NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT		
1998	125,234.70	22,009.28	147,243.98	48,164.15	31,860.12	51,220.34	19,988.87	151,233.48	239,006.50	-3,989.50	
1999	126,273.90	22,191.92	148,465.82	48,672.40	31,937.09	51,515.59	20,322.52	152,447.60	242,996.00	-3,981.78	
2000	127,312.60	22,374.47	149,687.07	49,166.28	31,991.18	51,789.50	20,655.53	153,602.49	246,977.70	-3,915.42	
2001	128,357.20	22,558.05	150,915.25	49,657.26	32,044.50	52,110.54	20,982.99	154,795.29	250,893.10	-3,880.04	
2002	129,410.90	22,743.23	152,154.13	50,127.46	32,033.88	52,436.53	21,307.49	155,905.36	254,773.20	-3,751.23	
2003	130,445.10	22,924.99	153,370.09	50,612.25	31,979.13	52,776.11	21,621.21	156,988.70	258,524.40	-3,618.61	
2004	131,459.10	23,103.18	154,562.28	51,101.60	31,883.21	53,147.66	21,923.85	158,056.32	262,143.00	-3,494.04	
2005	132,454.40	23,278.10	155,732.50	51,606.78	31,710.11	53,546.45	22,216.06	159,079.40	265,637.00	-3,346.90	
2006	133,434.40	23,450.33	156,884.73	52,143.66	31,523.91	54,006.83	22,495.98	160,170.38	268,983.90	-3,285.65	
2007	134,398.20	23,619.72	158,017.92	52,685.47	31,345.19	54,553.82	22,770.77	161,355.25	272,269.60	-3,337.33	
2008	135,349.20	23,786.85	159,136.05	53,253.99	31,166.23	55,115.36	23,049.88	162,585.46	275,606.90	-3,449.41	
2009	136,286.60	23,951.59	160,238.19	53,811.64	30,956.79	55,703.24	23,338.36	163,810.03	279,056.20	-3,571.84	
2010	137,213.20	24,114.43	161,327.63	54,348.03	30,703.57	56,311.12	23,637.08	164,999.80	282,628.10	-3,672.17	
2011	138,125.30	24,274.73	162,400.03	54,899.35	30,453.01	56,947.58	23,944.20	166,244.14	286,300.30	-3,844.11	
2012	139,025.80	24,432.98	163,458.78	55,543.69	30,231.22	57,660.11	24,265.70	167,700.72	290,144.40	-4,241.94	
2013	139,915.50	24,589.35	164,504.85	56,163.83	30,039.97	58,350.38	24,620.47	169,174.65	294,386.40	-4,669.80	
2014	140,792.00	24,743.39	165,535.39	56,786.84	29,852.02	59,046.34	25,011.02	170,696.22	299,056.20	-5,160.83	
2015	141,655.60	24,895.17	166,550.77	57,413.31	29,659.18	59,743.64	25,442.63	172,258.76	304,217.00	-5,707.99	
2016	142,505.60	25,044.55	167,550.15	58,052.69	29,478.69	60,412.49	25,920.00	173,863.87	309,924.90	-6,313.72	
2017	143,339.90	25,191.17	168,531.07	58,681.93	29,360.92	61,025.25	26,448.04	175,516.14	316,238.60	-6,985.07	
2018	144,157.60	25,334.87	169,492.47	59,340.82	29,282.54	61,615.01	27,032.22	177,270.59	323,223.70	-7,778.12	
2019	144,956.70	25,475.30	170,432.00	60,031.79	29,223.00	62,202.54	27,682.73	179,140.06	331,001.80	-8,708.06	
2020	145,734.20	25,611.95	171,346.15	60,743.70	29,194.25	62,770.58	28,411.02	181,119.55	339,709.90	-9,773.40	

TABLE 11-A BASE YEAR 1998 (The Conference Board data)											
PROVINCIAL/TERRITORIAL GOVERNMENTS											
YEAR	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
1999	0.83	0.83	0.83	1.06	0.24	0.58	1.67	0.80	1.67	-0.19	
2000	0.82	0.82	0.82	1.01	0.17	0.53	1.64	0.76	1.64	-1.67	
2001	0.82	0.82	0.82	1.00	0.17	0.62	1.59	0.78	1.59	-0.90	
2002	0.82	0.82	0.82	0.95	-0.03	0.63	1.55	0.72	1.55	-3.32	
2003	0.80	0.80	0.80	0.97	-0.17	0.65	1.47	0.69	1.47	-3.54	
2004	0.78	0.78	0.78	0.97	-0.30	0.70	1.40	0.68	1.40	-3.44	
2005	0.76	0.76	0.76	0.99	-0.54	0.75	1.33	0.65	1.33	-4.21	
2006	0.74	0.74	0.74	1.04	-0.59	0.86	1.26	0.69	1.26	-1.83	
2007	0.72	0.72	0.72	1.04	-0.57	1.01	1.22	0.74	1.22	1.57	
2008	0.71	0.71	0.71	1.08	-0.57	1.03	1.23	0.76	1.23	3.36	
2009	0.69	0.69	0.69	1.05	-0.67	1.07	1.25	0.75	1.25	3.55	
2010	0.68	0.68	0.68	1.00	-0.82	1.09	1.28	0.73	1.28	2.81	
2011	0.66	0.66	0.66	1.01	-0.82	1.13	1.30	0.75	1.30	4.68	
2012	0.65	0.65	0.65	1.17	-0.73	1.25	1.34	0.88	1.34	10.35	
2013	0.64	0.64	0.64	1.12	-0.63	1.20	1.46	0.88	1.46	10.09	
2014	0.63	0.63	0.63	1.11	-0.63	1.19	1.59	0.90	1.59	10.52	
2015	0.61	0.61	0.61	1.10	-0.65	1.18	1.73	0.92	1.73	10.60	
2016	0.60	0.60	0.60	1.11	-0.61	1.12	1.88	0.93	1.88	10.61	
2017	0.59	0.59	0.59	1.08	-0.40	1.01	2.04	0.95	2.04	10.63	
2018	0.57	0.57	0.57	1.12	-0.27	0.97	2.21	1.00	2.21	11.35	
2019	0.55	0.55	0.55	1.16	-0.20	0.95	2.41	1.05	2.41	11.96	
2020	0.54	0.54	0.54	1.19	-0.10	0.91	2.63	1.10	2.63	12.23	
average	0.66	0.66	0.66	1.01	-0.38	0.89	1.54	0.79	1.54	4.14	

% a.v.= percentage annual variation

TABLE 12 (BASE YEAR 1998) The Conference Board Data THE FEDERAL GOVERNMENT (in millions term)						
YEAR	REVENUES		EXPENDITURES		NET DEBT	BUDGET BALANCE
	taxes	transfers	debt serv.	total spend.		
1998	142,079.80	101,762.10	37,969.39	139,731.49	537,762.50	2,348.31
1999	143,258.80	102,606.50	37,803.59	140,410.09	535,414.20	2,848.71
2000	144,437.20	103,450.60	37,602.45	141,053.05	532,565.60	3,384.15
2001	145,622.30	104,299.40	37,363.51	141,662.91	529,181.30	3,959.39
2002	146,817.70	105,155.60	37,083.94	142,239.54	525,221.90	4,578.16
2003	147,991.10	105,995.90	36,760.69	142,756.59	520,643.70	5,234.51
2004	149,141.40	106,819.80	36,391.11	143,210.91	515,409.30	5,930.49
2005	150,270.60	107,628.60	35,972.38	143,600.98	509,478.80	6,669.62
2006	151,382.40	108,424.90	35,501.47	143,926.37	502,809.20	7,456.03
2007	152,475.90	109,208.10	34,975.03	144,183.13	495,353.20	8,292.77
2008	153,554.80	109,980.90	34,389.51	144,370.41	487,060.50	9,184.39
2009	154,618.30	110,742.50	33,741.03	144,483.53	477,876.10	10,134.77
2010	155,669.50	111,495.50	33,025.46	144,520.96	467,741.40	11,148.54
2011	156,704.20	112,236.60	32,238.30	144,474.90	456,592.80	12,229.30
2012	157,725.90	112,968.30	31,374.84	144,343.14	444,363.50	13,382.76
2013	158,735.30	113,691.30	30,429.93	144,121.23	430,980.80	14,614.07
2014	159,729.70	114,403.50	29,398.09	143,801.59	416,366.70	15,928.11
2015	160,709.50	115,105.30	28,273.47	143,378.77	400,438.70	17,330.73
2016	161,673.80	115,796.00	27,049.81	142,845.81	383,107.90	18,827.99
2017	162,620.30	116,473.90	25,720.43	142,194.33	364,279.90	20,425.97
2018	163,548.00	117,138.30	24,278.23	141,416.53	343,853.90	22,131.47
2019	164,454.50	117,787.60	22,715.61	140,503.21	321,722.50	23,951.29
2020	165,336.60	118,419.40	21,024.50	139,443.90	297,771.10	25,892.70

TABLE 12-A (BASE YEAR 1998) The Conference Board Data						
YEAR	FEDERAL GOVERNMENT					
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
1999	0.83	0.83	-0.44	0.49	-0.44	21.31
2000	0.82	0.82	-0.53	0.46	-0.53	18.80
2001	0.82	0.82	-0.64	0.43	-0.64	17.00
2002	0.82	0.82	-0.75	0.41	-0.75	15.63
2003	0.80	0.80	-0.87	0.36	-0.87	14.34
2004	0.78	0.78	-1.01	0.32	-1.01	13.30
2005	0.76	0.76	-1.15	0.27	-1.15	12.46
2006	0.74	0.74	-1.31	0.23	-1.31	11.79
2007	0.72	0.72	-1.48	0.18	-1.48	11.22
2008	0.71	0.71	-1.67	0.13	-1.67	10.75
2009	0.69	0.69	-1.89	0.08	-1.89	10.35
2010	0.68	0.68	-2.12	0.03	-2.12	10.00
2011	0.66	0.66	-2.38	-0.03	-2.38	9.69
2012	0.65	0.65	-2.68	-0.09	-2.68	9.43
2013	0.64	0.64	-3.01	-0.15	-3.01	9.20
2014	0.63	0.63	-3.39	-0.22	-3.39	8.99
2015	0.61	0.61	-3.83	-0.29	-3.83	8.81
2016	0.60	0.60	-4.33	-0.37	-4.33	8.64
2017	0.59	0.59	-4.91	-0.46	-4.91	8.49
2018	0.57	0.57	-5.61	-0.55	-5.61	8.35
2019	0.55	0.55	-6.44	-0.65	-6.44	8.22
2020	0.54	0.54	-7.44	-0.75	-7.44	8.11
average	0.66	0.66	-2.52	-0.01	-2.52	11.08

% a.v.= percentage annual variation

TABLE 13											
DIFFERENCES BETWEEN THE C.B. PROJECTIONS AND MY SIMULATIONS - YEAR 2020 (base year 1998 and the C.B. data)											
PROVINCIAL/TERRITORIAL GOVERNMENTS (in millions term)											
	REVENUES			EXPENDITURES					NET DEBT	BUDGET BALANCE	
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.			
	My simulations	145,734.20	25,611.95	171,346.15	60,743.70	29,194.25	62,770.58	28,411.02			181,119.55
	C.B. projections	186,707.54	35,331.94	222,039.48	99,573.56	41,645.93	64,572.97	23,586.12			229,378.58
	differences (C.B. vs mine)	40,973.34	9,719.99	50,693.33	38,829.86	12,451.68	1,802.39	-4,824.90			48,259.03

* C.B.= The Conference Board

TABLE 13-A DIFFERENCES- VALUES PROJECTED FOR 2020 (base year 1998 and the C.B. data) THE FEDERAL GOVERNMENT (in millions term)											
	REVENUES				EXPENDITURES					NET DEBT	BUDGET BALANCE
	taxes	transfers	debt serv.	total spend.	total spend.	total spend.	total spend.	total spend.	total spend.		
My simulations	165,336.60	118,419.40	21,024.50	139,443.90	139,443.90	139,443.90	139,443.90	139,443.90	297,771.10	25,892.70	
C.B. projections	204,362.44	146,525.72	6,727.27	153,252.99	153,252.99	153,252.99	153,252.99	153,252.99	4,602.27	51,109.45	
differences (C.B. vs mine)	39,025.84	28,106.32	-14,297.23	13,809.09	13,809.09	13,809.09	13,809.09	13,809.09	-293,168.83	25,216.75	

* C.B.= The Conference Board

TABLE 14
DIFFERENCES BETWEEN AVERAGE GROWTH RATES PER YEAR
(base year 1998, the C.B. data and author's calculations)

PROVINCIAL/TERRITORIAL GOVERNMENTS										
	taxes	transfers	total revenue	health sp	education sp	other spend	debt service	total spend	net debt	budget balan
My simulations	0.66	0.66	0.66	1.01	-0.38	0.89	1.54	0.79	1.54	4.14
C.B. projections	1.87	2.21	1.91	3.41	1.26	1.09	0.78	1.94	-0.13	17.75
differences (C.B. vs mine)	1.21	1.55	1.25	2.40	1.64	0.20	-0.76	1.15	-1.67	13.61

*C.B. = The Conference Board of Canada

TABLE 19
DIFFERENCES BETWEEN AVERAGE GROWTH RATES PER YEAR
(base year 1998, the C.B. data and author's calculations)

FEDERAL GOVERNMENT							
	taxes	transfers	debt service	total spend	net debt	budget balan	
My simulations	0.66	0.66	-2.52	-0.01	-2.52	11.08	
C.B. projections	1.68	1.72	-7.06	0.45	-13.14	26.28	
differences (C.B. vs mine)	1.02	1.06	-4.54	0.46	-10.62	15.20	

*C.B. = The Conference Board of Canada

TABLE 15

BASE YEAR 2000

considering the same % education distribution across age groups

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

Statistics Canada data

	REVENUES			EXPENDITURES					NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT		
2000	122,263.40	86,279.30	208,542.70	62,319.82	45,163.00	68,090.75	23,511.07	199,084.64	225,696.90	9,458.06	
2001	123,266.60	86,987.20	210,253.80	62,942.16	45,533.55	68,512.84	22,525.81	199,514.36	216,238.80	10,739.44	
2002	124,278.50	87,701.29	211,979.79	63,538.15	45,907.34	68,941.43	21,407.07	199,793.99	205,499.30	12,185.80	
2003	125,271.70	88,402.18	213,673.88	64,152.64	46,274.22	69,387.89	20,137.65	199,952.40	193,313.40	13,721.48	
2004	126,245.40	89,089.33	215,334.73	64,772.91	46,633.91	69,876.39	18,708.27	199,991.48	179,591.90	15,343.25	
2005	127,201.30	89,763.85	216,965.15	65,413.24	46,986.99	70,400.72	17,109.94	199,910.89	164,248.60	17,054.26	
2006	128,142.40	90,427.98	218,570.38	66,093.75	47,334.63	71,006.00	15,333.38	199,767.76	147,194.30	18,802.62	
2007	129,068.00	91,081.18	220,149.18	66,780.51	47,676.55	71,725.16	13,374.68	199,556.90	128,391.60	20,592.28	
2008	129,981.30	91,725.68	221,706.98	67,501.13	48,013.91	72,463.45	11,229.56	199,208.05	107,799.30	22,498.93	
2009	130,881.50	92,360.91	223,242.41	68,207.97	48,346.43	73,236.37	8,885.82	198,676.59	85,300.29	24,565.82	
2010	131,771.30	92,988.86	224,760.16	68,887.86	48,675.12	74,035.59	6,326.77	197,925.34	60,734.45	26,834.82	
2011	132,647.20	93,606.98	226,254.18	69,586.68	48,998.68	74,872.38	3,531.35	196,989.09	33,899.59	29,265.09	
2012	133,512.00	94,217.25	227,729.25	70,403.40	49,318.12	75,809.18	482.77	196,013.47	4,634.45	31,715.78	
2013	134,366.50	94,820.22	229,186.72	71,189.44	49,633.75	76,716.72	-2,821.09	194,718.82	-27,081.30	34,467.90	
2014	135,208.20	95,414.21	230,622.41	71,979.13	49,944.68	77,631.74	-6,411.64	193,143.91	-61,549.20	37,478.50	
2015	136,037.60	95,999.50	232,037.10	72,773.20	50,251.05	78,548.53	-10,315.81	191,256.97	-99,027.70	40,780.13	
2016	136,853.90	96,575.54	233,429.44	73,583.64	50,552.58	79,427.90	-14,563.94	189,000.18	-139,808.00	44,429.26	
2017	137,655.10	97,140.91	234,796.01	74,381.22	50,848.52	80,233.53	-19,192.15	186,271.12	-184,237.00	48,524.89	
2018	138,440.30	97,695.06	236,135.36	75,216.38	51,138.59	81,008.93	-24,247.05	183,116.85	-232,762.00	53,018.51	
2019	139,207.70	98,236.58	237,444.28	76,092.20	51,422.05	81,781.39	-29,769.99	179,525.65	-285,780.00	57,918.63	
2020	139,954.40	98,763.52	238,717.92	76,994.57	51,697.88	82,528.23	-35,803.47	175,417.21	-343,699.00	63,300.71	
2021	140,678.80	99,274.74	239,953.54	77,903.10	51,965.48	83,216.75	-42,397.60	170,687.73	-407,000.00	69,265.81	
2022	141,379.40	99,769.12	241,148.52	78,904.98	52,224.26	83,800.87	-49,613.00	165,317.11	-476,265.00	75,831.41	
2023	142,053.00	100,244.40	242,297.40	79,857.38	52,473.06	84,350.61	-57,512.50	159,168.55	-552,097.00	83,128.85	
2024	142,697.90	100,699.50	243,397.40	80,764.97	52,711.29	84,839.73	-66,172.02	152,143.97	-635,225.00	91,253.43	
2025	143,313.40	101,133.90	244,447.30	81,650.13	52,938.64	85,247.24	-75,677.94	144,158.07	-726,478.00	100,289.23	
2026	143,894.70	101,544.10	245,438.80	82,486.47	53,153.37	85,570.30	-86,125.15	135,084.99	-826,767.00	110,353.81	

TABLE 15-A (BASE YEAR 2000) considering the same % education distribution across age groups											
YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS										
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
2000	0.82	0.82	0.82	1.00	0.82	0.62	-4.19	0.22	-4.19	13.55	
2001	0.82	0.82	0.82	0.95	0.82	0.63	-4.97	0.14	-4.97	13.47	
2002	0.80	0.80	0.80	0.97	0.80	0.65	-5.93	0.08	-5.93	12.60	
2004	0.78	0.78	0.78	0.97	0.78	0.70	-7.10	0.02	-7.10	11.82	
2005	0.76	0.76	0.76	0.99	0.76	0.75	-8.54	-0.04	-8.54	11.15	
2006	0.74	0.74	0.74	1.04	0.74	0.86	-10.38	-0.07	-10.38	10.25	
2007	0.72	0.72	0.72	1.04	0.72	1.01	-12.77	-0.11	-12.77	9.52	
2008	0.71	0.71	0.71	1.08	0.71	1.03	-16.04	-0.17	-16.04	9.26	
2009	0.69	0.69	0.69	1.05	0.69	1.07	-20.87	-0.27	-20.87	9.19	
2010	0.68	0.68	0.68	1.00	0.68	1.09	-28.80	-0.38	-28.80	9.24	
2011	0.66	0.66	0.66	1.01	0.66	1.13	-44.18	-0.47	-44.18	9.06	
2012	0.65	0.65	0.65	1.17	0.65	1.25	-86.33	-0.50	-86.33	8.37	
2013	0.64	0.64	0.64	1.12	0.64	1.20	-684.35	-0.66	-684.35	8.68	
2014	0.63	0.63	0.63	1.11	0.63	1.19	127.28	-0.81	127.28	8.73	
2015	0.61	0.61	0.61	1.10	0.61	1.18	60.89	-0.98	60.89	8.81	
2016	0.60	0.60	0.60	1.11	0.60	1.12	41.18	-1.18	41.18	8.95	
2017	0.59	0.59	0.59	1.08	0.59	1.01	31.78	-1.44	31.78	9.22	
2018	0.57	0.57	0.57	1.12	0.57	0.97	26.34	-1.69	26.34	9.26	
2019	0.55	0.55	0.55	1.16	0.55	0.95	22.78	-1.96	22.78	9.24	
2020	0.54	0.54	0.54	1.19	0.54	0.91	20.27	-2.29	20.27	9.29	
2021	0.52	0.52	0.52	1.18	0.52	0.83	18.42	-2.70	18.42	9.42	
2022	0.50	0.50	0.50	1.29	0.50	0.70	17.02	-3.15	17.02	9.48	
2023	0.48	0.48	0.48	1.21	0.48	0.66	15.92	-3.72	15.92	9.62	
2024	0.45	0.45	0.45	1.14	0.45	0.58	15.06	-4.41	15.06	9.77	
2025	0.43	0.43	0.43	1.10	0.43	0.48	14.37	-5.25	14.37	9.90	
2026	0.41	0.41	0.41	1.02	0.41	0.38	13.80	-6.29	13.80	10.04	
average	0.63	0.63	0.63	1.08	0.63	0.88	-19.59	-1.46	-19.59	9.92	

% a.v.= percentage annual variation

TABLE 16

BASE YEAR 2001

considering the same % education distribution across age groups

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

Statistics Canada data

	REVENUES			EXPENDITURES					NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT		
2001	118,564.40	78,277.49	196,841.89	64,046.39	46,567.87	68,657.22	21,687.34	200,958.82	207,743.10	-4,116.93	
2002	119,537.70	78,920.07	198,457.77	64,652.84	46,950.15	69,086.71	22,117.12	202,806.82	211,860.00	-4,349.05	
2003	120,493.10	79,550.79	200,043.89	65,278.11	47,325.36	69,534.11	22,571.13	204,708.71	216,208.90	-4,664.82	
2004	121,429.60	80,169.14	201,598.74	65,909.26	47,693.22	70,023.64	23,058.11	206,684.23	220,873.70	-5,085.49	
2005	122,349.00	80,776.12	203,125.12	66,560.82	48,054.32	70,549.07	23,589.00	208,753.21	225,959.10	-5,628.09	
2006	123,254.20	81,373.76	204,627.96	67,253.28	48,409.86	71,155.64	24,176.54	210,995.32	231,587.10	-6,367.36	
2007	124,144.60	81,961.55	206,106.15	67,952.08	48,759.54	71,876.30	24,841.25	213,429.17	237,954.40	-7,323.02	
2008	125,023.00	82,541.52	207,564.52	68,685.34	49,104.57	72,616.15	25,605.73	216,011.79	245,277.40	-8,447.27	
2009	125,888.90	83,113.15	209,002.05	69,404.59	49,444.64	73,390.70	26,487.58	218,727.51	253,724.60	-9,725.46	
2010	126,744.70	83,678.22	210,422.92	70,096.40	49,780.80	74,191.60	27,502.86	221,571.66	263,450.00	-11,148.74	
2011	127,587.30	84,234.45	211,821.75	70,807.48	50,111.71	75,030.16	28,666.72	224,616.07	274,598.60	-12,794.32	
2012	128,419.10	84,783.61	213,202.71	71,638.53	50,438.41	75,968.94	30,002.38	228,048.26	287,392.90	-14,845.55	
2013	129,240.90	85,326.21	214,567.11	72,438.37	50,761.21	76,878.39	31,552.18	231,630.15	302,238.40	-17,063.04	
2014	130,050.50	85,860.73	215,911.23	73,241.90	51,079.20	77,795.33	33,333.47	235,449.90	319,301.40	-19,538.67	
2015	130,848.30	86,387.42	217,235.72	74,049.91	51,392.53	78,714.06	35,373.19	239,529.69	338,839.90	-22,293.97	
2016	131,633.40	86,905.78	218,539.18	74,874.56	51,700.90	79,595.28	37,700.56	243,871.30	361,133.80	-25,332.12	
2017	132,404.00	87,414.54	219,818.54	75,686.14	52,003.57	80,402.61	40,345.10	248,437.42	386,465.80	-28,618.88	
2018	133,159.30	87,913.21	221,072.51	76,535.95	52,300.23	81,179.64	43,332.75	253,348.57	415,084.50	-32,276.06	
2019	133,897.50	88,400.51	222,298.01	77,427.14	52,590.13	81,953.73	46,702.19	258,673.19	447,360.40	-36,375.18	
2020	134,615.70	88,874.69	223,490.39	78,345.34	52,872.22	82,702.14	50,499.57	264,419.27	483,735.50	-40,928.88	
2021	135,312.50	89,334.72	224,647.22	79,269.80	53,145.90	83,392.11	54,772.33	270,580.14	524,664.30	-45,932.92	
2022	135,986.30	89,779.60	225,765.90	80,289.27	53,410.56	83,977.47	59,567.48	277,244.78	570,597.10	-51,478.88	
2023	136,634.20	90,207.32	226,841.52	81,258.37	53,665.01	84,528.37	64,941.60	284,393.35	622,075.80	-57,551.83	
2024	137,254.50	90,616.86	227,871.36	82,181.88	53,908.65	85,018.51	70,949.71	292,058.75	679,627.50	-64,187.39	
2025	137,846.50	91,007.71	228,854.21	83,082.57	54,141.17	85,426.88	77,650.55	300,301.17	743,814.80	-71,446.96	
2026	138,405.60	91,376.85	229,782.45	83,933.58	54,360.77	85,750.63	85,109.22	309,154.20	815,261.50	-79,371.75	

TABLE 16-A

BASE YEAR 2001

considering the same % education distribution across age groups

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS									
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
2001										
2002	0.82	0.82	0.82	0.95	0.82	0.63	1.98	0.92	1.98	5.64
2003	0.80	0.80	0.80	0.97	0.80	0.65	2.05	0.94	2.05	7.26
2004	0.78	0.78	0.78	0.97	0.78	0.70	2.16	0.97	2.16	9.02
2005	0.76	0.76	0.76	0.99	0.76	0.75	2.30	1.00	2.30	10.67
2006	0.74	0.74	0.74	1.04	0.74	0.86	2.49	1.07	2.49	13.14
2007	0.72	0.72	0.72	1.04	0.72	1.01	2.75	1.15	2.75	15.01
2008	0.71	0.71	0.71	1.08	0.71	1.03	3.08	1.21	3.08	15.35
2009	0.69	0.69	0.69	1.05	0.69	1.07	3.44	1.26	3.44	15.13
2010	0.68	0.68	0.68	1.00	0.68	1.09	3.83	1.30	3.83	14.63
2011	0.66	0.66	0.66	1.01	0.66	1.13	4.23	1.37	4.23	14.76
2012	0.65	0.65	0.65	1.17	0.65	1.25	4.66	1.53	4.66	16.03
2013	0.64	0.64	0.64	1.12	0.64	1.20	5.17	1.57	5.17	14.94
2014	0.63	0.63	0.63	1.11	0.63	1.19	5.65	1.65	5.65	14.51
2015	0.61	0.61	0.61	1.10	0.61	1.18	6.12	1.73	6.12	14.10
2016	0.60	0.60	0.60	1.11	0.60	1.12	6.58	1.81	6.58	13.63
2017	0.59	0.59	0.59	1.08	0.59	1.01	7.01	1.87	7.01	12.97
2018	0.57	0.57	0.57	1.12	0.57	0.97	7.41	1.98	7.41	12.78
2019	0.55	0.55	0.55	1.16	0.55	0.95	7.78	2.10	7.78	12.70
2020	0.54	0.54	0.54	1.19	0.54	0.91	8.13	2.22	8.13	12.52
2021	0.52	0.52	0.52	1.18	0.52	0.83	8.46	2.33	8.46	12.23
2022	0.50	0.50	0.50	1.29	0.50	0.70	8.75	2.46	8.75	12.07
2023	0.48	0.48	0.48	1.21	0.48	0.66	9.02	2.58	9.02	11.80
2024	0.45	0.45	0.45	1.14	0.45	0.58	9.25	2.70	9.25	11.53
2025	0.43	0.43	0.43	1.10	0.43	0.48	9.44	2.82	9.44	11.31
2026	0.41	0.41	0.41	1.02	0.41	0.38	9.61	2.95	9.61	11.09
average	0.62	0.62	0.62	1.09	0.62	0.89	5.65	1.74	5.65	12.59

% a.v. = percentage annual variation

TABLE 17

BASE YEAR=1997

(Statistics Canada Data with the same % education distribution)

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

YEAR	REVENUES				EXPENDITURES							NET DEBT	BUDGET BALANCE
	taxes			transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.			
1997	109,326.20	67,189.59		176,515.79	51,571.56	39,815.99	65,419.14	22,737.83	179,544.52	224,671.00	-3,028.73		
1998	110,277.70	67,774.38		178,052.08	52,148.02	40,162.53	65,799.92	23,044.36	181,154.83	227,699.80	-3,102.75		
1999	111,192.90	68,336.79		179,529.69	52,698.31	40,495.81	66,179.21	23,358.38	182,731.71	230,802.60	-3,202.02		
2000	112,107.50	68,898.92		181,006.42	53,233.04	40,828.92	66,531.10	23,682.46	184,275.52	234,004.80	-3,269.10		
2001	113,027.30	69,464.22		182,491.52	53,764.63	41,163.91	66,943.52	24,013.31	185,885.37	237,273.90	-3,393.85		
2002	113,955.20	70,034.46		183,989.66	54,273.72	41,501.83	67,362.30	24,356.78	187,494.63	240,667.80	-3,504.97		
2003	114,865.90	70,594.16		185,460.06	54,798.61	41,833.51	67,798.53	24,711.52	189,142.17	244,172.90	-3,682.11		
2004	115,758.70	71,142.89		186,901.59	55,328.44	42,158.68	68,275.84	25,084.18	190,847.14	247,855.10	-3,945.55		
2005	116,635.20	71,681.53		188,316.73	55,875.40	42,477.87	68,788.16	25,483.50	192,624.93	251,800.80	-4,308.20		
2006	117,498.10	72,211.88		189,709.98	56,456.69	42,792.15	69,379.58	25,919.52	194,547.94	256,109.10	-4,837.96		
2007	118,346.90	72,733.50		191,080.40	57,043.31	43,101.26	70,082.26	26,409.15	196,635.98	260,947.10	-5,555.58		
2008	119,184.30	73,248.16		192,432.46	57,658.86	43,406.24	70,803.64	26,971.42	198,840.16	266,502.80	-6,407.70		
2009	120,009.70	73,755.44		193,765.14	58,262.64	43,706.85	71,558.86	27,619.92	201,148.27	272,910.60	-7,383.13		
2010	120,825.60	74,256.89		195,082.49	58,843.39	44,004.00	72,339.77	28,367.14	203,554.30	280,293.90	-8,471.81		
2011	121,628.80	74,750.49		196,379.29	59,440.32	44,296.51	73,157.40	29,224.54	206,118.77	288,765.80	-9,739.48		
2012	122,421.70	75,237.82		197,659.52	60,137.96	44,585.30	74,072.74	30,210.24	209,006.24	298,505.40	-11,346.72		
2013	123,205.20	75,719.33		198,924.53	60,809.39	44,870.64	74,959.49	31,358.59	211,998.11	309,852.20	-13,073.58		
2014	123,977.00	76,193.67		200,170.67	61,483.93	45,151.72	75,853.55	32,681.72	215,170.92	322,925.90	-15,000.25		
2015	124,737.50	76,661.06		201,398.56	62,162.22	45,428.70	76,749.34	34,199.83	218,540.09	337,926.30	-17,141.53		
2016	125,486.00	77,121.05		202,607.05	62,854.48	45,701.29	77,608.57	35,934.65	222,098.99	355,067.90	-19,491.94		
2017	126,220.60	77,572.54		203,793.14	63,535.77	45,968.83	78,395.75	37,907.34	225,807.69	374,560.00	-22,014.55		
2018	126,940.70	78,015.06		204,955.76	64,249.16	46,231.07	79,153.39	40,135.34	229,768.96	396,574.70	-24,813.20		
2019	127,644.30	78,447.49		206,091.79	64,997.28	46,487.32	79,908.16	42,646.58	234,039.34	421,388.10	-27,947.55		
2020	128,329.00	78,868.28		207,197.28	65,768.08	46,736.68	80,637.88	45,475.04	238,617.68	449,335.90	-31,420.40		

TABLE 17-A BASE YEAR=1997 (Statistics Canada Data with the same % education distribution)											
PROVINCIAL/TERRITORIAL GOVERNMENTS											
YEAR	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
1997											
1998	0.87	0.87	0.87	1.12	0.87	0.58	1.35	0.90	1.35	2.44	1.35
1999	0.83	0.83	0.83	1.06	0.83	0.58	1.36	0.87	1.36	3.20	1.36
2000	0.82	0.82	0.82	1.01	0.82	0.53	1.39	0.84	1.39	2.09	1.39
2001	0.82	0.82	0.82	1.00	0.82	0.62	1.40	0.87	1.40	3.82	1.40
2002	0.82	0.82	0.82	0.95	0.82	0.63	1.43	0.87	1.43	3.27	1.43
2003	0.80	0.80	0.80	0.97	0.80	0.65	1.46	0.88	1.46	5.05	1.46
2004	0.78	0.78	0.78	0.97	0.78	0.70	1.51	0.90	1.51	7.15	1.51
2005	0.76	0.76	0.76	0.99	0.76	0.75	1.59	0.93	1.59	9.19	1.59
2006	0.74	0.74	0.74	1.04	0.74	0.86	1.71	1.00	1.71	12.30	1.71
2007	0.72	0.72	0.72	1.04	0.72	1.01	1.89	1.07	1.89	14.83	1.89
2008	0.71	0.71	0.71	1.08	0.71	1.03	2.13	1.12	2.13	15.34	2.13
2009	0.69	0.69	0.69	1.05	0.69	1.07	2.40	1.16	2.40	15.22	2.40
2010	0.68	0.68	0.68	1.00	0.68	1.09	2.71	1.20	2.71	14.75	2.71
2011	0.66	0.66	0.66	1.01	0.66	1.13	3.02	1.26	3.02	14.96	3.02
2012	0.65	0.65	0.65	1.17	0.65	1.25	3.37	1.40	3.37	16.50	3.37
2013	0.64	0.64	0.64	1.12	0.64	1.20	3.80	1.43	3.80	15.22	3.80
2014	0.63	0.63	0.63	1.11	0.63	1.19	4.22	1.50	4.22	14.74	4.22
2015	0.61	0.61	0.61	1.10	0.61	1.18	4.65	1.57	4.65	14.28	4.65
2016	0.60	0.60	0.60	1.11	0.60	1.12	5.07	1.63	5.07	13.71	5.07
2017	0.59	0.59	0.59	1.08	0.59	1.01	5.49	1.67	5.49	12.94	5.49
2018	0.57	0.57	0.57	1.12	0.57	0.97	5.88	1.75	5.88	12.71	5.88
2019	0.55	0.55	0.55	1.16	0.55	0.95	6.26	1.86	6.26	12.63	6.26
2020	0.54	0.54	0.54	1.19	0.54	0.91	6.63	1.96	6.63	12.43	6.63
average	0.70	0.70	0.70	1.06	0.70	0.91	3.07	1.24	3.07	10.82	3.07

% a.v.= percentage annual variation

TABLE 18

BASE YEAR=1998

(the Conference Board data with the same % education distribution))

PROVINCIAL/TERRITORIAL GOVERNMENTS

(in millions term)

YEAR

	REVENUES			EXPENDITURES				NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.	debt serv.	total spend.	DEBT	
1998	125,234.70	22,009.28	147,243.98	48,164.15	32,010.90	51,220.34	19,988.87	151,384.26	239,006.50	-4,140.28
1999	126,273.90	22,191.92	148,465.82	48,672.40	32,276.53	51,515.59	20,335.13	152,799.65	243,146.80	-4,333.83
2000	127,312.60	22,374.47	149,687.07	49,166.28	32,542.03	51,789.50	20,697.58	154,195.39	247,480.60	-4,508.32
2001	128,357.20	22,558.05	150,915.25	49,657.26	32,809.03	52,110.54	21,074.63	155,651.46	251,988.90	-4,736.21
2002	129,410.90	22,743.23	152,154.13	50,127.46	33,078.37	52,436.53	21,470.73	157,113.09	256,725.10	-4,958.96
2003	130,445.10	22,924.99	153,370.09	50,612.25	33,342.72	52,776.11	21,885.46	158,616.54	261,684.00	-5,246.45
2004	131,459.10	23,103.18	154,562.28	51,101.60	33,601.89	53,147.66	22,324.24	160,175.39	266,930.40	-5,613.11
2005	132,454.40	23,278.10	155,732.50	51,606.78	33,856.30	53,546.45	22,793.68	161,803.21	272,543.60	-6,070.71
2006	133,434.40	23,450.33	156,884.73	52,143.66	34,106.80	54,006.83	23,301.40	163,558.69	278,614.30	-6,673.96
2007	134,398.20	23,619.72	158,017.92	52,685.47	34,353.16	54,553.82	23,859.56	165,452.01	285,288.30	-7,434.09
2008	135,349.20	23,786.85	159,136.05	53,253.99	34,596.25	55,115.36	24,481.30	167,446.90	292,722.30	-8,310.85
2009	136,286.60	23,951.59	160,238.19	53,811.64	34,835.84	55,703.24	25,176.35	169,527.07	301,033.10	-9,288.88
2010	137,213.20	24,114.43	161,327.63	54,348.03	35,072.68	56,311.12	25,953.21	171,685.04	310,322.00	-10,357.41
2011	138,125.30	24,274.73	162,400.03	54,899.35	35,305.82	56,947.58	26,819.44	173,972.19	320,679.50	-11,572.16
2012	139,025.80	24,432.98	163,458.78	55,543.69	35,536.00	57,660.11	27,787.26	176,527.06	332,251.70	-13,068.28
2013	139,915.50	24,589.35	164,504.85	56,163.83	35,763.42	58,350.38	28,880.20	179,157.83	345,320.00	-14,652.98
2014	140,792.00	24,743.39	165,535.39	56,786.84	35,987.46	59,046.34	30,105.68	181,926.32	359,972.90	-16,390.93
2015	141,655.60	24,895.17	166,550.77	57,413.31	36,208.21	59,743.64	31,476.50	184,841.66	376,363.90	-18,290.89
2016	142,505.60	25,044.55	167,550.15	58,052.69	36,425.47	60,412.49	33,006.22	187,896.87	394,654.70	-20,346.72
2017	143,339.90	25,191.17	168,531.07	58,681.93	36,638.72	61,025.25	34,707.88	191,053.78	415,001.40	-22,522.71
2018	144,157.60	25,334.87	169,492.47	59,340.82	36,847.73	61,615.01	36,591.53	194,395.09	437,524.10	-24,902.62
2019	144,956.70	25,475.30	170,432.00	60,031.79	37,051.97	62,202.54	38,674.21	197,960.51	462,426.70	-27,528.51
2020	145,734.20	25,611.95	171,346.15	60,743.70	37,250.72	62,770.58	40,976.51	201,741.51	489,955.30	-30,395.36

TABLE 18-A BASE YEAR=1998 (the Conference Board data with the same % education distribution)											
PROVINCIAL/TERRITORIAL GOVERNMENTS											
YEAR	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
1999	0.83	0.83	0.83	1.06	0.83	0.58	1.73	0.93	1.73	4.67	
2000	0.82	0.82	0.82	1.01	0.82	0.53	1.78	0.91	1.78	4.03	
2001	0.82	0.82	0.82	1.00	0.82	0.62	1.82	0.94	1.82	5.05	
2002	0.82	0.82	0.82	0.95	0.82	0.63	1.88	0.94	1.88	4.70	
2003	0.80	0.80	0.80	0.97	0.80	0.65	1.93	0.96	1.93	5.80	
2004	0.78	0.78	0.78	0.97	0.78	0.70	2.00	0.98	2.00	6.99	
2005	0.76	0.76	0.76	0.99	0.76	0.75	2.10	1.02	2.10	8.15	
2006	0.74	0.74	0.74	1.04	0.74	0.86	2.23	1.08	2.23	9.94	
2007	0.72	0.72	0.72	1.04	0.72	1.01	2.40	1.16	2.40	11.39	
2008	0.71	0.71	0.71	1.08	0.71	1.03	2.61	1.21	2.61	11.79	
2009	0.69	0.69	0.69	1.05	0.69	1.07	2.84	1.24	2.84	11.77	
2010	0.68	0.68	0.68	1.00	0.68	1.09	3.09	1.27	3.09	11.50	
2011	0.66	0.66	0.66	1.01	0.66	1.13	3.34	1.33	3.34	11.73	
2012	0.65	0.65	0.65	1.17	0.65	1.25	3.61	1.47	3.61	12.93	
2013	0.64	0.64	0.64	1.12	0.64	1.20	3.93	1.49	3.93	12.13	
2014	0.63	0.63	0.63	1.11	0.63	1.19	4.24	1.55	4.24	11.86	
2015	0.61	0.61	0.61	1.10	0.61	1.18	4.55	1.60	4.55	11.59	
2016	0.60	0.60	0.60	1.11	0.60	1.12	4.86	1.65	4.86	11.24	
2017	0.59	0.59	0.59	1.08	0.59	1.01	5.16	1.68	5.16	10.69	
2018	0.57	0.57	0.57	1.12	0.57	0.97	5.43	1.75	5.43	10.57	
2019	0.55	0.55	0.55	1.16	0.55	0.95	5.69	1.83	5.69	10.54	
2020	0.54	0.54	0.54	1.19	0.54	0.91	5.95	1.91	5.95	10.41	
average	0.66	0.66	0.66	1.01	0.66	0.89	3.18	1.26	3.18	9.11	

% a.v.= percentage annual variation

ANNEX A

Population Projection
(In thousands of inhabitants)

YEAR	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total	29,987	30,247	30,498	30,750	31,002	31,257	31,507	31,751	31,992	32,229	32,462	32,691
0-4 years	1,923	1,875	1,828	1,773	1,716	1,683	1,661	1,643	1,640	1,640	1,643	1,647
5-9 years	2,045	2,064	2,062	2,045	2,027	1,986	1,943	1,901	1,846	1,790	1,758	1,736
10-14 years	2,017	2,019	2,027	2,051	2,077	2,105	2,127	2,129	2,114	2,096	2,056	2,014
15-19 years	2,031	2,049	2,062	2,073	2,081	2,088	2,091	2,104	2,130	2,155	2,184	2,205
20-24 years	2,024	2,036	2,062	2,078	2,097	2,113	2,132	2,147	2,159	2,168	2,175	2,178
25-29 years	2,147	2,130	2,117	2,105	2,100	2,114	2,131	2,155	2,175	2,194	2,209	2,228
30-34 years	2,516	2,423	2,341	2,279	2,253	2,236	2,224	2,211	2,205	2,202	2,215	2,231
35-39 years	2,660	2,687	2,704	2,692	2,642	2,574	2,487	2,407	2,351	2,327	2,311	2,299
40-44 years	2,452	2,518	2,567	2,612	2,659	2,687	2,716	2,733	2,723	2,676	2,610	2,525
45-49 years	2,156	2,194	2,251	2,320	2,385	2,457	2,522	2,572	2,617	2,664	2,691	2,719
50-54 years	1,776	1,873	1,958	2,045	2,115	2,135	2,173	2,231	2,299	2,363	2,433	2,498
55-59 years	1,378	1,437	1,495	1,556	1,626	1,742	1,837	1,922	2,006	2,074	2,095	2,132
60-64 years	1,206	1,214	1,235	1,258	1,291	1,336	1,393	1,452	1,510	1,578	1,691	1,782
65-69 years	1,136	1,142	1,142	1,139	1,138	1,137	1,146	1,167	1,190	1,222	1,265	1,320
70-74 years	974	984	990	1,000	1,012	1,024	1,030	1,031	1,030	1,031	1,031	1,040
75-79 years	724	757	788	804	815	821	831	837	847	859	870	876
80-84 years	467	471	478	498	526	555	582	605	618	628	633	642
85-89 years	242	253	267	285	295	303	309	316	331	351	372	390
90 years and over	116	121	126	138	149	161	174	188	202	212	221	229

Source: Statistic Canada, Cansim II, 2000

Population Projection
(In thousand of inhabitants)

YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	32,918	33,141	33,362	33,580	33,794	34,006	34,215	34,420	34,621	34,819	35,012
0-4 years	1,652	1,659	1,666	1,675	1,683	1,692	1,701	1,709	1,716	1,723	1,729
5-9 years	1,719	1,716	1,716	1,718	1,722	1,728	1,734	1,742	1,750	1,758	1,767
10-14 years	1,972	1,918	1,864	1,832	1,810	1,793	1,790	1,790	1,792	1,796	1,802
15-19 years	2,208	2,193	2,175	2,135	2,093	2,053	1,999	1,946	1,914	1,893	1,876
20-24 years	2,191	2,216	2,241	2,270	2,291	2,293	2,279	2,261	2,222	2,181	2,141
25-29 years	2,243	2,255	2,264	2,271	2,274	2,286	2,311	2,336	2,364	2,385	2,387
30-34 years	2,255	2,274	2,293	2,308	2,326	2,341	2,352	2,360	2,367	2,370	2,382
35-39 years	2,286	2,281	2,278	2,291	2,307	2,331	2,349	2,367	2,381	2,399	2,413
40-44 years	2,448	2,394	2,370	2,355	2,344	2,332	2,326	2,324	2,337	2,353	2,376
45-49 years	2,737	2,728	2,682	2,618	2,536	2,461	2,408	2,385	2,371	2,360	2,349
50-54 years	2,547	2,591	2,637	2,665	2,693	2,710	2,702	2,658	2,596	2,516	2,443
55-59 years	2,189	2,256	2,318	2,388	2,451	2,499	2,543	2,589	2,616	2,644	2,662
60-64 years	1,864	1,945	2,011	2,032	2,069	2,125	2,190	2,252	2,319	2,381	2,428
65-69 years	1,375	1,431	1,496	1,603	1,690	1,768	1,845	1,907	1,929	1,964	2,019
70-74 years	1,060	1,082	1,113	1,152	1,203	1,255	1,306	1,366	1,465	1,546	1,617
75-79 years	878	878	880	881	891	910	930	957	993	1,038	1,083
80-84 years	647	656	666	676	682	684	685	688	691	700	716
85-89 years	406	415	423	427	433	438	445	453	460	465	467
90 years and over	239	254	269	284	297	309	320	331	340	348	356

Population Projection
(In thousand of inhabitants)

YEAR	2020	2021	2022	2023	2024	2025	2026	2050
Total	35,200	35,382	35,558	35,727	35,890	36,044	36,190	40,408
0-4 years	1,733	1,735	1,735	1,734	1,730	1,724	1,716	2,209
5-9 years	1,775	1,784	1,791	1,798	1,803	1,807	1,809	2,193
10-14 years	1,808	1,816	1,824	1,832	1,840	1,849	1,857	2,196
15-19 years	1,873	1,873	1,875	1,879	1,885	1,891	1,898	2,219
20-24 years	2,088	2,035	2,004	1,983	1,966	1,963	1,963	2,277
25-29 years	2,373	2,356	2,317	2,277	2,237	2,186	2,133	2,358
30-34 years	2,406	2,431	2,458	2,478	2,480	2,466	2,449	2,410
35-39 years	2,424	2,432	2,439	2,441	2,453	2,477	2,501	2,414
40-44 years	2,394	2,412	2,426	2,443	2,457	2,467	2,475	2,398
45-49 years	2,344	2,341	2,354	2,370	2,393	2,411	2,428	2,378
50-54 years	2,392	2,370	2,357	2,347	2,336	2,331	2,329	2,444
55-59 years	2,654	2,612	2,552	2,475	2,405	2,355	2,335	2,597
60-64 years	2,471	2,516	2,544	2,572	2,590	2,584	2,543	2,494
65-69 years	2,081	2,140	2,205	2,265	2,311	2,353	2,397	2,334
70-74 years	1,688	1,746	1,767	1,801	1,853	1,912	1,967	2,093
75-79 years	1,129	1,182	1,269	1,341	1,404	1,466	1,517	1,808
80-84 years	734	757	786	824	861	899	942	1,503
85-89 years	469	473	476	484	496	509	527	1,189
90 years and over	365	374	381	387	391	397	403	894

Source: Statistic Canada, Cansim II, 2000

Distributions of Health, Education and Other Provincial/Territorial Spending (In Unitary Terms)			
Age	1995	1995	1995
	Health Expenditures Distribution	Education Expenditures Distribution	Other Provincial Spending
c1=0-4	0.0279	0.0401	0.0000
c2=5-9	0.0175	0.2621	0.0000
c3=10-14	0.0175	0.2797	0.0000
c4=15-19	0.0263	0.2453	0.1320
c5=20-24	0.0332	0.1041	0.0584
c6=25-29	0.0437	0.0282	0.0942
c7=30-34	0.0516	0.0179	0.1127
c8=35-39	0.0474	0.0107	0.1015
c9=40-44	0.0419	0.0062	0.0714
c10=45-49	0.0592	0.0032	0.0544
c11=50-54	0.0476	0.0012	0.0446
c12=55-59	0.0382	0.0010	0.0426
c13=60-64	0.0369	0.0004	0.0800
c14=65-69	0.1091	0.0000	0.1283
c15=70-74	0.0938	0.0000	0.0990
c16=75-79	0.1410	0.0000	0.0563
c17=80-84	0.0808	0.0000	0.0208
c18=85-89	0.0583	0.0000	0.0143
c19=90+	0.0281	0.0000	0.0082
	1.0000	1.0000	1.0000

Source: Chantal Hicks, "The Age Distribution of Tax/Transfer System in Canada"

Catalogue 68-513 XPB, 1998

Calculations: Allison Rebolledo, "Is There a Vertical Fiscal Imbalance in Canada?"

Major Paper, University of Ottawa, September 2003

CONFERENCE BOARD'S REAL AND ESTIMATED PRICE INDEXES (1997=1000)	
YEARS	CONSUMER PRICE INDEX
1997/98	1.078
1998/99	1.089
1999/00	1.112
2000/01	1.143
2001/02	1.169
2002/03	1.197
2003/04	1.222
2004/05	1.246
2005/06	1.267
2006/07	1.292
2007/08	1.318
2008/09	1.344
2009/10	1.369
2010/11	1.394
2011/12	1.421
2012/13	1.448
2013/14	1.477
2014/15	1.508
2015/16	1.54
2016/17	1.572
2017/18	1.604
2018/19	1.638
2019/20	1.672

Source: The CBC. "Vertical Fiscal Imbalance.
Fiscal Prospects for the Federal and Provin-
cial/Territorial Governments", July 2002.

TABLE A
THE CONFERENCE BOARD PROJECTIONS (*)

PROVINCIAL/TERRITORIAL GOVERNMENTS (in millions term)											
YEAR	REVENUES			EXPENDITURES					NET		BUDGET BALANCE
	taxes	transfers	total reven.	health spen.	education sp.	others spen.		debt serv.	total spend.		
1997/98	135,003.00	23,726.00	158,729.00	51,347.00	34,210.00	54,896.00		21,548.00	162,001.00	257,649.00	-3,272.00
1998/99	140,481.00	26,210.00	166,691.00	54,914.00	36,464.00	55,042.00		21,894.00	168,314.00	261,279.00	-1,623.00
1999/00	153,846.00	26,955.00	180,801.00	59,406.00	38,337.00	58,009.00		22,097.00	177,849.00	261,212.00	2,952.00
2000/01	166,595.00	29,275.00	195,870.00	63,533.00	38,144.00	58,005.00		22,444.00	182,126.00	251,503.00	13,744.00
2001/02	156,072.00	33,135.00	189,207.00	68,351.00	41,454.00	59,819.00		21,374.00	190,998.00	252,913.00	-1,791.00
2002/03	163,305.00	34,718.00	198,023.00	71,564.00	42,946.00	62,154.00		21,919.00	198,583.00	253,474.00	-560.00
2003/04	170,775.00	36,081.00	206,856.00	75,142.00	44,312.00	64,572.00		23,278.00	207,304.00	253,921.00	-448.00
2004/05	175,740.00	37,301.00	213,041.00	79,009.00	45,658.00	66,942.00		23,795.00	215,404.00	256,284.00	-2,363.00
2005/06	181,018.00	38,470.00	219,488.00	82,960.00	46,866.00	69,171.00		24,137.00	223,134.00	259,930.00	-3,646.00
2006/07	187,219.00	39,354.00	226,573.00	87,129.00	48,266.00	71,391.00		24,690.00	231,476.00	264,833.00	-4,903.00
2007/08	194,777.00	40,622.00	235,399.00	91,596.00	49,749.00	73,757.00		25,336.00	240,438.00	269,872.00	-5,039.00
2008/09	202,206.00	41,873.00	244,079.00	96,344.00	51,235.00	76,118.00		25,998.00	249,695.00	275,487.00	-5,616.00
2009/10	209,822.00	43,154.00	252,976.00	101,356.00	52,672.00	78,501.00		26,710.00	259,239.00	281,750.00	-6,263.00
2010/11	217,578.00	44,469.00	262,047.00	106,687.00	54,086.00	80,893.00		27,480.00	269,146.00	288,849.00	-7,099.00
2011/12	225,729.00	45,834.00	271,563.00	112,296.00	55,575.00	83,399.00		28,611.00	279,881.00	297,169.00	-8,318.00
2012/13	234,588.00	47,263.00	281,851.00	118,110.00	57,098.00	86,020.00		30,193.00	291,421.00	306,739.00	-9,570.00
2013/14	244,133.00	48,784.00	292,917.00	124,141.00	58,677.00	88,809.00		31,865.00	303,492.00	317,314.00	-10,575.00
2014/15	254,221.00	50,366.00	304,587.00	130,409.00	60,250.00	91,741.00		33,349.00	315,749.00	328,475.00	-11,162.00
2015/16	264,936.00	52,008.00	316,944.00	136,982.00	61,824.00	94,808.00		34,583.00	328,197.00	339,726.00	-11,253.00
2016/17	276,051.00	53,683.00	329,734.00	143,807.00	63,509.00	97,963.00		35,766.00	341,045.00	351,038.00	-11,311.00
2017/18	287,314.00	55,379.00	342,693.00	150,872.00	65,367.00	101,152.00		36,955.00	354,346.00	362,691.00	-11,653.00
2018/19	299,403.00	57,184.00	356,587.00	158,455.00	67,420.00	104,484.00		38,180.00	368,539.00	374,642.00	-11,952.00
2019/20	312,175.00	59,075.00	371,250.00	166,487.00	69,632.00	107,966.00		39,436.00	383,521.00	386,913.00	-12,271.00

(*) Values in Nominal Terms.

Source: Hales, St-Maurice, Antunes. "Vertical Fiscal Imbalance. Fiscal Prospects for the Federal and Provincial/Territorial Governments".
The Conference Board of Canada. July 2002.

TABLE A-1
THE CONFERENCE BOARD PROJECTIONS (*)

Author's calculations

YEAR	PROVINCIAL/TERRITORIAL GOVERNMENTS									
	taxes % a.v.	transfers % a.v.	total revenue % a.v.	health sp % a.v.	education sp % a.v.	other spend % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.
1997/98										
1998/99	4.06	10.47	5.02	6.95	6.59	0.27	1.61	3.90	1.41	-50.40
1999/00	9.51	2.84	8.46	8.18	5.14	5.39	0.93	5.67	-0.03	-281.89
2000/01	8.29	8.61	8.33	6.95	-0.50	-0.01	1.57	2.40	-3.72	365.58
2001/02	-6.32	13.19	-3.40	7.58	8.68	3.13	-4.77	4.87	0.56	-113.03
2002/03	4.63	4.78	4.66	4.70	3.60	3.90	2.55	3.97	0.22	-68.73
2003/04	4.57	3.93	4.46	5.00	3.18	3.89	6.20	4.39	0.18	-20.00
2004/05	2.91	3.38	2.99	5.15	3.04	3.67	2.22	3.91	0.93	427.46
2005/06	3.00	3.13	3.03	5.00	2.65	3.33	1.44	3.59	1.42	54.30
2006/07	3.43	2.30	3.23	5.03	2.99	3.21	2.29	3.74	1.89	34.48
2007/08	4.04	3.22	3.90	5.13	3.07	3.31	2.62	3.87	1.90	2.77
2008/09	3.81	3.08	3.69	5.18	2.99	3.20	2.61	3.85	2.08	11.45
2009/10	3.77	3.06	3.65	5.20	2.80	3.13	2.74	3.82	2.27	11.52
2010/11	3.70	3.05	3.59	5.26	2.68	3.05	2.88	3.82	2.52	13.35
2011/12	3.75	3.07	3.63	5.26	2.75	3.10	4.12	3.99	2.88	17.17
2012/13	3.92	3.12	3.79	5.18	2.74	3.14	5.53	4.12	3.22	15.05
2013/14	4.07	3.22	3.93	5.11	2.77	3.24	5.54	4.14	3.45	10.50
2014/15	4.13	3.24	3.98	5.05	2.68	3.30	4.66	4.04	3.52	5.55
2015/16	4.21	3.26	4.06	5.04	2.61	3.34	3.70	3.94	3.43	0.82
2016/17	4.20	3.22	4.04	4.98	2.73	3.33	3.42	3.91	3.33	0.52
2017/18	4.08	3.16	3.93	4.91	2.93	3.26	3.32	3.90	3.32	3.02
2018/19	4.21	3.26	4.05	5.03	3.14	3.29	3.31	4.01	3.30	2.57
2019/20	4.27	3.31	4.11	5.07	3.28	3.33	3.29	4.07	3.28	2.67
average	3.92	4.27	3.96	5.50	3.30	3.13	2.81	4.00	1.88	20.21

Source: Hales, St-Maurice, Antunes. "Vertical Fiscal Imbalance. Fiscal Prospects for the Federal and Provincial/Territorial Governments". The Conference Board of Canada. July 2002.

(*) Values in Nominal Terms.

% a.v. = percentage annual variation

TABLE B THE CONFERENCE BOARD PROJECTIONS (*)						
YEAR	THE FEDERAL GOVERNMENT (in millions term)					
	REVENUES	EXPENDITURES			NET DEBT	BUDGET BALANCE
		taxes	transfers	debt serv. total spend.		
1997/98	153,162.00	108,753.00	40,931.00	149,684.00	579,708.00	3,478.00
1998/99	155,671.00	111,393.00	41,394.00	152,787.00	576,824.00	2,884.00
1999/00	165,708.00	111,763.00	41,647.00	153,410.00	564,526.00	12,298.00
2000/01	178,590.00	119,348.00	42,094.00	161,442.00	547,378.00	17,148.00
2001/02	174,000.00	128,800.00	39,200.00	168,000.00	541,378.00	6,000.00
2002/03	178,647.00	136,040.00	39,302.00	175,342.00	538,073.00	3,305.00
2003/04	185,635.00	139,614.00	41,412.00	181,026.00	533,464.00	4,609.00
2004/05	189,547.00	144,855.00	41,922.00	186,777.00	530,694.00	2,770.00
2005/06	195,967.00	149,621.00	41,932.00	191,553.00	526,280.00	4,414.00
2006/07	203,606.00	154,717.00	41,966.00	196,683.00	519,357.00	6,923.00
2007/08	211,678.00	160,198.00	41,754.00	201,952.00	509,631.00	9,726.00
2008/09	219,934.00	165,730.00	41,320.00	207,050.00	496,747.00	12,884.00
2009/10	228,249.00	171,381.00	40,622.00	212,003.00	480,501.00	16,246.00
2010/11	236,621.00	177,176.00	39,638.00	216,814.00	460,694.00	19,807.00
2011/12	245,844.00	183,402.00	38,738.00	222,140.00	436,990.00	23,704.00
2012/13	256,109.00	190,098.00	37,872.00	227,970.00	408,851.00	28,139.00
2013/14	267,137.00	197,081.00	36,462.00	233,543.00	375,257.00	33,594.00
2014/15	278,625.00	204,349.00	34,158.00	238,507.00	335,140.00	40,118.00
2015/16	290,474.00	211,970.00	30,953.00	242,923.00	287,589.00	47,551.00
2016/17	302,619.00	219,845.00	27,080.00	246,925.00	231,894.00	55,694.00
2017/18	314,787.00	227,828.00	22,545.00	250,373.00	167,480.00	64,414.00
2018/19	327,831.00	236,202.00	17,300.00	253,502.00	93,150.00	74,329.00
2019/20	341,694.00	244,991.00	11,248.00	256,239.00	7,695.00	85,455.00

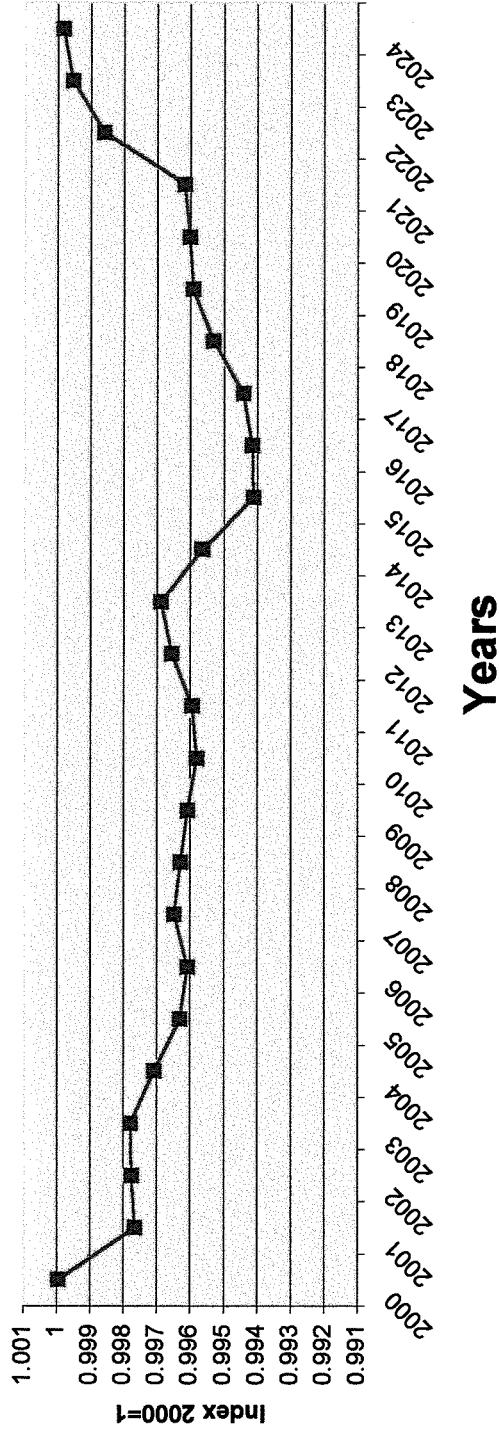
(*) Values in Nominal Terms.

Source: The Conference Board of Canada Report, July 2002

TABLE B-1 THE CONFERENCE BOARD PROJECTIONS (*) Author's calculations							
YEAR	FEDERAL GOVERNMENT						
	taxes % a.v.	transfers % a.v.	debt service % a.v.	total spend % a.v.	net debt % a.v.	budget balan % a.v.	
1997/98							
1998/99	1.64	2.43	1.13	2.07	-0.50	-17.08	
1999/00	6.45	0.33	0.61	0.41	-2.13	326.42	
2000/01	7.77	6.79	1.07	5.24	-3.04	39.44	
2001/02	-2.57	7.92	-6.88	4.06	-1.10	-65.01	
2002/03	2.67	5.62	0.26	4.37	-0.61	-44.92	
2003/04	3.91	2.63	5.37	3.24	-0.86	39.46	
2004/05	2.11	3.75	1.23	3.18	-0.52	-39.90	
2005/06	3.39	3.29	0.02	2.56	-0.83	59.35	
2006/07	3.90	3.41	0.08	2.68	-1.32	56.84	
2007/08	3.96	3.54	-0.51	2.68	-1.87	40.49	
2008/09	3.90	3.45	-1.04	2.52	-2.53	32.47	
2009/10	3.78	3.41	-1.69	2.39	-3.27	26.09	
2010/11	3.67	3.38	-2.42	2.27	-4.12	21.92	
2011/12	3.90	3.51	-2.27	2.46	-5.15	19.67	
2012/13	4.18	3.65	-2.24	2.62	-6.44	18.71	
2013/14	4.31	3.67	-3.72	2.44	-8.22	19.39	
2014/15	4.30	3.69	-6.32	2.13	-10.69	19.42	
2015/16	4.25	3.73	-9.38	1.85	-14.19	18.53	
2016/17	4.18	3.72	-12.51	1.65	-19.37	17.12	
2017/18	4.02	3.63	-16.75	1.40	-27.78	15.66	
2018/19	4.14	3.68	-23.26	1.25	-44.38	15.39	
2019/20	4.23	3.72	-34.98	1.08	-91.74	14.97	
average	3.73	3.77	-5.19	2.48	-11.39	28.84	

(*) In Nominal Terms. Source: The Conference Board of Canada Report, July 2002

Population Growth. Young Age Group.
From 0-24 Years of Age



Source: "Is there a vertical fiscal imbalance in Canada".
Allison Rebollo. Sept. 2003.