New Directions for Intelligent Government in Canada

Papers in Honour of Ian Stewart

Edited by Fred Gorbet and Andrew Sharpe

CSLS

New Directions for Intelligent
Government in Canada:
Papers in Honour of Ian Stewart

Editors: Fred Gorbet and Andrew Sharpe

Centre for the Study of Living Standards
710 - 151 Slater Street
Ottawa, Ontario K1P 5H3
CANADA
info@csls.ca

ISBN 978-0-9877849-0-2

Design by Hodges Publications. Cover design by Kelvin Hodges.
Bound and printed in Canada by The Printing Center.

Table of Contents

Acknowledgments

THE EDITORS WOULD LIKE TO THANK the large number of individuals who have contributed to this volume. These include of course the 12 contributors to the volume, the discussants from the authors' workshop held April 20-21, 2011 in Ottawa (Gordon Betcherman, Michael Cleland, Ivan Fellegi, Paul Jenkins, Judith Maxwell, Alan Nymark, Stephen Richardson, Russell Robinson, Nick Rowe, Tim Sargent, Mario Seccareccia and Hugh Segal); the staff of the Centre for the Study of Living Standards who assisted with both the festschrift authors' workshop and dinner organization and copyediting (Ricardo de Avillez, Elspeth Hazell, Eric Johnson, and Chris Ross); desktop publisher Kelvin Hodges; and Mike Datson from the Printing Centre.

The editors would also like to thank a number of funders who prefer to remain unacknowledged.

Fred Gorbet
Andrew Sharpe
September 11, 2011
Ottawa, Ontario

New Directions for Intelligent Government in Canada: An Introduction

Andrew Sharpe
Centre for the Study of Living Standards

THE TRADITIONAL "BIG-GOVERNMENT/SMALL-GOVERNMENT" DEBATES are ideological rather than content-driven. We do not necessarily need 'more government', but we do need more 'intelligent government', that is a government that recognizes there is a legitimate role for the state in social and economic policy and focuses on how to best play that role in a way that is effective without stifling innovation, creativity and private initiative. Whether it is government programming (ie. new spending programs versus targeted tax expenditures) or regulation (ie. how much, affecting who, what sanctions) there are choices to be made, but in all of these areas the role that governments play should be informed by solid analysis.

In his work as a public servant Ian Stewart brought this analytical focus to the role of the state. The editors believe that we need more of this approach as we move forward to deal with the challenges ahead. On the occasion of Ian's 80th birthday, we have commissioned a number of leading Canadian economists and former senior policy makers to contribute to this festschrift by addressing specific public policy issues and the role of an intelligent government in addressing these concerns.

The two editors of this volume have worked closely with Ian during different time periods and in different capacities. In both cases Ian has served a mentor role. He hired Fred Gorbet right out of graduate school in 1968 and Fred worked with Ian at the Bank of Canada, Energy, Mines and Resources, the Privy Council Office and Finance. Andrew Sharpe's association with Ian dates from the early 1990s. With the demise of the Economic Council of Canada in 1992, a vacuum in the supply of applied economic research in this country was created. The establishment of the Centre for the Study of Living Standards in 1995 was orchestrated by Andrew, Ian, and David Slater. Ian assumed the position of Chair, a role he still holds 16 years later.

Structure of the Volume

The papers in the volume are organized into four sections based on subject areas: macro-economic policy including financial sector policy; tax policy; social and health care policy; and general public policy. The volume also contains a biographical essay by our honouree Ian Stewart on his extraordinary professional career. We have also reprinted *The Way Ahead* - likely the most important document that Ian crafted during his years as a senior policy maker in the federal government. The purpose of this introduction is to provide a synthesis or distillation of the incredible richness of the policy analysis contained in the 12 chapters, produced by a stellar cast of leading academic economists with an interest in public policy and public policy practitioners at the highest level. The list of contributors includes four Deputy or Associate Deputy Ministers of Finance (not counting Ian), two Chief or Assistant Chief Statisticians, and four Past Presidents of the Canadian Economics Association.

The Contribution of Ian Stewart to Public Policy in Canada

Born in 1931, Ian spent his early years on Toronto Island where his father was superintendant of the water filtration plant. He attended the University of Toronto Schools (UTS), excelling in both academics and athletics. After graduation he followed family tradition and enrolled at Queen's University in 1949 where he studied honours economics and politics. Not surprisingly given Queen's long association with the public service in Ottawa, Ian was exposed to scholars who had been part of the Ottawa economic policy community, such as Bill Mackintosh. Ian graduated in 1953 with the economics medal and remained at Queen's to do his M.A. in economics, which he completed in 1954. Based on his outstanding academic record, as well as his athletic prowess and leadership ability, he was awarded a Rhodes Scholarship to Oxford University.

Ian returned to Canada in 1956 and gained employment teaching economics at Queen's University. By 1959 he came to the realization that a professional career in economics required a PhD. He enrolled in the doctoral program at Cornell University in Ithaca, New York where he specialized in econometric modeling, then an emerging field advancing with the IT revolution. In 1962, he accepted a position in the Department of Economics at Dartmouth University in Hanover, New Hampshire. After obtaining his PhD degree in 1965 with a thesis that built a quarterly model of the Canadian economy, his thoughts turned to the possibility of returning to Canada. Fortunately, the Bank of Canada was recruiting, and was particularly interested in Ian's skills and experience in building econometric models, an art then it its infancy. Ian accepted the offer.

In 1966, Ian started his Ottawa career, assuming responsibility in the Research Department at the Bank of Canada for the development of the RDX econometric model of the Canadian economy. There he assembled a stellar team of economists, including Harold Shapiro, later President of Princeton University and Michael Spence, later a Nobel laureate in economics, and of course Fred Gorbet and John Helliwell. The work on the RDX model at the Bank of Canada represented a pioneering attempt to quantify the macroeconomic effects of various economic policy scenarios and Ian's leadership in this area was a major contribution to public policy in Canada.

In 1972, Ian joined the Planning Branch of the Treasury Board Secretariat as a Director. The mandate of the Planning Branch was to apply greater economic rationality to the allocation of resources among departments, a challenging task in a political environment. At that time, energy was beginning to emerge as a key policy area and Ian developed an intense interest in this issue. In 1973, he was seconded to the Department of Energy, Mines and Resources (EMR). The turbulent oil markets of the 1970s placed many strains on the economy and the federation, and Ian's highly honed analytical skills were applied to the preparation of many memoranda to cabinet on energy policy during this period.

In 1975, Michael Pitfield, Clerk of the Privy Council Office (PCO), recruited Ian to be Secretary of the Cabinet Committee on Economic Policy. These were turbulent economic times, with inflation accelerating. To deal with this situation, the government in October 1975 imposed wage and price controls for a three year period. The direction for economic policy after controls ended became a key concern. To address this issue, Ian, with the close assistance of Fred Gorbet, drafted the document *The Way Ahead*, which laid out new policy directions for intelligent government - focused not on carelessly and blindly unwinding government interventions, but on replacing direct interventions with structural policies that would make the economy more efficient. One of the key messages of *The Way Ahead* is that failure to design intelligent and effective policies may lead to social outcomes that may require more direct intervention by governments - at some risk to personal liberty. The experience of wage and price controls represented an example of this and the publication sought to learn from that experience in the future design of government policies. The Government of Canada officially released the document in 1976. It represents an excellent example of Ian's analytical approach to policy development and captures and articulates very well the economic choices facing the nation in the late 1970s. It is reprinted in the appendix of this volume, with Prime Minister Trudeau's comments.

In 1978 Prime Minister Trudeau offered Ian the opportunity to choose his next assignment. Given his keen interest in energy policy, he chose EMR where he was appointed Deputy Minister. With the quadrupling of oil prices in 1979 energy policy assumed even more importance. Ian was at the heart of the intense federal-provincial and international negotiations on energy issues, dealing directly on a regular basis with the newly elected Prime Minister, Joe Clark.

In 1980, with the return of Prime Minister Trudeau to power, Ian was appointed Deputy Minister of Finance where he was responsible for three budgets. Certainly the best known, and most controversial, was the November 1981 budget, which curtailed a number of tax expenditure and tax avoidance schemes to both improve fiscal balance and to incorporate greater equity into the tax system. Particularly in the context of the rapidly worsening recession, the tax measures met with substantial resistance and the budget encountered a hostile reception, forcing the government to rescind some of them. Future Deputy Ministers of Finance learned greatly from this experience. Ian's last budget in June 1982 introduced the '6 and 5' program to limit wage increases in the public sector. The program contributed to a moderation in wage demands and hence wage expectations in both the public and private sectors.

In November 1982, after nearly three stressful years in the most important economic policy position in the federal public service, Ian decided to leave the Department of Finance. He assumed advisory roles at the Ministry of State for Economic and Regional Development and chaired the Board of Directors of the Canada Mortgage Housing Corporation. In 1985, he returned to his alma mater Queen's University as Skelton-Clark Chair for two years and in 1990 he became Chair of Statistics Canada's Advisory Committee on National Accounts, a position he held until 2000. In the 1990s and 2000s Ian has also served on the Board of Directors of a number of non-profit organizations, including chairing the Board of the Centre for the Study of Living Standards.

The above brief chronology of Ian's career is based on Ian's contribution to this volume. The reader is referred to his paper for the full story, which is extremely interesting, modest and well written.

By any standards, Ian enjoyed a most distinguished career in the federal public service. The source of Ian's success is related to a number of factors. First, very strong educational credentials - a PhD in economics specializing in econometric modeling from an Ivy League university - gave him the technical skills to conduct and direct economic research and analysis at a high level. Second, his highly developed people and leadership skills allowed him to work effectively with political leaders and motivate and direct his staff. Third, his commitment to public service, and to intelligent government, that is government not driven by ideological blinkers, allowed him to assess policy options from a balanced perspective, and provide sound advice to the Ministers he served.

Macroeconomic Policy

Christopher Ragan on the Evolution of Canadian Monetary Policy

The first paper in the volume following Ian's biographical overview is by Christopher Ragan from McGill University. He provides an extremely readable overview of the evolution of monetary policy in this country from the late 1970s. Ragan is one of the few, if not the only, academic economist in Canada who has held senior appointments at both the Bank of Canada and Finance Canada. This gives him a unique perspective to address his topic. This paper represents a wonderful introduction to the monetary policy field for undergraduate students.

The first section of the paper offers an insightful assessment of Ian Stewart's influential document *The Way Ahead*, which, as noted, is reprinted as an appendix to this volume. Ragan finds it a balanced and realistic view of government in a modern economy. He notes that the document both emphasizes the importance of using relatively free markets for the organization of economic activity, but also recognizes the need for government intervention to solve certain problems that markets are ill-suited to solve, including provision of public goods, appropriate pricing of externalities, and reduction of severe inequities.

The key message of Ragan's paper is that the process of natural selection of good and workable ideas in monetary policy formation has led to the creation and refinement of the current and very successful inflation-targeting system. At the core of this evolutionary process he sees both a continual drive toward "better" government and a recognition of the limitations of what government can accomplish. In reading Ragan's assessment one is struck by how the evolution of monetary policy through the decades of the 1970s and 1980s was informed by advances in research and analysis, applied to critical economic problems - a hallmark of what we call 'intelligent government'.

Ragan identifies a number of lessons that led to the establishment of the current regime, including the discovery of the importance of the supply side of the economy for monetary policy and the role played by a flexible exchange rate. He identifies the need to ensure "financial system" stability as one of the most significant challenges now facing central banks in both Canada and other countries and discusses some of the options that policymakers face in "leaning against financial excess" and searching for an appropriate approach to "macro-prudential stability".

David Dodge on the Canadian Financial System

The importance of a well functioning financial system for a sound economy has been highlighted by the recent economic crisis. Unlike the downturns in the early 1980s and 1990s, the origins of the current crisis reside in the financial system. In the second paper in this section, David Dodge provides an insightful overview of public policy toward the financial system in Canada. He traces the development of Canadian financial market policy from the Porter Commission released in 1964 to the present, assesses the successes and shortcomings of these policies in meeting the twin objectives of efficiency and stability and dealing with inherent conflicts, and examines challenges ahead in light of the lessons of the financial crisis.

As Deputy Minister of Finance from 1992 to 1997 and Governor of the Bank of Canada from 2001 to 2008, Dodge became very familiar with the role public policy has played in shaping the financial system in this country. This experience makes his observations on developments in the financial system of particular interest.

Dodge states that, at the broadest level, financial sector policy should facilitate the development of financial markets and institutions which enhance efficiency and innovation while at the same time assuring the macro-stability of the system. But he notes that financial innovation can become a source of instability if regulation and risk management fall behind the curve. Indeed, this is what happened in the late 2000s when policy-makers in the United States, in particular, diminished the regulatory framework in an attempt to allow greater efficiency and innovation in financial services. The resulting global financial crisis has demonstrated dramatically the need to achieve an appropriate balance between efficiency and stability in financial sector policy. The paper outlines a number of factors that led to the relative resilience and robustness of Canadian financial institutions in the face of crises in the United States and Europe.

Of course, there are many challenges for financial market policy in Canada, and especially in other countries. Dodge provides a detailed discussion of what he sees as the reforms needed to buttress financial stability at both the international and national levels, such as more stringent capital and liquidity requirements. He recognizes that such reforms may result in slower economic growth and argues that a focus on preserving, if not enhancing, competition and market contestability may be the best way to promote efficiency and innovation in such circumstances.

Scott Clark on Credible Fiscal Policy

A sound fiscal situation is a key requirement of successful economic policy, but how to define and attain "soundness" is a matter of debate. Scott Clark argues that it is important that fiscal policy be seen by relevant constituencies as "credible" and sets out, in this paper, the key attributes that he believes are essential to credibility in fiscal policy. He also discusses his perspective on how Canadian fiscal policy has measured up to these attributes over the period from 1983 to 2010. He is particularly well qualified to write on this issue, having served as Deputy Minister of Finance from 1997 to 2000, a period when Canada's fiscal balance was improving greatly.

Clark first identifies the four key groups who decide whether a government's fiscal policy is credible. They are financial markets; important stakeholder groups (including, for example, business, labour, consumers and educational institutions); the media; and the general public. He then points out the criteria that these groups use to judge whether a fiscal policy is disciplined or credible. First, it must be realistic, that is based on sound analysis. Second, it must be responsible, that is the government must be committed to establishing a sustainable fiscal framework. Third, it must be prudent, that is it must include a reasonable amount of "insurance." Finally, it must be transparent, that is providing full disclosure of information.

Clark provides a detailed discussion of the federal government's fiscal policy since the 1970s from the perspective of these four criteria. He provides an inside account of the decisions taken, or not taken, at the Department of

Finance in the 1980s and early 1990s that resulted in a massive deterioration of the country's fiscal balance and rise in the debt/GDP ratio, as well as the policy shift taken in the mid-1990s that turned around this situation.

Clark expresses concern at certain developments that have taken place since 2006. He notes that at that time Canada's fiscal position and fiscal credibility were excellent, but that both have since deteriorated, not only because of the economic crisis, but also due to discretionary fiscal policy decisions. He argues that fiscal prudence has been virtually eliminated in fiscal planning and transparency in budget planning has diminished. While recognizing that Canada's current fiscal situation compares favourably to that of most OECD countries, he feels that the federal government nevertheless faces a structural deficit that will worsen in the coming years with the increased health costs associated with the ageing baby boom cohorts. He concludes with a call for the adoption of a fiscal strategy that is realistic, responsible, prudent and transparent.

Lars Osberg on the Role of Unemployment in Public Policy

In the immediate postwar period, full employment, or at least low unemployment, was an important objective of economic policy and featured prominently in official government documents on macroeconomic policy. In the final paper in this section, Lars Osberg from Dalhousie University argues that unemployment has largely disappeared from official macro-economic policy discourse in Canada and provides an explanation for what he sees as an unfortunate development.

Osberg traces the origins of this development to the change in the understanding of unemployment within the economics profession. In the immediate postwar period, with the experience of the Great Depression still fresh, economists emphasized the large economic and social costs of unemployment, and the key role of aggregate demand in determining the level of unemployment. With the rise of inflation in the 1970s the issue of inflation control became a much greater priority for economists. Economic policy, especially monetary policy, focused much more closely on this issue, with concerns over unemployment diminishing, even though the unemployment rate had risen significantly. A desire to minimize the risk of inflation, and a strong view that in the long-run there was no trade-off between unemployment and inflation, dominated macroeconomic policy discourse. The emergence of persistent public sector deficits at about the same time constrained countercyclical fiscal policies, and attempts to deal with unemployment became increasingly focused on microeconomic, labour market oriented policies.

Osberg notes that one exception to the focus of monetary policy on inflation to the exclusion of unemployment occurred during the second half of the 1990s in the United States, when the Federal Reserve Board, under its chairman Alan Greenspan, rejected the standard NAIRU framework and probed the limits on the non-inflationary unemployment rate, driving the unemployment rate down to 4 per cent.

Osberg believes this lack of policy interest in unemployment on the part of government policy makers is having a negative effect on the well-being of Canadians. He points to recent research that finds unemployment especially bad for subjective well-being or happiness, not only for the unemployed, but also through a spillover effect for those with jobs. Osberg notes that Canada is one of the few industrial countries that does not collect data on job vacancies, which can be useful for analysis of how tight labour markets actually are at any given time. In line with the desire to inform government policy with more solid and sophisticated analysis, he makes a strong case that such information should be collected.

Tax Policy

Robin Boadway on Rethinking Tax-Transfer Policy

In this paper Queen's University Economics Professor Robin Boadway, one of the country's most distinguished tax scholars, argues that a major rethinking of Canada tax-transfer system is warranted, and outlines the key elements of the design of a new tax-transfer system. The paper is a tour de force, covering a very wide range of tax issues in a rigorous manner informed by the latest research. It represents a major contribution to the field.

Boadway believes a rethinking of the tax-transfer system is needed for two reasons. First, the views of what constitutes an effective tax-transfer system have changed considerably in recent decades, an evolution well captured by the Mirrlees Review in the United Kingdom. Second, the world has changed, and a key aspect of this change has been the trend toward greater inequality. Unfortunately, the ability of the current tax-transfer system to cope with these changes is limited.

In contemplating his rethinking of the tax-transfer system Boadway eschews political constraints. Although he recognizes that political considerations are critically important in implementing tax reform, he believes that to constrain the analysis by what might be politically feasible will lead to inferior choices. His paper sets out what he believes the most appropriate reforms would be, recognizing that political realities will result in tradeoffs.

Boadway identifies many concerns about the existing tax-transfer system. For example, he finds the treatment of natural resources, particularly non-renewable resources, especially problematic and the pricing of environmental damage, whether due to global warming or congestion, very uneven. The personal tax system in his view does a mediocre job in achieving equity. He considers it a national disgrace that welfare incomes remain below the poverty line and have been falling in real terms, and argues that the current treatment of intergenerational transfers represents a failure to address the issue of equality of opportunity.

Boadway's proposals for reform are based upon the Mirrlees Report, but are modified to reflect the realities of the Canadian context - in particular, shared jurisdiction over taxes and transfers, the particular role that natural resources play, and the lack of inheritance or wealth taxes. The key organizing principles for this reform are that the tax system should be as efficient as possible, and that the tax-transfer system should be highly targeted to those most in need.

Stanley Winer on Tax Policy Design

Stanley Winer's paper complements Robin Boadway's analysis by taking a different starting point to the process of tax reform. Rather than adopting a strictly normative approach, as Boadway does, Winer views tax policy formulation as an equilibrium outcome of competition between political and interest groups, conditional on and evolving with technical knowledge on tax issues.

Winer prefers an approach that tries to incorporate feasibility into the analysis, even though it may entail making 'political judgments' and results in 'a second-best' world. In Winer's view, this is because the real choice is not between an optimal design and the world as it is, but between alternative conceptions of what is both possible and desirable. As an example Winer's analysis reviews some of Boadway's proposals through this prism and adds an additional, valuable dimension, to Boadway's analysis.

Social and Health Care Policy

Pierre Fortin on Income Support

Income support programs are largely under provincial jurisdiction in Canada. In this paper Pierre Fortin from the University of Quebec at Montreal highlights some important differences in income support in the Canadian federation and puts forward some lessons for social policy gleaned from the Quebec experience.

Fortin begins by noting that Canada is a relative laggard in spending on income support among OECD countries. In 2007, this country devoted 9.3 per cent of GDP to income support, ranking 20th out of 22 OECD countries (only the United States and Korea were lower). He then points out that Quebec devotes a much larger share of GDP to social assistance, workers' compensation and other social services than the other provinces. As a consequence, Quebec has a considerably lower poverty rate than the other provinces (except Alberta), and the bottom quintile has a higher level of income than is enjoyed in other provinces.

Fortin identifies two areas where intelligent government could find new directions for income support in Canada. First, with the rapid growth in the elderly population in coming decades, the demand for residential care and home help services in this country is set to explode. He sees an urgent need to recognize this challenge and to initiate a discussion of intelligent policy alternatives to address it.

Second, based on the robust finding that early childhood plays a fundamental role in the building of human capital, he suggests that other provinces learn from Quebec's family policies. In particular, he recommends that the other provinces consider universal educational childcare programs similar to Quebec's $7 a-day program, which covers half of pre-school children in the province. He argues that this program increased female labour force participation significantly, generating additional tax revenues that more than covered the costs of the program. The program also fosters greater interaction between children from different social backgrounds, contributing to class rapprochement, and giving middle-income families a tangible benefit for their tax dollars, thus stabilizing support for social programs in general.

John Richards on Policy Linkages

Two of the most important challenges facing Canada are the future financing of the increased health care costs associated with the ageing of the baby boomer cohorts and the reduction in greenhouse gas emissions. In an innovative paper John Richards from Simon Fraser University proposes a linkage between these two seemingly unrelated issues, arguing for a carbon tax to reduce greenhouse emissions being used to prefund the boomers' 'frail elderly' care.

Richards provides evidence that the social program costs, under middle-of-the-road assumptions, will increase by 4 percentage points of GDP by 2031 and by 7 percentage points by 2051. Just as the future payouts for the Canada Pension Plan were prefunded by a hefty rate hike in the late 1990s and early 2000s, Richards argues that it makes sense to develop a comparable pre-funding mechanism for future health costs.

Canada must reduce greenhouse emissions. Most economists agree that carbon taxes are the most effective means to reduce energy use, as both consumers and businesses, particularly in the medium-to-long run, respond to price signals. Higher energy prices will lower consumption. Richards is well aware of the political unpopularity of carbon taxes, but notes that such a tax was successfully implemented in British Columbia in 2008.

Richards recognizes that his linkage idea in the current political environment of public skepticism to increased taxes represents "idle speculation". But he argues that such speculation has its place as it invites advocates of particular agendas to address the politics of taxation, and to assess the need for alliances to achieve goals they are unlikely to realize alone.

Michael Wolfson on Health Care as a Knowledge Industry

An increasing share of GDP is being devoted to health care. Yet because of inadequate knowledge within and about the health care system, Canadians have little idea if they are receiving value for money for these expenditures. In this paper Michael Wolfson from the University of Ottawa, and a former Assistant Chief Statistician at Statistics Canada responsible for health data, addresses the weaknesses of this country's knowledge infrastructure for health care.

Wolfson paints a dismal picture of the state of information in the health care system in Canada, finding that it is decades behind the best practices in other sectors in this country and health care systems in other countries. He reports that the health care system is blind to patients' care trajectories, paying no attention to the sequence of health care encounters, how they interact, and their cumulative impact on health. Instead of a sophisticated system of electronic health care records, health professionals maintain paper filing systems that in effect constitute a "wall of ignorance."

Wolfson sees the roots of the lack of priority given to the systematic accumulation of knowledge in the nature of the health care system, a system driven by specialists "who treat body parts rather than whole people, and by organizations which typically lose track of their clients once they go out the door (both vertical and horizontal)." He also notes that modern health information systems have the capacity to monitor physician performance in unprecedented ways, a situation that may not necessarily be considered desirable by independently-minded doctors who largely control the heath care system.

Wolfson puts forward a vision for a coherent health information framework based on a hierarchical structure. At the base is a combination of basic administrative and survey data, which are then rolled up into local or facility information, regional indicators, health accounts, and summary indicators such as the health-adjusted life expectancy.

The federal government transfers significant monies to the provinces for health care. But in the 2004 Health Accord, demands made on the provinces in terms of accountability were minimal and hence did not provide an impetus for the development of better health information systems. The upcoming 2014 Accord represents an opportunity to move much more aggressively to improve health information. Wolfson makes a case that the federal government should use its financial clout to encourage the provinces to make much better use of the potential of health information systems to improve the efficiency and effectiveness of the health care system.

General Public Policy

John Helliwell on Improving Subjective Well-being

Information on subjective well-being, often referred to as happiness and best measured as life satisfaction, is increasingly being used to supplement, or even supplant, more conventional indicators of individual and social progress such as GDP. In this paper John Helliwell addresses the topic of how the recent research on the determinants of happiness can be used by policy makers to improve the subjective well being of the overall population.

A robust finding of the happiness literature is a strong correlation between the existence and strength of social ties and subjective well-being. When conditions are experimentally controlled, a causal relationship emerges, running from increased social interaction to greater happiness. Trust has also been found to be positively associated with happiness, independent of its relationship to social connections. The most important support for life satisfaction in Canada has been found to be a sense of belonging to the local community, which has a stronger effect than sense of belonging at the provincial and national levels.

Helliwell identifies a number of ways in which these findings related to happiness can be incorporated into a policy making framework that increases subjective well-being. Information on happiness can be factored into conventional cost-benefit analysis, so that the impact of specific changes in policies and programs on subjective well-being can be quantified. Public services can be designed and delivered in a manner that elicits the maximum satisfaction from the persons being served. Local governments can build on the efficacy of face-to-face contact, the subjective well-being advantages of a local sense of belonging, and the psychological benefits of working together to develop new models of operation. Macroeconomic policy makers can integrate into their tradeoffs the insights that the welfare weight associated with the unemployment rate is significantly higher than that associated with the inflation rate, and that the overall effect of unemployment on subjective well-being is much larger than that explained by the effect of unemployment on income.

Munir Sheikh on Good Data and Intelligent Government

Intelligent government is critically dependent on good data. In this paper Munir Sheikh, Chief Statistician of Canada from 2008 to 2010, provides a primer on Canada's statistical system. He begins by explaining why we need good data, outlines the attributes of good data (access, relevance, quality and organizational efficiency), and then evaluates the effectiveness of Statistics Canada in the provision of good data.

Perhaps not surprisingly, he rates Statistics Canada's performance quite good in all areas. He explains this performance by many factors including: the agency's history of political neutrality and independence; the centralized and comprehensive nature of the statistical system; the concern for the privacy and confidentiality of the data; the transparency of operations; a high-quality methodology group; the client-orientation of data dissemination; sophisticated internal systems for risk management and program evaluation; and a strong analytical and research program.

The federal government's decision to discontinue the mandatory long-form census and, more particularly, the way in which the position of Statistics Canada was publicly communicated by the responsible Minister led to Sheikh's resignation as Chief Statistician in July of 2010, - the first time a Deputy Minister of the Crown had resigned in so public a manner over a point of principle. Sheikh's contribution to this volume provides the historical context for the mandatory long-form census, as well as a detailed account of, the issues surrounding the decision to discontinue it, and the reasons for his resignation. The paper also explores some of the broader implications of this decision for the ongoing role of Statistics Canada and the possible ways in which it might affect the continued provision of good data.

Don Drummond on the State of Public Policy Analysis in Canada

The essence of intelligent government is high-quality policy analysis. The last paper in the volume by Don Drummond surveys the state of public policy analysis in this country. With extensive experience at Finance Canada in a number of senior management positions, including Associate Deputy Minister of Finance, and with experience as Chief Economist of TD Bank, there are few individuals in the country better qualified to address this topic.

Drummond discusses all potential suppliers of public policy analysis, providing many insights. Perhaps not surprisingly he finds little policy analysis done by local governments and the media. Because of conflicts of interest he finds the private sector is hampered in the degree to which it can conduct disinterested public policy analysis. He considers the number of think tanks and research institutes in Canada inadequate for the task of providing comprehensive policy analysis across a full range of issues and views some think tanks with skepticism, because of their predictability arising from their ideological orientation. Drummond in general finds the level of public policy analysis done by provincial governments to be fairly weak. In terms of academia, he finds very few researchers in the public policy fields as the incentive structures of the institutions do not encourage non-tenured faculty to undertake this type of research.

The most important player in the public policy field is the federal government. Drummond characterizes the quality of public policy analysis from this source, based on what is in the public domain, as dismal. He cites the analytical void in the climate change field as an example of government neglect to produce and release high quality, analytical documents to support intelligent public debate on the issue. He identifies a number of factors responsible for this decline in public policy analysis in the federal government. Program Review in the 1990s led to departmental downsizing, and policy research is often the first program area to be cut. Increased tensions between the political leadership and the bureaucracy marginalized policy units, making them expendable.

Drummond concludes that the state of public policy analysis in Canada is bleak. But there is hope. Drummond does not believe that the federal government's policy capacity function is beyond the point of no return. A revival will require action on the demand side through greater interest by the political leadership in high quality policy analysis and on the supply side by the allocation of greater resources to establish and build up policy analysis units.

Concluding Remarks

The theme of this festschrift has been that Canada needs more 'intelligent government', defined as a government that recognizes there is a legitimate role for the state in social and economic policy and focuses on how to best play that role in a way that is effective without stifling innovation, creativity and private initiative. The papers contained in the volume, written to honour Ian Stewart for his distinguished career as a public servant on the occasion of his 80th birthday, represent high-quality analytical contributions to public policy analysis in a number of areas. They do an excellent job at pointing to new directions for more intelligent government in this country.

Ian Stewart in his Own Words

Ian Stewart

Preface by Fred Gorbet

WHEN ANDREW AND I SET OUT TO MARK Ian's 80th birthday, and extraordinary professional career, with this festschrift, I volunteered to draft a brief biography of Ian – focusing on the years we worked together, which encompassed most of the time from 1968 through 1982. This turned out to be much more difficult than anticipated. Ian was a fantastic mentor to me. He hired me directly out of graduate school to join him at the Bank of Canada in 1968. Through long evenings working on the econometric model RDX2, he taught me more about economics and particularly the nature of the economic adjustment process than I had ever learned in university. As time went on and Ian's focus shifted from research to the practical application of public policy, he never ceased to challenge me with his keen appreciation of the role of analysis in effective policy design and implementation and his enduring sense of fairness and compassion. Yet, when it came to write about this career, I realized that time had erased many memories and notwithstanding our long association, there were many gaps in the story as I knew it.

I turned to Ian and asked for a brief synopsis of his professional life – one that would bullet-point highlights, achievements, challenges, colleagues, etc. I felt that with this raw material I could fashion a tapestry that would illuminate the character and achievements of one of Canada's best economic researchers and policy advisers.

The result was "pure Ian". No bullet points from him. But rather a well-woven, stream-of-consciousness review of his professional life – beginning at the beginning and transitioning through the many different passages that marked an illustrious career. I have concluded that to alter his text in any fundamental way would detract from the story that Andrew, I and Ian wish to tell. I have added some footnotes, where I believe my memory is accurate and my recollection of events would assist the reader. But what follows is – essentially – Ian Stewart in his own words.

Overview

THIS IS AN ATTEMPT, IN RESPONSE TO Fred Gorbet's request, to provide a somewhat cursory record of my career. I began by attempting to report major family milestones but in the end have decided that any balanced treatment of family and other aspects of my personal life would demand a document at least twice as long. At least half of the important and supportive structures in my life, therefore, do not appear here! I do from time to time, however, make reference to my sporting life because it seems related to the career story.

I should say at the outset that I tend to think of my life as a series of interludes in which accident and fortune – almost exclusively good fortune – provide new directions: not as dramatic as right-angles, but more or less abrupt shifts that, taken together, define a career. I cannot claim that I set out in life with a well-structured set of goals and what I am about to reveal, it will be clear, does not represent a steadfast and well-ordered march! I have inserted headings to distinguish transitions into new interludes to assist a little in making the story coherent.

The Early Years: From Toronto Island to Queen's University

I begin the story on Toronto Island. It may be that my youth had relatively more importance than I frequently detect in others who reflect upon their beginnings. Indeed it will be a feature of this essay that I reflect upon each of the 'segments' in my life with very substantial pleasure. I frequently detect in others memories of less happy intervals but I record no such periods in my life. In any case my father's appointment in 1933 to the post of superintendent of the water filtration plant on the Island carried with it a city-owned house which was my home uninterruptedly until 1949 (when I departed for Queen's), my summer residence until 1953 (and my father's home until 1955 when it was destroyed as part of the clearance of housing from much of the Island.[1]) .The essential features of the larger islands[2] – Hanlan's Point, Centre, and Ward's – were that they were substantially parklands, without motor cars; with a winter population that numbered in the hundreds and a summer population of seasonal renters numbering well into the thousands (until the Second World War when emergency conversion of Island housing to year-round occupancy carried the winter population also into the thousands). Toronto Island was an extensive playground without traffic or other conventional urban threats, surrounded by beaches and with facilities to cater to extensive recreational activities. Interwoven with lagoons the Island was also a water-sport mecca in the summer and a skating and holiday paradise in the winter. Indeed, it was its resort character that led the Island to be populated, prior to the motor car, by the Toronto aristocracy. After they departed for Muskoka their gracious homes were converted to apartments to accommodate summer visitors.

I attended a two-room school on the Island for grades one to eight. My mother who had been a school teacher in her early years, was very concerned that my limited Island education would dim my chances of going to the University of Toronto Schools (UTS). She therefore secured the grade eight syl-

1 Well before that time the Island filtration plant had been replaced by the Victoria Park plant featured in its construction by Ondaatje's *The Heart of the Lion*.

2 The Toronto Islands are a group of islands: The largest of these is Center Island, which is often referred to as Toronto Island, in the singular.

labus and through the winter and spring of 1943-4 I benefitted from her very effective tutoring. At the end of grade eight I had the good fortune to pass the entry exam to UTS, and commuted from the Island to high-school by ferry and ice-breaking tug. I'll return to UTS but a little more about life on the Island. Baseball (softball and hardball) were my earlier interests. For eighteen cents one could attend Toronto Maple Leaf double-headers on Saturday afternoons by walking along the Toronto waterfront, stopping along the way to watch corvettes being built during the war, and return home richer for having accepted a five-dollar war savings certificate for returning a baseball – in very limited production during the war – fouled into the stands. But most athletically inclined youth on the Island were ultimately attracted to the Island Canoe Club and my summer evenings and weekends from 1944 through 1952 were dedicated to canoe racing. I paddled in Ottawa in 1947 at the opening of the Mooney's Bay regatta course and in a later year at Mooney's Bay in a trial for the 1952 Olympics – though I was never of that calibre! In 1947 and 1948 the Island Canoe Club won the national championships. This has perhaps little to do with my subsequent adventures other than to note that hours, days and weeks of my youth were athletically engaged, diverted neither to bookishness (or in modern terms geekishness) or the perils of urban youth culture, and I entered my twenties in superb physical condition never to be achieved again!

High School

It is worth spending a little more time on UTS. I meet many (indeed to some degree my own children) for whom high school was a boring or burdensome or downright unpleasant passage in their lives. UTS had been created as a model high school, and apart from its role in teacher training, established a tradition of first-class teaching supported by a very active athletic tradition. It suited me superbly. Through obviously clouded historical lenses, my memories of UTS are almost undiluted with reservations. Its athletic programs accorded with my disposition (hockey, football – even a little boxing), and though somewhat disadvantaged by my 'rural' Island school, I ascended academically through all of the five years to a high standing. Though very close to the top of my fifth form class academically, I took great pleasure in being elected as class athletic representative. In my interlude terms this was, for me, a very good passage through what was generally acknowledged to be an outstanding high school.

Queen's University

Though it was common for UTS students to proceed to the University of Toronto (of which UTS was a creature) the family Stewart, including my parents, swore allegiance to Queen's and to Queen's I proceeded in the fall of 1949. Veterans were departing the campus when I arrived and though the number may not be precise Queen's comprised about 1720 students in the fall of 1949, including all faculties and the graduate school – in today's terms the size of an urban high school. At that time there were women's but no male residences, but students clustered in rooming houses close to the campus and one's acquaintances were wide and beyond one's own year. Among extra-curricular activities student government occupied some time (as did a variety of intra-mural sports to continue an athletic theme!) but I will return to this in another context. After a general first year which included an idiosyncratic economic geography course created and taught by Frank Knox, then head of the Economics Department I decided on honours economics and politics as the course to pursue. The choice arose from no strong predisposition but as a halfway house between a civilizing social science and the possibility that it might lead to employment prospects. At that time the faculty in economics comprised Frank Knox, Clifford Curtis and Mac Urquhart. David Slater arrived in the fall of 1952. William Mackintosh, the principal of Queen's at the time, taught an equally idiosyncratic economic history course and supplemental reading course to fourth year students. Alex Corry, Ted Hodgetts and John Meisel comprised the politics faculty.

It must be said that at that time John Maynard Keynes had not fully arrived at Queen's. Curtis and Urquhart covered micro while Knox led a fourth year seminar in macro territory. Samuelson's first edition was available but not prescribed. With the arrival of David Slater[3] and the introduction of a senior trade course framed around Kindleberger's international economics textbook

3 David Slater served as Secretary/Treasurer of the Centre for the Study of Living Standards from 1995 to 2005. A festschrift in his honour was presented to him in 2001 (see Grady and Sharpe, 2001).

instruction took a contemporary turn. But a word about Bill Mackintosh. I will describe later an oral history task that I undertook with Bob Bryce to canvas his years in government. In the process, which involved our reading cabinet documents and other materials from the 1937-1968 era, I came to recognize the very large but, I think, largely unsung role played by Bill Mackintosh through the war and post-war period. He stood in for Clifford Clark as deputy-minister of Finance when Clark was ill. He had a large role in preparing the Federal/Provincial conference of 1945-6 and in fact prepared or had a hand in preparing the 'Green' books for which the conference became famous. His particular contribution was to prepare a 'shelf' of public works under the presumption that the post-war world would subside into the depressed conditions of the 1930s. In the event, of course, the 'shelf' was not needed. Mackintosh then became C.D. Howe's first deputy in the Department of Reconstruction and Development. His reading and seminar course at Queen's dealt largely with Canadian development and particularly the financing of the railroads but my principal memory was that it was taught from a tattered set of yellowed notes through a haze of cigarette smoke ingested in chain fashion through a lengthy cigarette holder. He unfortunately did not deal with his war and post-war experiences in which, I came later to realize, he had played such a large part.

Just a parenthetic word about the 'Green Books' conference of 1945-6. It was planned under the assumption of a return to 1930s conditions. Further, federal officials including then Bank of Canada officials such as Sandy Skelton (the son of O.D. Skelton) and John Deutsch saw an opportunity to convert the wartime tax-rental agreements into a centralizing consolidation of taxing authority within the federation. They were thought to have the political support of Premier Hepburn in Ontario and Premier Godbout in Quebec. Wary of such an effort, however, Mackenzie King appointed Louis St. Laurent to oversee preparations and this centralizing ambition with its required constitutional amendments had been somewhat blunted by the time the conference was convened. Further George Drew in Ontario and Maurice Duplessis in Quebec had replaced Hepburn and Godbout and presented a formidable opposition to any such proposals. If one thinks today's rhetoric frequently out of bounds one ought to read the then speeches of Drew and Duplessis.

Back to Queen's. Honours economics in 1953 and 1954 each involved four students. Seminars were necessarily quite intimate. I remember particularly David Slater and his seminar in international economics where members of both years joined. I graduated with the medal in economics and a University Fellowship which encouraged me to return to Queen's for an M.A. in the fall of 1953.

My M.A. year comprised essentially working through J.R Hicks' *Value and Capital* (including its appendix) with Mac Urquhart and writing a thesis on Canada's Declining Agricultural Labour Force. Employment on farms had comprised 35 per cent of the Canadian labour force at the height of the depression in 1935, a number that had decreased to less than 10 per cent by 1954 and has essentially continued to fall to less than 2 per cent today. The story was one of both the push of a profound technological revolution in farming together with the pull of urban employment in a fully employed economy for an increasingly skilled post-war generation. The thesis sought to tell that story. At Queen's Gideon Rosenbluth and Clarence Barber had joined the economics faculty in 1954 and Clarence Barber, along with Knox and Urquhart sat on the M.A. board.

Around Christmas time of 1953 I was awarded a Rhodes scholarship, and in the fall of 1954 I sailed for Britain on the Empress of Scotland.

Oxford Interlude, and back to Queen's

At Oxford, after some time, I enrolled in the Bachelor of Philosophy program in economics. I sat in on two seminars under the direction of J.R. Hicks, one in macro cum business cycle theory and the other in the history of economic thought. I also attended an international trade seminar at Nuffield College led by Roy Harrod. The attractions of the wider world, frequent trips to London, the theatre, several extensive trips to the continent (one of which involved touring Switzerland and Austria with the Oxford Ice Hockey team, with which Lester Pearson, Clarence Campbell and many other illustrious Canadians had played over the years), the need to return to Canada for a period in the fall of 1955 with the sudden serious illness of my mother, and a certain lack of application meant that after two years I did not complete the B. Phil. Program. Penniless, I sailed for Canada in early August 1956 on the newly commissioned Empress of Britain. This short summary does not do Oxford and the benefits of that experience sufficiently proud but is perhaps enough for the purposes of this account.

Early in September of 1956 I married – this is an appallingly cursory way of introducing a turn of good fortune in my life which has shaped an interlude now approaching sixty years! I also took up employment at Queen's. My principal task was Director of Banking Courses for the Canadian Bankers Association. In addition I taught the introductory economics course in the Engineering faculty and, with David Slater and Mac Urquhart, introductory economics for the Queen's extension department. The latter involved rather hair-raising weekend trips to Peterborough and Belleville through the winter months.

The period to the fall of 1959 might be regarded as a consolidating segment, immersion in marriage, the beginnings of a family, the beginnings of an affair with golf, and a time to reflect on what next. By mid-1959 it was evident that a professional career in economics increasingly demanded a Ph.D. and after considering a range of possibilities I chose Cornell University in Ithaca, New York, in part because it offered the largest inducement, in part because as an older graduate student with a family it seemed a manageable transition from Queen's.

Living in the United States: Cornell and Dartmouth

Cornell University

In terms of my notion of discrete segments Cornell and Ithaca, N.Y. turned out to be singularly happy choices. Though not particularly relevant for the purposes of this story it is perhaps important to record that physical amenity again was an important contributor to a sense of well-being. Ithaca is situated at the end of Lake Cayuga, the most easterly of the Finger Lakes. The country in that area is riven with deep gorges. The Cornell campus itself is surrounded by two of them. The gorges and their associated swimming holes were made accessible with extensive parks surrounding them by WPA workers in the 1930s. They were prime examples of the creation of social capital when labour was available and cheap. One begins to hear calls for the recreation of the

WPA to confront the deep and prolonged US experience with unemployment today. Ithaca itself is a small and accessible town with a communitarian atmosphere reflecting Cornell and Ithaca College as its principal employers. We were further situated for our time there on a dead-end street surrounded by neighbours who became close friends. Aspiring graduate students in economics were also of similar dispositions and the group shared a supportive social environment.

The Department was chaired by Alfred Kahn, who was of course later to become well-known for his encouragement of competition in the airline industry. Morris Copeland, an institutionalist with nonetheless a strong interest in theory and who had developed the flow-of-funds accounts, taught both national accounting and an idiosyncratic course in Robinson and Chamberlain and monopolistic competition. But it was Ta Chung Liu who arrived as a Professor at Cornell from the IMF, where he had conducted econometric research, who approached me in the early days of my arrival to urge me to become his student and to pursue an econometric focus. There were as yet no focused econometric text books so along with the standard graduate requirements, I took matrix algebra and probability theory in the mathematics department and blackboards full of theory from Ta Chung. I did well enough to become a Phi Beta Kappa and to pass the general comprehensive exams in the fall of 1961. It is to be noted that the Canada Council, Cornell and the Fels Foundation provided graduate fellowships which sustained us.

Since major aspects of my professional career march with the advancing steps in the IT revolution it is important to record that my first multiple regression was performed on a rented Frieden (it may have been a Marchand) using the Doolittle method – a short-hand recipe published by the US Department of Agriculture for computing sums of squares and cross-products. Though Cornell had acquired a mainframe in the early 1960s it was not yet generally available.

While engaged in professional accreditation (and coaching a little youth hockey at the newly constructed Cornell arena) and with *only a* dissertation to write it was time to move on. At the AEA meetings at Christmas 1961 I accepted interviews, among others with Dartmouth College, and in the deep winter of 1962 drove to Hanover, New Hampshire, was interviewed, and accepted an Assistant Professorship at Dartmouth to begin in the fall of 1962.

Dartmouth College

If Ithaca was essentially a college town, Hanover, NH, was the epitome of both a college town and a New England community. What one thinks of as Cape Cod cottages surround a campus in which a central grass square is in turn surrounded by classic 19th century college buildings. A small-town main street and a classic New England Inn complete the essential picture. In some sense Hanover and Norwich, Vermont (its neighbour across the Connecticut river) offered an ambience not unlike Toronto Island – far from the complexities of urban agglomerations. It was in many respects the ideal ambiance for raising a young family. Nor was the teaching load particularly burdensome. The students were serious and bright and over the four years of our stay at Dartmouth I taught principles, macro, and linear programming and learned a good deal in the process.

When not teaching (and again not coaching and refereeing youth hockey!) I continued work begun at Cornell to assemble a quarterly model of the Canadian economy. At that time the Dominion Bureau (DBS, now Statistics Canada) provided almost any amount of data freely upon request. Though major developments were about to happen at Dartmouth with the creation of the Basic language and the establishment of remote computing to a central main frame, the time was not yet. Rather an IBM 1620 in the basement of the Tuck Business School offered the best local facility. Hours of work on the 026 card punch machine prepared stacks of punched cards assembled to test various hypotheses for equations within the model and the decks were entered into the 1620's card reader. Such was the pace of the 1620 that one closed the computer room door, left a message notifying that the machine was in operation and indicating that one would be back in some hours (not minutes). Fortunately the demand at Dartmouth at that time for computer power was light and the inconvenience to others minimal. Slowly but surely the structure of the model emerged and by that time the remote dumb terminal to the Dartmouth system was installed in the economics department. With limitations of available scale I set out on that system to invert by parts the matrix structure of the model to follow Henri Theil in addressing optimal policy. In retrospect, I doubt the accuracy of that whole operation would now bear scrutiny, but it took weeks to complete.

Thanks to a Ford Foundation dissertation fellowship I was freed up in the spring and summer of 1965 to do the final writing on '*A Quarterly Model of the Canadian Economy*'. In the fall of 1965 I travelled to Cornell for the final Ph.D. defense and was involved in a car accident the next day, while returning to Dartmouth, as euphoria interfered with road management.

The next development in this saga took place at the meetings of the AEA in Boston in Christmas week of 1965. Dartmouth is a kind of Shangri La with winter and summer amenity, easy living and a crowd of like-minded people. It was very common in those days for Canadians to seek their graduate degrees in the United States, remain in the United States for research and/or teaching and later to confront the decision on whether or when to return to Canada. It was evident to us that the lure of Dartmouth amenity had trapped many of our friends. Tenure was probably in prospect but we had decided that it was time to consider alternatives. At the AEA meetings I was on the qui vive for alternatives, particularly Canadian alternatives. By chance I met George Post who had succeeded me at Queen's and in the mid-1960s had moved to the Bank of Canada. I met with George and George Freeman, then head of the Research Department at the Bank. They described their efforts to put together a team to launch econometric research at the Bank and their need for a resident employee who, while part of the team, would anchor its activities at the Bank. Several visits to the Bank via the Washingtonian, a train which passed through White River Junction, Vermont on its way across Vermont to Montreal and on to Ottawa consummated a deal and a decision to take leave of absence from Dartmouth for at least a year.

Returning Home: The Bank of Canada

This decision launched another segment of my career – a passage that at the time and in retrospect was critically important in terms of professional development, as well as intensely enjoyable and convivial. The constitution of the team involving John Helliwell, Harold Shapiro, Lawrence Officer (later to be replaced by Gordon Sparks) and I seemed by a magic chemistry to create an astonishingly collaborative effort. Though only I was permanently resident at the Bank, in the early years the commitment by the others to visits within the academic year and the entire devotion of summers was sufficient to maintain continuous communication and brain storming. As important, was the buttressing of the team by the gradual accumulation of research capacity within the Research Department and the availability of summer research assistants from graduate economics programs. Fred Gorbet, about whom much more as this story proceeds, Don Stevenson and Tom Maxwell, among others, were examples of the former while Michael Spence and Robert Evans were outstanding representatives of the latter. It is astonishing in retrospect to consider the incredible array of accomplishment which the RDX teams represented as they pursued their later professional careers.

As resident coordinator my tasks involved the organization of computing resources, the computer operation and simulation of the model as it developed and the organization of resources within the Bank to provide programming and computer support. It further involved providing assurance to the Governors of the Bank that there was little threat to the influence and integrity of the Bank in the publication of RDX research results. The origin of the RDX formulation was to provide assurance that the work was the product of the Research Department, a division of the Bank and not of the Bank as a whole, was experimental and not to be taken seriously, and the suffixes one and two were to indicate that the work was ongoing and not complete. The gradual evolution from the Control Data main frame at the University of Montreal, to the conversion of an IBM card sort machine to act as a dumb terminal communicating with a Univac 1108 at the University of Utah at Salt Lake City (on 400 baud telephone lines) to the start-up of a Univac 1108 at Computel in Ottawa and the government's own IBM 360 in the basement of the Confederation Building mirrored the progress of the IT revolution. Though the work of establishing RDX1 and RDX2 and examining their characteristics by simulation used astonishingly long nights and weekends,[4] recreation was not neglected. Shared cottages along the Ottawa River provided frequent gatherings of the Posts, Helliwells and other members of the enterprise. Crewing for John Helliwell in International 14's while not exactly recreational was at least diverting.

The bibliography lists the principal products of the RDX1 and RDX2 series. By 1972, though John Helliwell sustained a relationship with the Bank and Fred Gorbet played an increasing role as a principal, the original crew had dispersed to pursue further ambitions. It was time for fresh resources with up-to-date training in model design and statistical estimation techniques to further the research at the Bank. A chance late-night meeting with Doug Hartle on the streets of Ottawa began a conversation which was to provoke yet another change in direction and the arrival of a new 'segment'.

From Econometric Research to Policy Advisor

Treasury Board Secretariat

Doug Hartle had been research director of the Carter taxation commission. He had become considerably disillusioned by its reception in the country and by the Liberal government. A Commission which received accolades abroad but was never formally printed in hard-covers by the government turned out to be too rational to be easily digested and accepted by tax professionals. (It did launch a process of tax reform within the government that culminated in 1972 but it was a pale reflection of the Carter principles).

But Hartle was a rational idealist, and in the early 1970s, he accepted an appointment as Assistant Deputy Minister in the Treasury Board Secretariat under Al Johnson. His mandate was to establish a Planning Branch, which

---

4 It was during those long nights and weekends – when I was fond of commenting that we were on a voyage to demonstrate empirically that there was some combination of alcohol, nicotine and caffeine that was a perfect substitute for protein – that Ian taught me about economics and the application of theory and econometric methods to real economic circumstances. We never did discover the protein-substitute, but we did find a combination of hard work, companionship and accomplishment that was professionally fulfilling (Fred Gorbet).

might apply more planning rationality to the annual allocation of resources among Departments and the preparation of Main Estimates. Hartle recruited Mark Daniels, Russ Robinson and me to be his Directors. Later Rod Dobell joined the Branch and later still, after Hartle's departure, assumed the leadership. It must be said that from the outset relations were uneasy between the Program and Planning Branches and indeed between Al Johnston and Doug Hartle. My Assistant Directors on arrival were Barry Carin and Rick Bower. Both were interested in the field of energy policy (and particularly in nuclear policy) and persuaded me to pay close attention to a process being led by the Department of Energy, Mines and Resources and its Deputy, Jack Austin, to prepare an energy policy for Canada. Over the late summer and fall of 1972, EMR convened government-wide gatherings at the Emergency Measures Facilities at the Arnprior airport to seek to forge some community-wide support. (My recollections are not perfect here but the meetings were, I believe, bi-weekly and included, again in retrospect, remarkably high-level representation – frequently Deputy-level – from across all interested departments). About the same time, Atomic Energy Canada Limited (AECL) had run into difficulties with an underpriced sale of heavy water for a Candu reactor being constructed in Argentina. (For the first time questions began to be raised about the high cost of Canadian nuclear developments). In both of these developments, as a relatively junior 'critic', I became heavily involved and my interest in energy matters deepened.

The Energy Policy for Canada, Phase I, as it turned out, encountered heavy weather in Cabinet. Led by Simon Reisman and the Finance Department the economic reasoning underlying the analysis was thought to be deficient[5] and EMR was asked to conduct further and more sophisticated analysis before proceeding to Phase II. I had written briefing notes for Gordon Osbaldeston

5 I recall well the economic analysis in Phase I. It consisted of a chapter in which the demands for oil, coal, gas, uranium and electricity were added (with minimal allowance for double-counting of fuels used to produce electricity) to derive the total demand for energy. The paper then went on to explain that the "one great historical constant" was the energy/GDP ratio, and proceeded to forecast GDP on that basis. When criticized by Ian, Jack Austin's reply was "Well, Ian it clearly says it's Phase I. Why don't you come to EMR and help us get Phase II right?" (Fred Gorbet)

(who had succeeded Al Johnston as Treasury Board Secretary – Johnston having gone to Health and Welfare as Marc Lalonde's Deputy and to head up a task force which ultimately produced the Orange Paper). Osbaldeston asked whether I would accept being seconded to EMR to assist in the required analysis and so in the summer of 1973 I arrived at EMR. (It is perhaps relevant to note that this appointment gave birth to the notion of the Temporary Assignment Program, TAP, situated in the Treasury Board Secretariat, and I was effectively its first candidate!).

In late August 1973 Osbaldeston had been asked by the Prime Minister to convene a group of officials to consider what prices might be frozen as part of an anti-inflation initiative. At that time the price of Canadian crude oil reflected the price of exports posted in Chicago by Imperial Oil. Imperial had just given notice of a pending several cent increase (7 cents, as I recall) and this seemed to the group to be an appropriate price increase to zap. Two weeks later the National Energy Board (whose legislation demanded that they approve both exports and their price as being fair, reasonable and in the national interest) approached the Minister, Donald Macdonald, to say that they could not licence exports at the frozen Canadian price. After some deliberation the export tax was born and it became the first step in the tortuous energy struggles of the 1970s. Two months later OPEC quadrupled the price of crude. What had begun as an assignment to do an intensive piece of economic analysis to support a broad structure of energy policy in Canada was almost instantly transformed into participation in a prolonged period of federal/provincial/industrial struggle, First Minister's conferences and ongoing Departmental, inter-departmental and Cabinet deliberation on the evolution of federal policy.

It was said that EMR had written three memoranda to cabinet in the 1960s and something over thirty over the next two years and I was the pen behind many of them, with the notable assistance of the intelligence and knowledge of Bill Hopper, the ADM Energy who was later to become the President of Petro-Canada. It would be helpful to presume that all who read this will have been aware of the issues which dominated the debates of the 1970s. It would occupy too much of this cursory rendition of my career to deal adequately with the imbalances which the oil-price revolution invoked for Canada, particularly between the importing East and the producing West, the rents accruing to the producing industries, and the U.S. reaction to the imposition of export taxes. It is fair to say, I believe, that had a way been easily found to share producing-province wealth with the need to support import exposure in the East, adopting a world-price oil policy would have been the preferred policy (preferred at least by most economists!) and the inflation consequences accepted in a troubled inflation era. But such a solution remained intractable in the context of the Canadian federation.

Aside from my direct involvement in the continuing meetings and negotiations on the larger issues, two principal contributions marked this period. One was the recruiting of Fred Gorbet to essentially take on the task for which I had been originally detailed. The other was to offer support for the creation within EMR of the Office of Energy Conservation under David Brooks. Petro-Canada was born in this period, a development with which I was less directly involved but strongly supported. Tommy Shoyama replaced Jack Austin for a period as Deputy before returning to Finance as Deputy Minister in 1975.

The Privy Council Office

In the summer of 1975 I was recruited by Michael Pitfield to join the Privy Council Office as Secretary of the Cabinet Committee on Economic Policy. The next three years were to be an intensive period of policy issues and developments. Once again, as at the Bank, I had the great good fortune to be associated with a group of colleagues whose capacities and good humour made the intensive swirl of events of this period both tolerable and indeed enjoyable. Ghiselin Fortin and Derek Whyte were my assistants on arrival. With their departure the team grew to include Fred Gorbet whom I lured from EMR, Alan Nymark who had been in Washington as the assistant to our Executive Director at the IMF, Bernie Drabble, and Ray Protti from the Bank of Canada. The distinguished careers they all subsequently enjoyed testifies to their considerable capacities. With Fred Gorbet's arrival I became a Senior Economic Advisor as I had been at EMR and Fred took over the Secretary post to the Economic Policy Committee.

While energy policy issues continued in the forefront, the accelerating pace of price increases and the appearance of escalating wage demands forced attention to inflation. Through the fall of 1975 the Cabinet debated the possibility of wage and price controls before deciding to announce their imposition in early October. There ensued an intensive period of institution-building as the Anti-Inflation Board was formed, and extensive consultations on the precise nature of the policies to be followed. In all of this it should be noted that relations between the Privy Council Office (and to some degree Ministers including the Prime Minister) and the Department of Finance had endured some 'system' strain through the 1970s. The imposition of controls over the substantial opposition of Finance officials demanded some management. Fortunately I enjoyed the personal friendship of the Deputy, Tommy Shoyama, and we decided to institute a weekly meeting to deal with emerging issues. These meetings took on the form of martinis late on Friday afternoons in his office and this practice continued through my time at the PCO.

Among the issues we dealt with was the need to transform, by federal/provincial agreement, the mechanisms by which the federal government supported the health and education expenditures of the provinces. Fifty/fifty cost-sharing under the rates of expenditure increase being experienced by the provinces was putting increasing strain on the Federal fiscal situation. Negotiations began with the provinces to move to a scheme called Established Program Financing. In return for giving up federal tax room to the provinces, they would accept the transformation of the federal contribution to a block grant. The grant would be indexed to inflation, with contributions to particular provinces equalized so as not to disadvantage the equalization receiving provinces. The entire deal was consummated at a Federal/Provincial First Ministers Conference in late 1977. It can be said that without the exquisite diplomatic and negotiation skills of Tommy Shoyama, buttressed by his easy relationship with the provinces, it is difficult to believe that such a fundamental change in federal/provincial fiscal relationships could have been achieved. My role was to be of what assistance I could through briefing the Prime Minister, and assuring that other actors in the PCO and the government at large were on side.

In the late summer of 1978 the Prime Minister returned from a meeting with Helmut Schmidt the German Chancellor. Apparently persuaded by Schmidt that government restraint was necessary in the stagflation atmosphere of the late 1970s the PM without consulting his cabinet (or his Minister of Finance!) announced $2 billion of program cutbacks, $500 million of which would be returned to each of the Social and Economic committees to support new initiatives. An interdepartmental task force on tax-transfer integration, led by Finance, had recently cast up interesting candidates for such treatment including the possibility of replacing the children's allowance with a refundable child tax-credit. With little disagreement it was agreed that the $500 million dedicated to social policy would finance such an innovation under Monique Begin, the Health and Welfare Minister. It turned out to be extraordinarily difficult for economic development ministers to reach agreement on the disposition of their $500 million. In an attempt to break the impasse the PM appointed Robert Andras as the chair of a newly constituted Board of Economic Development Ministers (BEDM) who promptly headed off to Montebello to confer. In the end, the funds were largely dedicated to reinvestment in the forestry and pulp and paper industries.[6]

The success of BEDM gave birth to the formation of Ministries of State in the economic, social and foreign affairs areas. Much thought went into this reform of government policy-making. Equipped with public servant staffs the Ministries of State were intended to consider planning documents from the departments under their purview (including, of course, the elimination of unproductive programs), congeal these documents into a consensus of cuts

6 The introduction of the refundable child-tax credit was of signal importance to the future development of public policy, and my recollection is that Ian played a much more forceful role in articulating the rationale and arguing for it then the text above suggests. By making tax credits refundable, we moved the Personal Income Tax (PIT) system, which is based on voluntary filing, to a system with greater than 97 per cent participation. Because virtually all Canadians file a return, the PIT has become an effective and efficient tool in income distribution policies in Canada. The introduction of the GST in 1991 could not have been accomplished without the refundable GST tax credits that reduced the inherent regressivity of the sales tax. And those credits could not have been introduced and administered effectively without the path-breaking work in the late 1970s that led to the introduction of the refundable child-tax credit. (Fred Gorbet)

and new initiatives and forward the requisite need for additional funding to Cabinet meetings in September – Priorities and Planning in early September and full Cabinet in late September. This hyper-rational design for rational and coordinated government policy-making had a critical flaw. There was never sufficient money to fund Ministry requests or seed the Ministries with funds under their control which might reinforce the process. Having played a modest role in its evolution I think it remains underappreciated as a serious attempt to imbue the public policy system with rationality and, in fact, to decentralize the process, contrary to the allegation of the greater centralization of decision-making in the Trudeau years. Unfortunately, slow economic growth in the 1970s, the escalating debt burdens of the government, and the tendency of the system to produce claims over resources far in excess of the fiscal capacity to deliver forced degeneration in the system. As the system became increasingly ineffective, it left a vacuum that was increasingly filled by the Department of Finance.

One last development during this period deserves comment. There was a series of formal and informal meetings of a range of federal officials through the middle and late 1970s, seeking both to generate better understanding of the forces underlying stagflation, and to consider the various prescriptions being offered around the world for its treatment and cure. The preponderance of prescriptions were to move governments to the right, to fiscal prudence generally, to constraints upon if not reductions in the insurance programs of the welfare state, and to the unwinding of government interventions in the economy thought by some to be the source of a collapse in innovation and productivity growth. It was in this context that I took some time to begin to write what I thought of as a middle road through this intellectual territory. I was joined early on by Fred Gorbet, whose skilful pen shared in the production of what we called *The Way Ahead*. Various drafts were read by Prime Minister Trudeau who offered continuous encouragement. *The Way Ahead* was published in October 1976 as a government publication and, much like a Cabinet document, has no place in one's list of publications. It could be said, however, that for its time it attempted to identify 'new directions for intelligent government' the theme to which this festschrift is dedicated .[7]

In a genuine biography there would be much more to record and reflect upon in the PCO years but if I am to finish this shorter essay, I must move on. I have left out of account the issues surrounding the competing applications to build pipelines to carry natural gas from the Arctic and Prudhoe Bay and the negotiations with the United States led by Alan MacEachen. I was closely associated with all of that but since none of it came to fruition it can be safely neglected. In mid-1978 the Prime Minister offered me the opportunity to choose my next assignment. Since the energy crisis still persisted, though apparently diminishing (the Iranian revolution of January 1979 was still in the future), and since issues such as the pipelines and the negotiations with the provinces continued, and since the Energy Policy for Canada, Phase II had never emerged I elected to return to Energy Mines and Resources as Deputy Minister.

Back to Energy Mines and Resources

I was responsible for no great innovations upon my return. Ed Clark had taken over Fred Gorbet's direction of energy research; the Office of Energy Conservation continued to flourish, and I hoped to turn my attention to the review of the extensive resources in the earth sciences within my purview. I led a delegation of EMR, Finance and External officials to a series of meetings with our counterparts in Washington seeking to diminish frictions arising from the export tax and the Canadian management of oil and gas exports. Indeed, friction with the Americans and the provinces were in the process of diminishing as the Federal/Provincial agreement on the Canadian oil price was within one jump of carrying the Canadian price to world levels and hence to the elimination of the export tax (and the end of the sagas of the 1970s!).

But in 1979, after the Iranian revolution, OPEC quadrupled the price of oil again. The fat, it might be said, was returned to the fire! I was representing Alistair Gillespie, my EMR Minister, at a meeting of the International Energy Agency in Paris (where Fred Gorbet was about to become the Director of Pol-

7 *The Way Ahead* is reproduced as an Appendix to this volume.

icy) when the Conservatives under Joe Clark won the Canadian election and I returned home to the deep briefing of Ray Hnatyshyn as my new Minister. Joe Clark devoted the summer to getting his Cabinet up to speed, culminating in a retreat to Jasper where energy issues (particularly Petro-Canada) were much on the agenda. That was followed by a G-7 summit in Tokyo, the 'energy summit', where a collective response to the crisis provoked by the quadrupling of the price of oil was the dominating issue. I was in and out of the meeting room rehearsing the Prime Minister, John Crosby and Flora MacDonald on the Canadian import and export numbers as the debate pushed towards a summit commitment to constrain the level of imports and oil consumption. As oil supply eased in the early 1980s commitments to the numbers agreed in Tokyo also eased.

Back in Ottawa I briefed the new Cabinet on the history of the 1970s and the emerging issues. With Prime Minister Clark's agreement I visited the western provinces meeting officials and seeking a way out of the differences of view between the producing provinces and the federal government. With Minister Hnatyshyn we met with Alberta ministers and officials without much evidence of the narrowing of differences. Indeed in a way the tensions between Prime Minister Clark's government and the government of Alberta seemed even more intractable and coloured by underlying political differences. (These differences were to play some part in the shaping of a federal budget that later became fatal for the Clark government). By late fall, perhaps as the stress resulting from ill-defined negotiations began to affect my health, I found it necessary to seek leave from the Prime Minister to take some time to knit up the ravelled sleeve. While reclining on a beach in the Bahamas I was astonished to hear over beach radio that the Conservative government of Joe Clark had been defeated on a Budget vote. I returned to Canada and EMR to find the country preparing for another election.

The Department of Finance

In February of 1980 I moved to Finance from EMR to serve as Deputy under A.J. MacEachen as Minister. Bill Hood had succeeded Tom Shoyama as Deputy Minister of Finance only to be dismissed within a few months by the incoming Conservative government. I, in turn, replaced Grant Reuber, his successor, as the administration changed again. As with my time at EMR I will not attempt to list my new-found colleagues. They were too numerous and one risks serious omissions in a hurried assembly of a biography. As in all my professional life, however, I again found myself associated with people who were as much friends as professional associates and from whom much of my career satisfaction emerges.

The story of my time at Finance can largely be told in the context of three Budgets. It is of course the case that issues large and small are more or less the constant diet of the Department of Finance but the three major initiatives that mark my time there were associated with Budgets. For the government at large the central preoccupation was Prime Minister Trudeau's determination to repatriate the Constitution with its associated Charter of Rights. The Liberal government had committed in the election campaign to continue the control of crude oil prices and there remained a very substantial gulf between domestic and world prices. The prospect of any negotiated sharing of the rents from ascending to world prices had, unfortunately, long since vanished. One last informal attempt to seek compromise took place at 24 Sussex, where Premier Lougheed and Prime Minister Trudeau deliberated on the banks of the Ottawa River and agreed to disagree. Under the leadership of Ed Clark at EMR, therefore, a working group with very substantial interdepartmental oversight and collaboration set to work to essentially derive a federal share through the design of taxes that did not do violence to the division of federal/provincial taxing authorities.

The product of that intensive working program was published along with the fall Budget of 1980 as the National Energy Program (NEP). Beside the storm created by the NEP, the Budget received little attention and indeed contained little that was controversial. A dissection of the NEP itself can await another occasion! With this 'concluding' salvo in the 'energy' wars, however, it is difficult not to reflect upon the entire episode. Had some means been found to share unanticipated oil and gas rents (federally/provincially and/or inter/provincially) and had the country ascended immediately to international oil prices the country would have assumed a more rational and efficient pricing policy, there would have been no struggle with the United States over export taxes, and there would almost certainly have been no NEP. There might have remained, undoubtedly, some contention with the oil and gas industries on the dimension of those rents but the country would have been much better off.

It is fair to say that through my time at Finance the growing deficits and debt had become an increasing preoccupation. When Priority and Planning Ministers convened at Ingonish, on Cape Breton Island, in early September 1981 the cumulative wish list of Ministers for new expenditures exceeded $10 billion. Among these claims were the recognition of a critical need to invest in the expansion of the CPR/CNR system west of the Prairies to relieve critical bottlenecks in the transport of grain to the west coast. For many, the historic Crow Rate Agreement which compelled the railroads to transport grain at heavily subsidizes rates was thought responsible. At the end of a lengthy day of debate and discussion, a deal was struck in which the Minister of Finance would agree to some $2 billion of additional expenditure but would endeavour to raise that amount through the tax system – especially by a reduction in tax expenditures. In return, it was at that meeting that Jean Luc Pepin, then Minister of Transport, agreed to tackle the increasingly onerous Crow Rate agreement – a commitment which, by his efforts and those of his Deputy, Arthur Kroeger, had, by the end of the decade of the 1980s, resulted in its absolute, by stages, abolition.

The central focus on tax expenditures and leakages in the tax system generally had arisen primarily as rising interest rates and continuing high inflation through 1981 had begun to spawn schemes for tax avoidance. Of particular concern was the growth of Income Averaging Annuity Contracts (IAACs) to distribute current earnings into the future and the use of "wrap-around IAACs", in which money was borrowed, and the interest expensed, to finance such contracts. Under the direction of the Tax Division of Finance a search was launched to seek a menu of tax expenditure and avoidance schemes whose curtailment might contribute to the 1981 budget.

In retrospect, several errors contributed to the hostility with which the 1981 budget was received (a hostility in some important respects that was not without justification). Perhaps most important was the pace at which economic activity was declining under the influence of the Volker-inspired Federal Reserve System dramatic rise in interest rates. The decline was severely underestimated by the Department and the structure of the budget was therefore cyclically inappropriate. (I have often wondered in retrospect whether it would have been possible at the eleventh hour to abort; but I confess that the possibility never occurred to me at the time, even though the process of economic decline was ever more visible). Secondly, private sector accommodation to high interest rates and the avoidance of taxation on inflation-enhanced earnings had become more deeply embedded among actors in the economy than we had judged. Thirdly, the selection of tax expenditure candidates for the budget had been too hurriedly addressed and designed through the rushed preparations of the autumn of 1981. (Never casually attack the personal insurance industry with their thousands of agents to be summoned to the barricades!). Critically, devices designed by Deputies who succeeded me to design continuing tax reforms for application, not immediately, but with delay; to shelter under consensus forecasts, and to pay central attention to the management of public relations, greatly diminished budget alarms.

The Budget was not well received. Some retreat in the design of various elements became necessary at some substantial political cost to Mr. MacEachen and the Government. As the recession deepened, and the automatic stabilizers swung into action, the planned deficit in fiscal 1983-4 swelled from $5 billion to close to $20 billion. And at least for the moment inflation continued apace. There was considerable pressure from Her Majesties' advisors in the PCO to rush a Keynesian assault on the deepening recession but attention in Finance focussed on seeking relief from severely contractionary monetary policy and extraordinarily high interest rates through addressing inflation. In late June of 1982 the third Budget had two main purposes. The first was to explicitly reject additional expenditure increases on the grounds that automatic stabilizers were doing their job and the Government had recently launched a program to offer investment support to industries of particularly distressed communities. The second, and greater purpose of that Budget was to introduce the '6 and 5' program – a program run out of Finance (and with significant political participation from politicos like Keith Davey) – intended to limit wage increases over two years in the public sector nationally and to exhort the private sector to follow the same guidelines. In part, it must be said, because the steam was coming out of wage increases by mid-1982 the '6 and 5' program was well received and seemed to command general support.

At the fall-1982 meetings of the World Bank and IMF in Toronto, the crisis for the economic world had become the debt distress of the Latin American countries. Paul Volker met with A.J MacEachen and me to see whether Prime Minister Trudeau, as a friend of the Mexican president, might be persuaded to intervene in support of the Mexican finance minister. The economic context was late recession from which the world was about to rapidly recover. At those meetings A.J. MacEachen informed me that in a discussion with the PM he had proposed to leave the Finance portfolio later that year. I decided to hang on for the briefing of Marc Lalonde who moved from EMR to succeed him. It became clear in discussions with Lalonde, that were otherwise productive, that he intended to revisit some of the elements of the 1981 budget. Less clear, but probably his preference, was the possibility of bringing Mickey Cohen, his Deputy at EMR to Finance. I decided to move on in November 1982 with the possibility of becoming a Commissioner with the Macdonald Commission which was about to be announced and which Prime Minister Trudeau had urged me to consider.[8] In the end for a variety of reasons, the possibility of such an appointment being seen as merely a political reward amongst them, I conferred with Donald Macdonald and decided to decline. I also declined Mr. Trudeau's offer of appointment as the Canadian Executive Director at the World Bank. A need to step off the bus, and a feeling that Stewart family life had too long adjusted to the needs and demands of its patron were among my thoughts at the time.

(There is) Life after Finance

The Ministry of State for Economic and Regional Development and Central Mortgage and Housing Corporation

One of the constant preoccupations of senior officials in the Department of Finance is "Is there life after Finance"? The pace and intensity of the Depart-

8 I accepted to return from Paris to join Ian at Finance in January of 1982, though my return was delayed until July. I worked with Ian closely through the fall of 1982 and would want to record that his advice to the Prime Minister was instrumental in the decision to establish the Macdonald Commission. I recall working through several drafts of the Terms of Reference with Ian during that period. (Fred Gorbet)

ment sometimes make it difficult to envisage any other reality. I can report that there is indeed, “life after…”.

In early 1983 I ‘retreated’ to my old role as ‘Senior Economic Advisor’ at MSERD, first to Bill Teschke and later to Arthur Kroeger. For two years I offered advice on issues appearing before MSERD and, in particular, tried to address regional issues which had become the responsibility of Federal Economic Development Officers (FEDC’s) and who met frequently at headquarters to talk policy. I pushed no dramatic insights into development policy and sponsored no dramatic research initiatives but became more deeply schooled in the structure of the Canadian economy and its problems.

At the same time I was asked to Chair the Board of CMHC. During my time as Chair, CMHC was largely engaged in picking up the pieces that flowed from the 1981-3 recession, and that had particularly affected an array of inventive programs that Bill Teron had begun through his earlier reign as President. Further, encroaching expenditure restraint within the federal government had begun to affect CMHC and the Corporation’s support for provincial housing programs. As the provinces in turn devolved social housing responsibility to their municipalities the Corporation’s historic role at the pinnacle of social and native housing in Canada was in the process of eroding. Nonetheless it was another occasion for education and reflection among a diverse Board and a staff with long experience, expertise and deep social commitment. In 1985 I stepped down at the request of the Government.

Skelton Clark and Queen’s once again

In 1985 I was offered the Skelton-Clark chair at Queen’s. It was a one year appointment but mid-way I resigned from the federal public service and accepted the appointment for an additional year. It was an opportunity to teach again in the Masters of Public Administration program and to do some writing, noted in the list of publications appended. The facilities at Queen’s, the opportunity to attend seminars in the economics and politics departments and, indeed, the ambiance of fairly continuous discussion of policy and public affairs suited me well. Two other pieces noted in the Appendix in my years beyond my time at Queen’s were begun there – the contribution to Joe Pechman’s volume on the Role of Economists in Government (Stewart, 1989) and the contribution to the

Economic Council's conference in 1988 (Stewart, 1988). Between 1987 and 1990 my life was involved with an array of small consulting adventures and additional writing.

Statistics Canada

In 1990 Statistics Canada offered me a post of Research Fellow and I spent the year 1990-1991 trying to design a current statistics compendium which might serve as a *vade mecum* which could increase the broad knowledge of the sweep of economic affairs available to general audiences. The Canada Year Book had always seemed to me more of a coffee-table tome than a ready reference volume. Unfortunately, I never did come to a design which adequately served my purpose (and protected the sensitivities of the Bureau). I did however volunteer my services to do some writing which supported Statistic Canada's appeals against the threat of severe budget cuts (all the while campaigning to restore the former practice of offering the Agency's publications as a free good!). I also came to serve, for more than a decade, as the first chair of the National Accounts Advisory Committee. This was accompanied by a short stint as Chair of a committee supporting the research efforts of Statistics Canada, and ultimately a decade or so on the National Statistics Advisory Committee. To revert to the IT revolution for a moment, the Bank of Canada in the late 1960s financed a group of Washington, DC consultants to assist the Bureau (as it then was) to plan the transition to computerized data systems. Bill Hood and I acted as intermediaries from the Bank in consultations with Walter Duffet and Simon Goldberg to support this process. It was further a group including Mike McCracken from the Economic Council, Bob Horwood from the National Energy Board and I from the Bank who chivvied the Bureau to move to support the provision of machine-readable data, the precursor of the creation of Cansim. Since it does not appear elsewhere this is perhaps the place to note that Mike McCracken created Massager, which supported the early regression analysis underlying the RDX models, and Bob Horwood left the National Energy Board to found Computel, which made Univac 1108 power available in Ottawa.

Consultancies and Board Volunteering

Through the 1990s I agreed to serve on a number of Boards (none of them carrying the emoluments of private sector boards but all of them involving people committed to public purposes or professional associations). In 1993 I agreed to chair the Board of the Public Interest Advocacy Centre, an organization which had succeeded the regulated industry group associated with the Consumer's Association of Canada. The activities of this quasi-legal enterprise were increasingly directed to representing the consumer interest before the hearings of the CRTC as, again, the IT revolution began to dominate its proceedings. In 1995 I accepted the chair of a newly created enterprise called the Centre for The Study of Living Standards whose Executive Director, Andrew Sharpe, revealed himself to be an enormously inventive, tireless and infinitely cheerful generator of sustaining research. The chairing of a largely academic Board of professional economists continues to this day, the duties far from onerous and the company of Executive Director and Board alike a continuing pleasure.

In 1998 I joined the Board of VSO (Voluntary Service Overseas) Canada. It had begun in the early 1990s as an organization associated with (but not a branch of) VSO(UK). It flourished in Canada, recruiting volunteers from across the country to dedicate years abroad in the developing countries of the world. I left the Board in 2004. The next year it amalgamated with CUSO to become VSO CUSO Canada.

Over the period 1995 to 2000 I joined with Marc Lalonde, Andre Saumier, and Peter Barnes to offer consulting services to Vietnam on government organization and policies to support economic development. Twice yearly we gathered with Vietnamese officials. Though my memory is clouded my files indicate an extensive series of papers I prepared on various topics of interest to our Vietnamese hosts.

Finally in 2005 I joined the Board of SRDC (Social Research and Demonstration Corporation), an organization whose staff specialize in controlled experiments of potential social policy initiatives.

It is also worth noting that in the late 1980s I undertook, under a program entitled 'Ottawa Decides' an oral history project with Bob Bryce – the messenger who brought Keynes to North America and a long-time senior Canadian public servant. An assistant (a Ph.D. student) combed the archives for documents on assigned topics covering the period from Bryce's arrival in Ottawa until his service as Clerk under PM Diefenbaker. We each received identical books of documents to review and when Bryce felt ready to proceed we would meet, talk and record. The records and transcripts of them were then deposited with the National Archives. In the process I learned an enormous amount about contemporary Canadian economic history and policy-making.

I also participated, for a couple of years, in an interdepartmental seminar, focussed on Governing in an Information Society, managed and chaired by Stephen Rosell. It resulted in a several volumes which reported on the deliberations of a group of senior public servants and their guest speakers (see Rosell *et al.*, 1992, Rosell, 1995, and Rosell, 1999).

Afterlife

Enough!! Cottaging, boats and boathouses (including the restoration of cedar/canvas canoes), golf, the internet, following the blogs (including deep contentions in economic theory and policy) etc. etc fill my life.

Bibliography

Rosell, Steven *et al.* (1992) *Governing in an Information Society* (Montreal: Institute for Research on Public Policy).

Rosell, Steven (1995) *Changing Maps, Governing in a World of Rapid Change* (Ottawa: Carleton University Press).

Rosell, Steven (1999) *Renewing Governance* (Oxford: Oxford University Press).

Grady, Patrick, and Andrew Sharpe (eds.) (2001) *The State of Economics in Canada - Festschrift in Honour of David Slater* (Kingston: John Deutsch Institute for the Study of Economic Policy).

Stewart, Ian (1986a) "Consensus, flexibility and equity," *Canadian Public Policy*, Vol. 12, No. 3.

Stewart, Ian (1986b) "Tax reform and the federation," in Peter Leslie (ed.) *Canada: The State of the Federation 1986* (Kingston: Institute of Intergovernmental Relations, Queen's University).

Stewart, Ian (1986c) "The collective interest: higher taxes or lower expenditures?" in Martin Prachowny (ed.) *Policy Forum on the February 1986 Federal Budget* (Kingston: John Deutsch Institute for the Study of Economic Policy, Queen's University).

Stewart, Ian (1988) "Consensus and economic performance," in Ministry of Supply and Services, *Perspective 2000*, proceedings of a conference sponsored by the Economic Council of Canada (Ottawa: Ministry of Supply and Services).

Stewart, Ian (1989) "Canada," in Pechman, Joseph (ed.) *The Role of the Economist in Government, An International Perspective* (Hemel Hempstead: Harvester Wheatsheaf).

Stewart, Ian (1990) "Global transformation and economic policy," in Thomas Axworthy, and Pierre Elliot Trudeau (eds.) *Towards a Just Society, the Trudeau Years* (Toronto: Viking).

Stewart, Ian (1991) "How much government is good government," in G. Doern, and Bryne B. Purchase (eds.) *Canada at Risk? Canadian Public Policy in the 1990s* (Toronto: C. D. Howe Institute).

Stewart, Ian (1992) "Canada and the international economy," in B*ritain and Canada in the 1990s, proceedings of a UK/Canada colloquium* (Aldershot, UK: Dartmouth Publishing).

Stewart, Ian, J. Helliwell, L. Officer, and H. Shapiro (1969a) "The structure of RDX1," *Bank of Canada Staff Research Studies*, No. 3.

Stewart, Ian, J. Helliwell, L. Officer, and H. Shapiro (1969b) "The dynamics of RDX1," *Bank of Canada Staff Research Studies*, No. 5.

Stewart, Ian, J. Helliwell, L. Officer, and H. Shapiro (1969c) "Econometric analysis of policy choices for an open economy," *The Review of Economics and Statistics*, Vol. 51, No. 4, pp. 383-398.

Stewart, Ian, J. Helliwell, H. Shapiro, G. Sparks, F. Gorbet, and D. Stephenson (1971) "The structure of RDX2," *Bank of Canada Staff Research Studies*, No. 7.

Stewart, Ian, J. Helliwell, F. Gorbet, and D. Stephenson (1973) "Some features and uses of the Canadian quarterly model RDX2," pp. 24-47 in A. A. Powell, and R.A. Williams (eds.) *Econometric Studies of Macro and Monetary Relations* (Amsterdam: North-Holland).

Stewart, Ian, J. Helliwell, F. Gorbet, and G. Sparks (1973) "Comprehensive linkage of large models: Canada and the United States," pp. 395-426 in R. J. Ball (ed.) *International Linkage of National Economic Models* (Amsterdam: North-Holland).

Stewart, Ian, Charles L. Schultze, Rudolph G. Penner, and Roger B. Porter (1990) "Contribution to a policy user's panel," in Ernst Berndt, and Jack E. Triplett (eds.) *Fifty Years of Economic Measurement, Studies in Income and Wealth*, Vol. 54, National Bureau of Economic Research (Chicago: University of Chicago Press).

The Evolution of Canadian Monetary Policy: Successful Ideas Through Natural Selection

Christopher Ragan
McGill University

"Better" Government and The Way Ahead

THE THEME OF THIS FESTSCHRIFT is that economists and policymakers should debate less about whether it is desirable to have "more" or "less" government and instead focus on how to get "better" government. Some ideologues will always identify more with better while others will always identify less with better, but such dogmatic positions rarely contribute to our understanding or to improved public policy. More balanced observers like Ian Stewart will admit that in some situations a new government program is likely to add to overall welfare while in other situations it is the elimination of an existing program that will deliver the welfare benefits. Context matters.

In my view—and I readily admit to having no credentials regarding the detailed functioning of government—better government can be viewed at two different levels of decision making, the "micro" and "macro" levels. At the micro level, the pursuit of better government requires that we design each of our public programs and policies to deliver the intended outcome in the most efficient or effective manner. We will naturally have some disagreements about how best to achieve such efficiency, but there should be little disagreement about the basic principle; who could justify using more resources rather than fewer to achieve a given policy outcome? At the macro level, having better government means improving our determination about which activities we choose to locate in the public sphere and which ones we choose to leave to private agents. Though these decisions are bound to be both more complex and more controversial than the micro ones, a useful guiding principle is something like "government should only do what only government can do." I have been unable to establish the pedigree of this principle, but I first recall hearing it invoked by Paul Martin in the early 1990s. It seemed correct to me then, and the passage of time has not changed its basic appeal.

This principle recognizes that many things cannot successfully be done by the private sector and are thus best left to governments. These include both explicit "market failures," situations in which the free market fails to produce an efficient outcome, and those more nebulous and controversial situations in which the market is deemed to produce undesirable, though perhaps still efficient, outcomes worthy of government attention. Examples include policies aimed at altering the distribution of income and preventing individuals from specific actions which may harm themselves.[1]

The principle equally recognizes, however, that many and perhaps most activities in the economic sphere are best left to the private sector, and thus clear limits should be placed on the government's role in the economy. It is therefore consistent with what has been called the "informal defence" of free markets (Lipsey, 1984). This defence argues that relatively free markets, in contrast to those characterized by significant government intervention, more quickly adapt to changing circumstances, provide greater incentives for innovation and thus for rising living standards, and lead to a greater decentralization of decision-making power with implications for an increase in personal freedom.

1 My "macro" concept includes all three of Richard Musgrave's (1959) well-known objectives for government interventions: efficiency, distribution, and stability.

In recognizing the benefits derived from relatively free markets as well as the situations in which government actions can improve overall welfare, the principle suggests a balanced and pragmatic approach to determining the appropriate role of government in a modern economy. It is crucial to recognize that markets very often allocate resources in ways far better for society than can governments, not least because of the practical limitations on what government actions are able to achieve; but it is equally important to note those circumstances where governments can play a useful role in improving resource allocation and thus overall welfare. The costs and benefits of any specific government intervention should therefore be examined within the context of the specific market setting. Analysis should play a larger role than ideology.

The idea that having a better underlying framework for government policy within a market system can result in fewer undesirable intrusions on personal freedoms is an important theme in *The Way Ahead*, a document published by the Canadian government in the fall of 1976 and motivated by the perceived need to restructure government policies at a time of growing macroeconomic challenges. From his senior position within the Privy Council Office at the time, Ian Stewart played a key role in drafting this document, and his fine sense of balance regarding the appropriate role of government in a modern economy is everywhere on display.[2] As Stewart describes a few years later in a collection of articles written about the Trudeau era, *The Way Ahead* was seen as offering a middle ground between alternative, extreme views of the government-economy nexus:

> … While rejecting both minimalist and excessively interventionist government, it sought to define a "new middle"—an updating of the Keynesian consensus more in accord with leaner times.
>
> By this middle road the Trudeau administration sought to combine the principles of the Just Society with an economic policy based on a commitment to fiscal and mone-

2 Ian claims that Fred Gorbet was a key contributor to *The Way Ahead*; Fred claims that it was mostly Ian. Perhaps we will never know for sure. As often happens with good people, modesty can get in the way of the truth.

> tary responsibility and less direct government intervention. (Stewart, 1990, p. 117)

The Way Ahead is a fascinating paper. Actually, it reads more like two papers, one laid atop the other. The first is an analysis of the causes and consequences of inflation, and also some discussion about its cures. This paper is very much a "period piece" in that it describes inflation—especially its causes—in more complex terms than would be found in either an academic or government document written today. Most macroeconomists today would make a crucial distinction between temporary or transitional inflation on the one hand, and sustained or long-run inflation on the other. And they would agree that many different kinds of economic shocks can affect a country's temporary rate of inflation. For better or worse, however, contemporary macroeconomists would also argue that a country's long-run rate of inflation is almost exclusively determined by that country's monetary policy; other things being equal, a sustained change in monetary policy is now seen to be *the* cause of a sustained change in the rate of inflation.

Despite the view of inflation in *The Way Ahead* being quite dated, the paper contains a key point about an important but subtle cost generated by inflation. High inflation creates problems in society—primarily related to income redistributions—that invite government intervention as a partial policy solution, and such interventions inevitably lead to reductions in personal freedoms. So a policy justification for maintaining low and stable inflation is to prevent the need for an undesirable expansion of the role of government in society.

If all of the discussion related to inflation is removed from *The Way Ahead*, a very different but still fascinating second paper remains. After thirty years of post-war development and expansion of the welfare state in Canada, and also the macroeconomic confusion and disruption caused by the first OPEC oil shock, the paper offers a nuanced view of the appropriate role of government in a modern economy. The paper emphasizes the importance of using relatively free markets for the organization of activity—for encouraging innovation and also for maintaining crucial individual freedoms. It also recognizes the clear need for government intervention to solve certain problems that private markets are ill-suited to solve—including the provision of public goods, the appropriate pricing of externalities, and the reduction of severe inequities.

While advocating active use of government, however, it acknowledges the limits of government action and also the danger that a creeping scope of government may threaten fundamental liberties. *The Way Ahead* offers both a balanced and realistic view of government in a modern economy.

This same growing recognition of the limitations of government action played a leading role in the development of monetary policy in many countries over the past forty years. This paper examines the evolution of Canadian monetary policy from the late 1970s and argues that a process of "natural selection" led to the creation and refinement of our current and very successful inflation-targeting system. At the core of this evolutionary process was both a continual drive toward "better" government and a recognition of the real limitations to what government can accomplish.

Section 2 of this paper reviews some of the key lessons that economists and policymakers learned over the years, and how these lessons led to the adoption of our current regime. These lessons range from the "discovery" of the supply side of the economy and the recognition of the costs of high inflation to the limitations of monetary policy and the role played by a flexible exchange rate. Section 3 briefly examines what may be the largest current and future challenge faced by the Bank of Canada and other central banks around the world: the need to ensure financial stability. Two aspects of this issue are addressed: the case for monetary policy to "lean" more aggressively against measurable financial excess; and the need for governments to establish better "macro prudential" regulation and oversight. Research on both aspects of financial stability is still young, and so our thinking will hopefully improve considerably over time.

In Section 4, however, I argue that the current Canadian government does not appear to be spending much time thinking about the issue of improved macro prudential regulation and oversight, possibly because the current system is viewed as adequate and the government would rather focus its attention on something more politically appealing. I close with the idea—perhaps channelling Ian Stewart in *The Way Ahead*—that better regulation and oversight does not necessarily mean an undesirable increase in the scope of government. Designing better regulation now, while financial markets are relatively quiet, may prevent the need for the large and dramatic government interventions that would surely be the response to a future financial crisis in which one or more major institutions fail.

Forty Years of Evolution in Canadian Monetary Policy

Canadian monetary policy, like that in many other developed countries, has changed significantly over the past four decades, and most of this change reflects our learning about various aspects of the functioning of the economy, the behaviour of individuals, and the limitations of central-bank actions. This evolution of monetary policy embodies the "natural selection" of good and workable ideas.

The Missing Half of the Aggregate Economy

The predominant view among academic and policy-minded macroeconomists until the mid-1970s was that a focus on the demand side of the economy was appropriate for understanding aggregate fluctuations and changes in inflation. Changes in the various components of aggregate demand were the primary drivers of changes in the level of economic activity, and the "management" of these components with fiscal and monetary policy was believed to be an effective means of dampening swings in the business cycle. Moreover, inflation was mostly seen as the consequence of excessive demand.

As an indication of the extent of such "demand dominance" in our thinking, one need only flip through the introductory textbooks of the day. The content of a good principles textbook lags well behind the developments occurring on the frontiers of the discipline, as is probably appropriate given the time required to learn which of the new ideas are truly good ones. A good introductory textbook tends to present the things that the profession is pretty sure about, the things that we as economists think we know with a high degree of confidence. A quick scan of the leading textbooks of the era reveals the main macroeconomic model to be the Keynesian Cross, in which the price level is assumed to be constant, and anything resembling the supply side of the economy is absent. The management of aggregate demand figures prominently. A Phillips Curve sometimes makes an appearance, but is often treated as a "menu of choice" between the desired level of output (or unemployment) and the desired level of inflation, rather than as the adjustment process stemming from factor markets in disequilibrium. There is certainly no AD/AS model determining the equilibrium level of real GDP and the price level, for the simple reason that the AS curve had yet to be conceived, and without an AS curve it makes little sense to draw an AD curve.[3]

There was naturally a bit more focus on the supply side of the economy within the Bank of Canada, but events would soon prove the need to do much more. The Bank's earliest large-scale macro models, RDX1 and RDX2, were completed by the early 1970s but had quite incomplete coverage of the supply side of the economy (Helliwell, 2005). In particular, there was insufficient scope for fluctuations in the price of oil to impact the economy and, perhaps more important, the mechanism governing inflationary expectations was quite undeveloped. This was an unfortunate combination.

With the arrival of the OPEC oil shocks in 1973 and 1979, the supply side made a dramatic appearance—into macroeconomic outcomes and also into the minds of macroeconomists. These shocks led to reductions in real GDP growth and increases in inflation, previously thought to be two things that did not occur together. The events were so unusual as to require a new label; "stagflation" was the appropriate term coined by Paul Samuelson.

The stagflationary episodes of the 1970s, once they came to be understood, clarified three issues for macro policy. First, supply shocks needed to be built into our macro models in order to provide a better understanding of the nature of fluctuations; the AD/AS apparatus soon became the workhorse model in policy thinking and macro teaching. Second, large negative supply shocks presented policymakers with a dilemma: a policy response that validated the supply shock had the benefit of dampening the effect on output and employment, but only at the risk of starting a wage-price spiral that would reflect the entrenchment of agents' rising inflationary expectations. The 1970s were the beginning of our collective education regarding the importance of anchoring

3 For example, the third Canadian edition of *Economics* by Lipsey, Sparks and Steiner (Lipsey *et al.,* 1979) contains no systematic discussion of the role of the supply side in determining aggregate fluctuations. Its fourth edition, published in 1982, contains the full AD/AS framework, although even then the role of supply shocks is far smaller than what appeared in subsequent editions of the text.

inflation expectations, and how difficult the control of inflation becomes when no such anchoring exists.

The third issue was more fundamental, and represented an intellectual sea change among macroeconomists. The rise of the "rational expectations revolution" embodied an emphasis on micro-based modelling, forward-looking and optimizing agents, model-consistent expectations, and eventually the appreciation of the Lucas Critique (Lucas, 1976)—the idea that policy actions needed to be explicitly built into the constraints faced by optimizing agents if we are to draw legitimate conclusions regarding the likely effect of policy changes on individual actions and aggregate economic outcomes. It took only a few more years before Real Business Cycles made their appearance (Kydland and Prescott, 1982), significantly altering the course of macroeconomic research; with the assumption of market-clearing and leading roles for technological shocks, the "demand dominance" of the post-war period had been largely eliminated.

The Costs of High Inflation

It has long been understood that one of the serious consequences of inflation is that it generates unintended and probably undesirable redistributions of income—between workers and firms, borrowers and lenders, and governments and taxpayers. Such redistributions depend on the incompleteness of institutional arrangements that could in principle, but likely at considerable cost, be modified to provide full indexation.[4]

The difference between anticipated and unanticipated inflation also matters. Even in the absence of complete indexation, agents who expect future inflation could incorporate that expectation into their wage or interest-rate agreements, thereby preventing such income redistributions. Indeed, academic economists usually rely on this distinction to argue that it is only unanticipated inflation that presents a serious policy problem, as the costs associated with a fully anticipated (and moderate) inflation are quite small.

4 Full indexation (to the CPI, for example) would only ever prevent such income redistributions if movements in the CPI were fully independent of changes in relative prices. Such independence is unlikely to ever occur. I thank Michael Parkin for this observation.

Central bankers, however, tend to reject the practical utility of this distinction. While accepting the academic point that a perfectly anticipated high inflation rate may not be that costly, they reject that one has ever occurred. Based largely on their experience from high-inflation episodes, they note the high correlation between a country's average rate of inflation and the volatility of that country's inflation rate. Such volatility is seen as generating two types of uncertainty, both of which are damaging to the functioning of a modern market-based economy. First, the volatility of the inflation rate suggests uncertainty about inflation itself; in the absence of complete indexation, this implies swings in unanticipated inflation that lead to changes in *ex post* real wages, real interest rates, and real tax revenues. Second, and perhaps more important, high and uncertain inflation undermines the functioning of the price system and diverts resources away from the production of inherently valuable goods and services and toward dealing with the problems caused by inflation. In an economy in which movements in relative prices send signals about scarcity and plenty and lead consumers and producers to respond through changes in quantities, high and volatile inflation introduces a great deal of noise into the system. A world with no inflation is complicated enough as there are many real reasons for changes in relative prices; adding volatile inflation to the mix simply results in workers and firms and governments making more mistakes than they would otherwise make.[5]

The High Cost of Disinflation

If lessons regarding the economic cost of high inflation were sobering, the cost of reducing inflation eventually came to be seen as so large that it provided one of the key motivations for ensuring that inflation, once reduced to low levels, was maintained there.

Inflationary expectations, and the speed with which they adjusted to an announced policy of reducing inflation, played a central role in determining the costs in terms of reduced output and employment. The "sacrifice ratio," the output loss (expressed as a percentage of potential output) per percentage-

5 See Ragan (1998) and the many references there for a detailed discussion of the costs of inflation and inflation volatility, including the effects of inflation on relative-price variability.

point reduction in the inflation rate, was seen to be an important function of the credibility possessed by the central bank (Ball, 1994). Prior to the U.S. and Canadian disinflations of 1980-82, one set of observers argued that rational and forward-looking expectations implied that the credible and visible announcement of intended disinflation would lead to a rapid reduction in actual and expected inflation, with the result that output and employment losses would be small and brief. Others argued that expected inflation would be slow to adjust to the policy change and that the output and employment losses would be large and enduring. As it turned out, the reality was somewhere in the middle; inflation fell sharply, the contraction in activity was deep, but a healthy economic recovery began very quickly.

In retrospect, it is easier to conclude that credibility is indeed important in reducing the costs of disinflation but that, for good reasons, the Bank of Canada and the U.S. Federal Reserve probably did not have much credibility at the time. After all, the previous decade had not revealed these central banks capable of keeping a lid on inflation, no matter how much they claimed to dislike it. Today, after almost twenty years of inflation targeting, the Bank of Canada has established a great deal of credibility with regard to its commitment to maintaining low and stable inflation, and it is understandably reluctant to take any actions that would diminish it.[6]

Another part of the lesson regarding the high cost of disinflation involves what other policies, in addition to a conventional tightening of monetary policy, might be applied as part of an overall disinflation policy package. In his evaluation of the success of the Anti-Inflation Board (AIB), which operated from 1975 through 1978, McCallum (1986) argues that the AIB successfully reduced the rate of growth of nominal (and real) wages below what would otherwise have occurred, and thus was instrumental in helping Canada avoid a deep recession in the late 1970s. In contrast, with the disappearance of the AIB in 1978, there was no such force preventing the rise of wages in the early 1980s, with the result that Canada experienced a much deeper recession.

6 It is worth emphasizing that central-bank credibility is something that must continually be earned through action. Even when current inflation is low, it is only the willingness to act to prevent inflation from rising in the near future that will keep inflation expectations well-anchored.

McCallum is essentially arguing that in a world with solidly entrenched inflation expectations, the AIB reduced the sacrifice ratio by helping to dampen the upward drift of Canada's Aggregate Supply curve. Another, and complementary, perspective is to see the AIB as a Keynesian coordinating device, one that makes workers more willing to accept a decline in nominal wage growth so as to generate a better macro response to the inflation and supply shocks of the early 1970s.

With the benefit of hindsight, we might say that if the central bank lacks sufficient credibility to convince private agents that it is serious about disinflation—credibility which would presumably act directly on inflation expectations—an institutional arrangement like the AIB can be a reasonable substitute. Laidler (1976) agrees that AIB-style wage-and-price controls can, in principle, be a useful part of an overall policy package designed for disinflation, but he argues that it would rarely if ever be sufficient; still necessary to a sustained disinflation is a sustained tightening in monetary policy.

Another point made by McCallum (1986) relates directly to one of the central themes from *The Way Ahead*: a major cost of high inflation is that it forces governments to intervene to address some of the problems that inflation creates, but such interventions invariably restrict individual freedoms. He talks of the undesirable choice that confronts policymakers when considering disinflation and the use of AIB-style controls:

> ... Unless one believes that the inflationary upsurges of the past decade are a never-to-be-repeated thing of the past, it is likely that at some time in the future Canada will again be forced to choose either a major recession without controls (as in 1982) or a much less major recession with controls (as in the mid-1970s). ... [T]his is a most unpalatable choice to have to make, since the benefits of controls in terms of lower unemployment must be set against the unquantifiable but nevertheless very major costs in terms of a general distaste for large-scale government intervention. (McCallum, 1986, p. 142)

The Instability of Money Demand

Throughout the 1960s and early 1970s there was growing support for the idea that controlling inflation in a sustained manner required controlling the rate of growth of the money supply. A coherent policy package was provided by Milton Friedman (1960) and a decade later its appeal had only increased. In Friedman's Presidential Address to the American Economic Association of December 1967, roughly half of the speech is devoted to the idea that, to avoid the kinds of mistakes that central bankers with too much discretion and too little information are bound to make, monetary policy should be put on "auto pilot" to ensure a constant rate of growth of the money supply (Friedman, 1968).

By the mid-1970s, with inflation higher and more volatile and apparently not under obvious control by policymakers, the appeal of monetary targeting had continued to grow. It was well recognized that the success of such a policy relied on the existence of a stable relationship between the volume of transactions in the economy and the quantity of money demanded; only with such a stable and predictable money-demand relationship could changes in the supply of money lead to predictable changes in interest rates, with then predictable changes in aggregate demand, output, and inflation.[7] And during the 1960s and early 1970s, this relationship appeared to be stable. As late as 1976, David Laidler argued the benefits of monetary targeting as an effective substitute for wage-and-price controls and made the following claim:...

> ... It turns out that ... there exists a stable relationship in the economy as a whole between total national spending and the amount of money that the economy requires to carry on its business. The existence of such a relationship for an enormous variety of times and places, including the contemporary Canadian economy, is one of the best established facts of applied economics. (Laidler, 1976, p. 183)

The relationship may have been stable and predictable during the decades preceding 1976, but it took only a few short years for the financial innovations of the late 1970s to put an end to the Bank of Canada's monetary targeting. Having commenced the formal targeting of M1 in 1975, a policy seen as a use-

7 One could also argue the opposite causality: that only with a stable money-demand relationship would policy-induced changes in the interest rate lead to predictable changes in money, and then to predictable changes in aggregate demand and inflation.

ful complement to the Anti-Inflation Board, the approach never worked as well as the Bank's economists hoped (Crow, 2009a; Freedman, 2002). With the ongoing financial-market innovations and the resulting swapping of funds between bank accounts of various kinds, the measure of M1 was rarely confined to the Bank's proscribed target ranges for growth; in response, the Bank formally terminated the policy in 1982. As Governor Gerald Bouey famously said in 1983: "We didn't abandon M1; M1 abandoned us!"

The Limitations of Monetary Policy

By the mid-1980s, a growing consensus was emerging among macroeconomists and central bankers regarding the genuine and significant limits to what monetary policy could accomplish. It presumably follows that real limits should be placed on what we ask central bankers to achieve. Consider two aspects of these limitations. The first is the number of policy instruments available to central bankers. Monetary policy has at its base a single instrument: the central bank's balance sheet. This balance sheet reveals the fundamental truth that central banks create money and inject it into the financial system by using it to purchase government securities (or perhaps foreign exchange). We can view policy actions as altering short-term interest rates (as is now the norm for central banks) or as altering the quantity of money (as is now deemed to be "unconventional"), but these two perspectives of monetary policy are just different sides of the same coin.[8]

The second aspect of the limitations involves the distinctions between real and nominal variables and between the short-run and long-run effects of monetary policy. While monetary policy can have a profound influence on a large range of real and nominal variables over a period of a few years, there emerged a growing understanding that these short-run effects eventually get unwound in the long run, leaving an enduring change only on the level or growth path of nominal wages and prices. Since the central bank's instrument is fundamentally about a nominal object—money—it should not be surprising in a market

8 In the last few years of financial crisis and recession, we have seen central banks in many countries take extraordinary policy actions, mostly involving changes in the terms and conditions of loans to financial institutions, but these actions are just creative ways of using the central banks' balance sheets.

economy that the ultimate influence of monetary policy will apply to nominal variables only.

Implicit in this view of the limitations of monetary policy is the absence of a stable long-run trade-off between the rate of inflation and the level of real GDP or the unemployment rate; the long-run Phillips Curve is vertical. In convincing the academic profession and community of policymakers that these limitations for monetary policy were real and needed to be taken very seriously, there was perhaps no more influential work than Friedman (1968). His specific arguments in favour of maintaining a constant rate of money growth, presented in the same paper, have long since fallen by the wayside; but his arguments regarding the limitations of monetary policy have had an enormous and enduring influence on the economics profession. Friedman's ideas regarding the absence of a long-run trade-off, together with those of Edmund Phelps (1972) as well as widespread empirical evidence from the 1970s and 1980s, have become such a standard part of the economists' intellectual toolkit that in our principles textbooks we often no longer attach their names to the ideas—almost as if such labelling would be an admission that the ideas are still unsettled and open to debate.

The Role of a Flexible Exchange Rate

As a small and open economy, it is natural that Canadian economists and policymakers tend to place more emphasis on the role of the exchange rate than do our counterparts in larger economies in which trade is relatively less important. In addition, Canada has had more experience in operating with and learning about a flexible exchange rate, since we spent many of the post-war years outside the Bretton Woods system (Powell, 1999). This has given us a great opportunity to learn about how a flexible exchange rate can play a useful role within a coherent framework for monetary policy. Central to this learning has been the distinction between the real and nominal exchange rate, and the different causes of their changes over time.

The nominal exchange rate is, of course, nothing more than the Canadian-dollar price of a unit of foreign currency. If domestic monetary shocks have an enduring effect only on the domestic price level, as would be the case if money is neutral in the long run, then the external manifestation of this neutrality is that the nominal exchange rate will adjust in the same direction and by the same percentage, thus leaving the real exchange rate unaffected. The same is true for foreign monetary shocks, although in this case the movements will be in the foreign price level and the exchange rate. So in the face of monetary shocks, *ceteris paribus*, price levels and the nominal exchange rate will adjust over time, but real exchange rates will eventually return to their initial levels.[9]

The real exchange rate, in contrast, is the relative price of (baskets of) goods across international boundaries. While monetary shocks should have no sustained influence on the real exchange rate, there are many shocks that will. First, since non-traded goods play a large and increasing role in national consumption baskets, deviations in their prices across countries will lead to changes in real exchange rates. The Balassa-Samuelson effect shows how, with integrated labour markets within countries, differential productivity growth in the traded-goods sector across countries leads to wage changes that drive up the relative prices of non-traded goods in those countries with the highest productivity growth, thus creating a real appreciation (Dornbusch, 1988). Changes in the relative prices of commodities, driven either by technological changes or by changes in demand, lead to real appreciations in commodity-exporting countries (Amano and Van Norden, 1995, 1998). Finally, though it is much less visible in the data, changes in investors' perception of risk premia lead to capital flows that cause real appreciations in the capital-importing countries and real depreciations in the capital-exporting countries.

The slow adjustment of national price levels is probably the key argument in favour of a flexible nominal exchange rate. As Friedman (1953) famously argued, if nominal price levels were fully and instantly flexible in response to shocks, a flexible exchange rate would be unnecessary because all of the needed adjustment in the real exchange rate would naturally and quickly occur through movements in price levels. The rigidity of wage and price adjustment is the fundamental reason that a flexible exchange rate can act as an aggregate

9 As Dornbusch (1976) made clear in his classic paper, forward-looking expectations and short-run price rigidities ensure that monetary shocks will cause real exchange rates to respond to monetary shocks much more in the short run than in the long run.

"shock absorber" (Murray, 2000). Canada has seen many episodes in which flexibility of the nominal exchange rate facilitated adjustments in the real exchange rate which then dampened the swings in aggregate output and employment caused by external shocks. Following the Asian crisis and subsequent plunge in commodity prices in the late 1990s, for example, the large depreciation of the Canadian dollar stimulated the central Canadian manufacturing and exporting sector, thus reducing the overall negative impact of the shock. Similarly, in the mid-2000s, rising world commodity prices led to a strong appreciation of the Canadian dollar; the booming commodity-export sectors in Western and Eastern Canada were offset to some extent by slower growth in the manufacturing heartland of Central Canada.

The view that nominal exchange rates should be left free to adjust to whatever shocks come along still leaves open one crucial question: should changes in the exchange rate influence the central bank's policy actions and, if so, how? On this issue, the Bank of Canada has also learned considerably over time. The Bank knows well that different sources of exchange-rate movements require different policy responses, although identifying the precise cause of any observed change is always difficult. For example, a sustained increase in world commodity prices is itself a positive shock to Canadian aggregate demand and thus is likely to be met with a tighter monetary policy. Even though the shock will cause an appreciation of the Canadian dollar which tends to dampen the expansion, the overall effect is still positive for aggregate demand. In contrast, the adjustment of global portfolios away from foreign assets and toward Canadian assets will also cause an appreciation of the Canadian dollar, but such a shock, if significant and sustained, is likely to be met with a looser monetary policy. Having its origins in financial markets and not product markets, this shock has no direct effect on Canadian aggregate demand, although the subsequent currency appreciation still reduces Canadian net exports and thus the overall effect is negative. So, there can be no simple rule of thumb connecting a change in the exchange rate to a change in monetary policy; understanding the cause of the exchange-rate change is crucial.

This general argument that different exchange-rate movements require different policy responses is difficult to communicate with the public and with financial markets. In the mid-1990s, the Bank tried to explain these ideas by creating and publishing the Monetary Conditions Index (MCI), a weighted average of the exchange rate and an interest rate (Freedman, 1995). It soon appeared, however, that financial markets viewed some MCI movements as a clear indication of a policy change and thus an opportunity for a profitable trade. As a result, the Bank soon abandoned the MCI. In the mid-2000s, with rising commodity prices and a strengthening Canadian dollar, the Bank tried again, but this time by making an explicit distinction between "Type 1" (eg. commodity prices) and "Type 2" (eg. portfolio adjustments) sources of exchange-rate movements (Bank of Canada, 2005; Dodge, 2005; Ragan, 2005). This explicit distinction, together with the cumbersome labels, seems now to be rarely made in speeches by the governor or deputy governors, although the logic of the basic argument is sometimes clear in context. The appropriate role of a flexible exchange rate in the conduct of Canadian monetary policy remains a communications challenge for the Bank of Canada.

The Current State of Canadian Monetary Policy

After many years, many shocks, and many lessons learned, central banks in most developed countries, including Canada, seem to have converged on some solid guiding principles for monetary policy. These can be boiled down to two key observations regarding how economies function and how monetary policy operates. First, there is a clear recognition that high and variable inflation is costly. Not all of these costs are easy to measure or even to simulate in simple macro models, but they are nonetheless real (Ragan, 1998). Second, there is an equally clear acknowledgement that the rate of inflation is the single macro variable that monetary policy is able to influence in a sustained and systematic manner. With these two underlying principles, it is perhaps not surprising that monetary policy has evolved in many countries to the point where central banks explicitly target a low rate of inflation. Canada was the second country to formally adopt inflation targeting, in 1991, and many countries followed suit over the next twenty years. In retrospect, this evolution of monetary policy toward inflation targeting may seem obvious or inevitable, but it required the shocks and policy mistakes and learning that occurred over the previous thirty years; it really has been a "natural selection" of good and workable ideas.

How can we judge the Bank of Canada's actions since the adoption of inflation targeting? Others have provided an excellent review of Canadian monetary policy (Crow, 2009a; Laidler and Robson, 1994, 2004), and so a detailed treatment here is unnecessary. In terms of the economic impact of monetary policy, Longworth (2002) provides a comprehensive review of the relationship between inflation and many macroeconomic variables, including relative-price dispersion, inflation expectations, and output volatility. The reduction of inflation and adoption of inflation targeting appear to coincide with a general reduction in economic volatility and an improvement in broad measures of performance.[10] As for the achievement of its stated objective, the Bank certainly delivered on its commitments. The formal inflation target has been two per cent since 1995, and from then to 2007 the average rate of inflation was remarkably close to the target, though there were brief periods when inflation strayed noticeably (Melino, 2011).

In terms of the policy process, the 1990s witnessed a notable evolution, with focus on both implementation and communication. The emphasis on the Bank's target for the overnight interest rate as its primary instrument, the establishment of eight fixed announcement dates per year, the regular publication of the *Monetary Policy Report*, and the increase in the number and clarity of public speeches are perhaps the most visible changes that took place during this period. The Bank's communications were aimed not just at explaining what it was doing and why, but also at the need to keep inflationary expectations anchored at the inflation target.

If the experience of 1991-2007 suggests the evolution toward a fully mature and well-functioning policy regime, the events since then reveal that regime's resilience. When the global financial system began to show its strains in the summer of 2007, and these strains eventually revealed deep and systemic problems, the Bank of Canada was able to respond effectively—to increase the liquidity available to financial institutions, reduce the fears of counterparty risk, and maintain the flow of credit.

10 There remains some debate regarding the appropriate stance of monetary policy during the mid-1990s; for a sample of the view that monetary policy was systematically too tight, see Fortin (1996).

By the fall of 2008, global financial markets were in full crisis. Even though the epicentre of the crisis was not in Canada, the globalization of financial markets assured that Canada would experience significant tremors. Canada's well-anchored inflation expectations, together with the Bank's long-established credibility in returning inflation to target, permitted the Bank to respond aggressively by sharply cutting its target for the overnight interest rate. By the spring of 2009, with its policy rate at its effective lower bound, the Bank was on the verge of implementing quantitative easing and perhaps even credit easing. The U.S. Federal Reserve and the Bank of England had already taken these steps, but the economic situation in Canada was then less dire. Though the Bank explained these policies in its April 2009 *Monetary Policy Report*, they were never implemented. Instead, the Bank tried something less dramatic but no less innovative: it issued a commitment to hold its policy rate at its effective lower bound until the summer of 2010, conditional on the outlook for inflation. The payoff appeared almost immediately in the form of a reduction in long-term interest rates (He, 2010).

Looking back on the period since 1991, and especially the last few years, it is difficult not to be impressed with Canadian monetary policy and the people charged with making it work. For almost twenty years, in the face of shocks from various sources, the Bank of Canada has upheld its commitment to keep inflation low and stable. Even the very dramatic events of the past few years have not revealed the Bank to be lacking in any substantive way, either with an insufficient ability to analyze and respond to unfolding events, or with insufficient command over institutional arrangements to make its policy actions effective.

Laidler (1999) emphasizes four elements of any "coherent monetary order." The monetary-policy regime must: (a) have a well-defined goal; (b) the relevant authorities must have the power and abilities needed to achieve the goal; (c) private-sector agents must understand the goal and expect it to be achieved; and (d) the relevant authorities must be accountable to the electorate both for the choice of the goal and for their performance in achieving it. By this standard, Canada clearly has a coherent monetary order. The Bank of Canada and the Government of Canada have agreed upon a well-defined target for the CPI inflation rate. The Bank has the power and tools needed to keep inflation close to that target rate. The Bank's inflation target is well known and constantly repeated in the Bank's communications, and private-sector inflation expectations are well anchored at the two-per cent target. Finally, the Bank of Canada is accountable for its actions and for the resulting rate of inflation, through the Minister of Finance and Parliament, to the Canadian people.

The successful evolution of Canada's monetary policy over the past forty years is entirely consistent with this festschrift's theme of emphasizing the need for "better" government as opposed to either "more" or "less" government. By controlling the amount of money in circulation, central banks have tremendous power at their disposal. But it is the intelligent and prudent use of this power that constitutes a successful monetary policy. By recognizing the limits of what this power can accomplish, together with learning some important lessons about how it can best be used in various situations, the Bank of Canada has been able to make a very substantial contribution to the economic welfare of Canadians.

Future Challenges for Canadian Monetary Policy

Despite this success, we should not be blind to the possibility of making further improvements. Complacency is a real danger, especially for policymakers whose recent successes may help to convince them that all is well. Three broad challenges merit attention.

First and foremost, central banks in the developed countries must determine the appropriate policy route back toward "normal" from the highly abnormal events of the recent financial crisis and recession. This is arguably less of an issue in Canada than it is in the United States and the United Kingdom, where significant excess capacity, highly expansionary monetary policy, and the beginnings of large fiscal consolidations may combine with the external forces on energy and food prices to produce a dangerous mix of inflation and stagnation. Yet Canada can never be fully insulated from other economies; events and policies from elsewhere have a significant impact on Canadian economic outcomes and policy choices.

Even before returning to some semblance of normality, there are refinements to Canadian monetary policy that should be considered. One option is to reduce the Bank's inflation target, to one per cent or perhaps even to zero.

The steady and continual erosion in the value of Canadians' money imposes real costs on those individuals who do not have fully indexed nominal incomes, and with the aging of the Canadian population the share of such people in the total population is likely to increase over the next few decades. Another option is to switch from inflation targeting to price-level targeting, so that any shocks to the price level are fully undone as the Bank's policy actions push the price level back to its predetermined path. Even if the targeted price level were to grow at an annual rate of two percent, this option has the advantage over the *status quo* of reducing long-run uncertainty in the price level.

Both policy refinements have advantages and disadvantages over the current system, and they have been well discussed and debated both inside and outside the Bank of Canada (Amano *et al.*, 2009; Ambler, 2009; Melino, 2011; Parkin, 2009; Ragan, 2011). The current agreement between the Bank of Canada and the Government of Canada expires this year, and we will soon see whether the new agreement includes either of these changes.

A more important challenge for Canadian monetary policy is not being so openly debated. The economic events of the past few years have brought to the fore the issue of "financial stability." The nature of the financial crisis led to the widespread recognition that we need to place much more emphasis on the interconnected nature of financial institutions within an overall financial system. Although there are different definitions of financial stability, most people's instinctive definition would probably emphasize the need for the financial system to be resilient to shocks large enough to cause the failure of a small number of financial institutions (Freedman and Goodlet, 2007). Put differently, the failure of a few financial institutions should not be able to cause the large-scale disruption or collapse of the entire system.

The pursuit of financial stability relates to monetary policy in two direct ways.[11] The first, "leaning" against financial excess, is entirely in the hands of central banks; the second, better "macro-prudential" regulation and over-

11 A third issue related to financial stability is reform of existing financial-market regulations. Central banks, including the Bank of Canada, are actively involved in these discussions, under the auspices of the Basel Committee on Banking Supervision (within the Bank for International Settlements) which develops policy recommendations. For brief reviews of some of the issues, see Masson and Pattison (2009) and TD Economics (2010).

sight, requires active coordination and communication between central banks and other government institutions.

"Leaning" Against Financial Excess

There is a growing consensus that the cause of the 2007-09 financial crisis was a complex combination of many practises, policies, and institutional arrangements, most of which were deep within the financial system. White (2009) and Laidler and Banerjee (2008) argue convincingly that an important part of the problem was that in the several years prior to the crisis central banks in many countries—including Canada—were too unwilling to "lean" against growing financial excesses, such as dramatic increases in financial leverage in the household and corporate sector. Their implicit preferences were to "clean up" whatever messes were created by the eventual financial collapse.

White (2009), Parkin (2009) and others argue sensibly that we should not think of leaning in terms of the Bank of Canada's formally targeting a set of asset prices. Not only is it unclear which set of prices to target, but it is also unclear how to identify any given price increase as "inappropriate" or somehow disconnected from the underlying "fundamentals." White's concept of leaning is far less formulaic and more subtle than formal targeting would ever permit. If the Bank of Canada chooses to lean against financial excesses, it needs to look broadly at financial markets and use its discretion and judgement very carefully. It needs to cast its eyes over levels of asset prices and financial leverage that are deviating from their longer-run trends, and also examine the growth rates of monetary aggregates and flows of credit that appear to be unusually large (Laidler and Bergevin, 2010). White (2009) reminds us that many financial crises through history were preceded by the development of financial excess, and his guiding principle for policy is that careful but significant pre-emptive policy tightening is more effective than the massive and sudden monetary expansions that typically follow financial crises.[12]

12 Few analyses of history's recurring pattern of financial excess and collapse are more readable than Galbraith (1994) and Kindleberger and Aliber (2005).

An important issue in the "lean versus clean" debate remains unresolved: what should a central bank do when different macroeconomic indicators are suggesting different policy actions? For example, suppose that the "price stability" indicators suggest there is little threat of higher inflation in the near future; in this case, the likely policy action by the central bank would be to leave its policy interest rate unchanged. However, suppose at the same time some selection of "financial stability" indicators suggests an unhealthy build-up of financial excess, thus indicating a need to "lean" by increasing the policy interest rate. Should monetary policy be driven by its concern to maintain financial stability even though it may be deviating from its inflation target? Or should it focus on the inflation target and let the financial excesses follow their own path? Since central banks have but a single instrument, and sustained inflation appears to be determined fundamentally by monetary policy, the possible divergence of these two sets of indicators suggests the need for additional policy instruments.

Recent research at the Bank of Canada by Boivin, Lane and Meh (2010) sheds light on this issue and also emphasizes the centrality of the potential difference in scope between monetary policy and financial excesses. Boivin *et al.* (2010) develop model simulations in which the best policy response to sector-specific financial excesses may be well-directed regulatory tools rather than monetary tightening. For example, an unusually large and sustained increase in real-estate prices may be best addressed with a change in mortgage or mortgage-insurance regulations rather than with traditional monetary tightening. The problem with the latter is that it applies more-or-less uniformly to the entire economy and, if the financial excesses are narrow enough, the monetary tightening may make it more difficult for the central bank to achieve its objectives regarding price stability. On the other hand, financial excesses that exist simultaneously in several sectors of the economy, or that can easily spill over from one sector to others, may be best addressed with a combination of regulations and monetary tightening, and in this case the central bank's actions may be consistent with enhancing both financial stability and price stability. The key policy question for the central bank then becomes whether the existing financial excesses are large enough and widespread enough to warrant monetary policy action.

This line of inquiry and these preliminary findings support Bank of Canada Governor Mark Carney's (2009) argument that the central bank's first line of defence for ensuring financial stability should be reliance on an effective framework of financial-market regulations designed to dampen or offset the effects of financial excesses. This brings us to the second and probably more complex challenge for Canadian monetary policy in ensuring financial stability.

Better "Macro-Prudential" Regulation and Oversight

The interconnectedness of financial institutions means that policymakers need to give as much attention to ensuring the stability of the overall financial system as is regularly given to ensuring the stability of individual institutions within the system. "Micro-prudential" regulation is directed at ensuring the prudent behaviour of individual institutions, taking the external environment as more-or-less given. "Macro-prudential" regulation is aimed at ensuring the overall stability of the financial system. It takes a broader perspective and thus is more complex. It recognizes not only the kinds of financial shocks that might occur, and from what sources, but also how the behaviour or collapse of individual institutions can influence the overall financial system. Spillovers and positive feedback loops, and thus the potential for systemic instability, are key themes in the macro-prudential mindset (Longworth, 2011).[13]

In Canada, the Office of the Superintendant of Financial Institutions (OSFI) plays the leading role in micro-prudential regulation and oversight, and has done so since its creation in the 1980s. Yet OSFI does not act in a vacuum; through the regular meetings of the Financial Institution Supervisory Committee (FISC), OSFI is brought together with and receives advice from the Bank of Canada, the Canada Deposit Insurance Corporation, Finance Canada, and the Financial Consumer Agency of Canada. In this way, various policy authorities from different parts of the Canadian financial system can share their views and provide advice to OSFI regarding important issues likely to affect the health of Canada's financial institutions (Le Pan, 2009).

13 Since financial instability at the macro level is likely to be initiated by instability at the micro level, these two concepts overlap considerably more than this paragraph might suggest.

The focus of FISC, however, is to provide advice to OSFI regarding its central mandate, which relates to the prudent behaviour of individual financial institutions. Its key mandate is not about the wider concept of financial stability. Note also that Canada's various provincial securities regulators and representatives from the Canada Mortgage and Housing Corporation (CMHC)—the largest provider of residential mortgage insurance in Canada—are not present at FISC. Given its narrow mandate and representation, therefore, FISC is not well-suited to be Canada's central institution for developing and implementing macro-prudential policies. To ensure financial stability in Canada's future, there is a need for something more.

Yet perhaps there is no need to start from scratch. The existing Senior Advisory Committee (SAC), chaired by the Deputy Minister of Finance, brings together the same membership as FISC to focus discussion on issues of public policy pertaining to the financial system. In recent years, it has addressed issues of financial stability and developed recommendations regarding changes in mortgage and mortgage-insurance regulations; for many of these discussions CMHC was invited to participate.

SAC's informal structure and small size may be important liabilities. Unlike FISC, which is a legislated committee with formal minutes sent to the Minister of Finance who can then learn of any substantive disagreements between the members, SAC is a less formal gathering of a smaller set of key decision makers. Following the recent financial crisis in which securities and housing markets played such major roles, it seems unlikely that any effective body for developing and implementing macro-prudential policies would not contain CMHC and at least some of the securities regulators.

Even if SAC were to expand to include CMHC and the securities regulators, and were to become a legislated committee with a clearly assigned mandate and individual member responsibilities, it would also be important to ensure that the various members of SAC could effectively discuss and debate the key aspects of financial stability. As it now stands, the various members of FISC (who are the likely members of an expanded SAC) probably have quite unequal skills for analysing and debating developments in asset markets, the sustainability of certain financial patterns, and the costs and benefits of various policy actions. The Bank of Canada's ability to determine the key macro forces at play is probably unmatched by any other member of the group, but its knowledge of the details of what is going on in housing markets, and why, may be considerably less than what resides within CMHC. Any effort to expand and formalize SAC should ensure that enough human capital exists within each of the member institutions for balanced and fruitful discussions to take place.

A final important issue over which there is some debate is the role to be played by the Bank of Canada in any formalized and expanded SAC, and whether its role would add to its existing power. On one side of the debate are those opposed to expanding the Bank's powers. Some on Parliament Hill might believe that any enhanced powers of regulation or oversight should lie with elected rather than appointed officials. There are also those who argue that having the Bank of Canada more closely involved in regulatory affairs may expose it to excessive political influence and thus threaten its valuable operational independence. On the other side of the debate are those who focus more on the technical skills required from any effective macro-prudential regulator. Two observations make it easy to argue for an increased role for the Bank (Crow, 2009b). First, the Bank's expertise in macroeconomics and the macro role of financial markets likely exists in no other Canadian institution, so giving it some increased responsibilities in dealing with macro-prudential regulation seems only logical. Second, if new financial-market regulations involve cyclical indicators or thresholds of any kind, it will be incumbent on someone to determine when the cyclical "trigger" is pulled. Given that the Bank controls the most important counter-cyclical tool in the government's policy arsenal, the Bank should clearly be involved in this decision.

As argued earlier, the evolution toward a "coherent monetary order" in Canada has delivered considerable benefits for many years. The same logic demands that we develop a coherent order for financial stability; but in this task we may still be far from success. Designing an institutional framework for macro-prudential regulation and oversight, and determining the Bank of Canada's appropriate role and responsibilities within it, are not simple tasks. It will require the Canadian government, first, to recognize the importance of the issue and, second, to take the time required in consultation and design to assemble the framework with the appropriate parties involved and responsibilities clearly assigned. Doing it right involves bringing together various policy authorities with different perspectives, different specialties, and different primary mandates. But such complexities are central to any structure devoted to taking a more systemic view of financial institutions and markets.

Final Thoughts

The evolution of Canadian monetary policy does not just reflect the occurrence of random policy events, some of which worked and some of which did not. From the mid-1970s onward, policymakers at the Bank of Canada have been in the mindset of continually seeking improvements, searching for ways to make "better" policy. Their search for a nominal anchor eventually led to the compelling notion of inflation targeting, an idea that has clearly succeeded. But without the Bank of Canada's continual efforts at improvement, one can at least wonder whether we would now have our existing monetary coherence.

Similarly, with regard to macro-prudential regulation and oversight, the federal government needs to adopt this mindset of continually searching for policy improvements, and not automatically accepting the status quo. It needs to examine whether the current institutional arrangements provide the macro-prudential regulations and oversight necessary to prevent a crisis in the face of large future financial shocks. Perhaps the current arrangements are satisfactory, or perhaps they are seriously lacking; it is difficult to be sure without devoting much time and energy to a careful review of the issue. But the prudent, sensible and responsible action for the government is to make sure that the difficult questions are being asked, that the genuine debates between various parties are being resolved, and that the necessary responsibilities are being clearly assigned. Given the extent to which Canadian leaders have been accepting congratulations from around the world for having such a sound financial system, it would be embarrassing indeed to discover that this system actually lacked the resilience needed to withstand the next set of shocks or pressures. No political price needs to be paid for quietly asking the right questions and making the appropriate institutional changes behind the scenes; an almost unthinkable political price will be paid if these actions are not taken soon and a future crisis reveals fatal cracks in the system.[14]

Ian Stewart might emphasize that getting this policy issue right—and getting the best institutional framework in place—is not necessarily about advocating "more" government. Rather, it is about ensuring that our underlying policies and policy frameworks are properly designed so that financial markets can be left to operate more-or-less on their own and function well in the face of various kinds of shocks. If the policy framework and macro-prudential regulations are working well, future economic shocks will be unlikely to lead to economic crises—and thus there will be less need for governments to intervene in large and dramatic ways.

There is an important balance to strike here. Some will argue that excessive regulation in financial markets will unduly stifle innovations and will reduce the dynamism of the financial sector. We surely need to recognize the importance of this sector in intermediating between the borrowers and the lenders of the economy, as well as the role played by sophisticated financial instruments in achieving efficient intermediation. So there is a need to be wary of excessive regulation. At the same time, however, we need to recognize that too little regulation—or regulation of the wrong sort—leaves us unduly exposed to the threat of future financial crises, and thus to the enormous costs that follow in their wake. The significant benefits from avoiding such crises warrants incurring the modest costs associated with better regulation; "more" government now may well allow "less" government in the future.

Economic crises naturally make government actions easier to justify. Any individual policy initiative may be sensible or not as a response to an economic or financial crisis, but the mere existence of the crisis makes it far easier for any government to act boldly, and to convince the people of the need for such bold action. The unfortunate corollary, however, is that when crises are past—even though the problems may still lurk beneath the surface—it is easy for politicians to move on to other things, secure in the belief that there is no longer a need for serious policy changes. The fact that Canada's financial system fared far better over the past few years than did those in the United States or the United Kingdom may indicate that we have no serious policy challenges to

14 Though there is naturally plenty of debate about the likelihood of large future financial crises, it is difficult after reading tracts like Johnson and Kwak (2010) to not see such crises as inevitable.

solve within the financial sector. Or Canada's relative success may simply reflect our good luck. Or perhaps it is a bit of both.

In any event, prudent behaviour on the part of government would be to hope for the best while planning for the worst, and to view existing challenges not as a political problem to avoid through inaction but as an opportunity through better policy design to secure a better economic outcome for future generations of Canadians. It seems appropriate to close with a quote from *The Way Ahead*, which applied as much to the need to solve the inflationary problems of the late 1970s as it does today to the imperative to think carefully about ensuring financial stability:

> Canadians have always faced challenges and it would be naïve to assume that we will not continue to do so. Recognizing their existence is not cause for pessimism, but necessary in order to face them realistically and resolve them successfully. The coming decades offer tremendous opportunities to Canada and to Canadians. To seize these opportunities, however, requires a shared appreciation of the nature of the prospects and problems confronting us. (Government of Canada, 1977)

Such a shared appreciation, in turn, requires that the difficult questions get posed and the genuine debates get resolved. Only then can we hope to design policy frameworks that are resilient to the inevitable challenges that lie in our future.

References

Amano, R. and S. Van Norden (1995) "Terms of Trade and Real Exchange Rates: The Canadian Evidence," *Journal of International Money and Finance*, Vol. 14, No. 1, pp. 83-104.

Amano, R. and S. Van Norden (1998) "Exchange Rates and Oil Prices," *Review of International Economics*, Vol. 6, No. 4, pp. 683-694.

Amano, R., T. Carter, and D. Coletti (2009) "Next Steps for Canadian Monetary Policy," *Bank of Canada Review*, Spring, pp. 5-18.

Ambler, S. (2009) "Price-Level Targeting and Stabilization Policy: A Review," *Bank of Canada Review*, Spring, pp. 19-29.

Ball, L. (1994) "What Determines the Sacrifice Ratio?," in *Monetary Policy*, ed. N. Gregory Mankiw (Chicago: University of Chicago Press).

Bank of Canada (2005) *Monetary Policy Report Update*, January 27, 2005.

Boivin, J. T. Lane and C. Meh (2010) "Should Monetary Policy Be used to Counteract Financial Imbalances?," *Bank of Canada Review*, Summer, pp. 23-36.

Carney, M. (2009) "Some Considerations on Using Monetary Policy to Stabilize Economic Activity," remarks to a symposium sponsored by the Federal Reserve bank of Kansas City, Jackson Hole, WY, August 22.

Crow, J. (2009a) "Canada's Difficult Experience in Reducing Inflation: Cautionary Lessons," *C.D. Howe Institute Commentary*, No. 299.

Crow, J. (2009b) "A Bank for All Seasons: The Bank of Canada and the Regulatory Challenge," C.D. Howe Institute, e-brief.

Dodge, D. (2005) "Monetary Policy and Exchange Rate Movements." Speech to the Vancouver Board of Trade, Vancouver, British Columbia, February 17.

Dornbusch, R. (1976) "Expectations and Exchange-Rate Dynamics," *Journal of Political Economy*, Vol. 84, pp. 1161-1176.

Dornbusch, R. (1988) "Purchasing Power Parity," *The New Palgrave Dictionary of Economics* (Reprint ed.) (London: Palgrave Macmillan).

Fortin, P. (1996) "The Great Canadian Slump," *Canadian Journal of Economics*, Vol. 29, pp. 761-787.

Friedman, M. (1953) "The Case for Flexible Exchange Rates," in *Essays in Positive Economics* (Chicago: University of Chicago Press).

Friedman, M. (1960) *A Program for Monetary Stability* (New York: Fordham University Press).

Friedman, M. (1968) "The Role of Monetary Policy," *American Economic Review*, Vol. 58, pp. 1-17.

Freedman, C. 1995. "The Role of Monetary Conditions and the Monetary Conditions Index in the Conduct of Policy," *Bank of Canada Review*, Autumn, pp. 53–59.

Freedman, C. (2002) "Monetary Policy Anchors," *Canadian Conundrums: Views from the Clifford Clark Visiting Economists* (Toronto: C.D. Howe Institute).

Freedman, C. and C. Goodlet (2007) "Financial Stability: What It Is and Why It Matters," *C.D. Howe Institute Commentary*, No. 256.

Galbraith, J. (1994) *A Short History of Financial Euphoria* (Penguin).

Government of Canada (1977) *The Way Ahead: A Framework for Discussion*, Ministry of Supply and Services, Government of Canada.

He, Z. (2010) "Evaluating the Effect of the Bank of Canada's Conditional Commitment Policy," Bank of Canada Discussion Paper 2010-11.

Helliwell, J. (2005) "From Flapper to Bluestocking: What Happened to the Young Woman of Wellington Street?," *Bank of Canada Review*, Winter, pp.31-39.

Johnson, S. and J. Kwak (2010) *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown* (New York: Pantheon Books).

Kindleberger, C. and R. Aliber (2005) *Manias, Panics, and Crashes: A History of Financial Crises*, 5th edition (Hoboken, N.J.: John Wiley & Sons).

Kydland, F. and E. Prescott (1982) "Time to Build and Aggregate Fluctuations, *Econometrica*, Vol. 50, No. 6, pp. 1345-1370.

Laidler, D. (1976) "An Alternative to Wage and Price Controls," *The Illusion of Wage and Price Control* (Vancouver: Fraser Institute).

Laidler, D. (1999) "The Exchange-Rate Regime and Canada's Monetary Order," Bank of Canada Working Paper 99-7 (Ottawa: Bank of Canada).

Laidler, D. and R. Banerjee (2008) "Unstable Foundations: Asset Markets, Inflation Targets, and Canada's 2011 Policy Choices," *C.D. Howe Institute Commentary*, No. 278.

Laidler, D. and P. Bergevin, (2010) "Putting Money Back into Monetary Policy: A Monetary Anchor for Price and Financial Stability," *C.D. Howe Institute Commentary*, No. 312.

Laidler, D. and W. Robson (1994) *The Great Canadian Disinflation* (Toronto: C.D. Howe Institute).

Laidler, D. and W. Robson (2004) *Two Percent Target* (Toronto: C.D. Howe Institute).

Le Pan, N. (2009) "Look Before You Leap," *C.D. Howe Institute Commentary*, No. 296.

Lipsey, R. (1984) "Can the Market Economy Survive?," Chapter 1 in *Probing Leviathan: An Investigation of Government in the Economy*, ed. George Lermer (Vancouver: The Fraser Institute).

Lipsey, R., G. Sparks and P. Steiner (1979) *Economics*, Third Canadian Edition, Harper & Row.

Longworth, D. (2002) "Inflation and the Macroeconomy: Changes from the 1980s to the 1990s," *Bank of Canada Review*, Spring, pp. 3-18.

Longworth, D. (2011) "A Survey of Macro-prudential Policy Issues," mimeo, March.

Lucas, R. (1976) "Econometric Policy Evaluation: A Critique," Carnegie-Rochester Conference Series on Public Policy 1, pp. 19-46.

Masson, P. and J. Pattison (2009) "International Financial Policy Reform and Options for Canada: Think Globally, Act Locally" (Ottawa: Conference Board of Canada).

McCallum, J. (1986) "Two Cheers for the Anti-Inflation Board," *Canadian Public Policy*, Vol. XII, No. 1, pp. 133-147.

Melino, A. (2011) "Technical Issues Associated with the 2011 Monetary Policy Agreement," *C.D. Howe Institute Commentary*, No. 317.

Murray, J. (2000) "Why Canada Needs a Flexible Exchange Rate," *North American Journal of Economics and Finance*, Vol. 11, pp. 41–60.

Musgrave, R. (1959) *The Theory of Public Finance* (New York: McGraw Hill).

Parkin, M. (2009) "What is the Ideal Monetary Policy Regime?," *C.D. Howe Institute Commentary*, No. 279.

Phelps, Edmund S. (1972). *Inflation Policy and Unemployment Theory* (New York: W. W. Norton).

Powell, J. (1999) *A History of the Canadian Dollar* (Ottawa: Bank of Canada).

Ragan, C. (1998) "On the Believable Benefits of Low Inflation," Bank of Canada Working Paper 98-15.

Ragan, C. (2005) "The Exchange Rate and Canadian Inflation Targeting," *Bank of Canada Review*, Autumn, pp. 41-50.

Ragan, C. (2011) "Precision Targeting: The Economics—and Politics—of Improving Canada's Inflation-Targeting Framework," *C.D. Howe Institute Commentary*, No. 321.

Stewart, I. (1990) "Global Transformation and Economic Policy," *Towards A Just Society: The Trudeau Years*, edited by Pierre Elliott Trudeau and Thomas S. Axworthy, Viking Canada.

TD Economics (2010) "Financial Regulation Reform: A Myriad of Double-Edged Swords," TD Economics Special Report, July 14.

White, W. (2009) "Should Monetary Policy "Lean" or "Clean"?, Federal Reserve Bank of Dallas, Globalization and Monetary Policy Institute, Working Paper No. 34.

Public Policy for the Canadian Financial System: From Porter to the Present and Beyond

David Dodge[1]
Bennett Jones L.L.P.

Introduction

OVER THE LAST 40 YEARS THE ROLE OF FINANCE and the importance of the financial sector in the Canadian and other advanced economies have grown substantially. For instance, financial liabilities have risen sharply relative to GDP and trading volumes have surged. Finance operates through a complex system of interconnected institutions (banks, dealers, insurers), markets (equities, fixed income, futures, derivatives), infrastructures (monetary system, payments and settlements) and interventions by governments as issuers, regulators and participants. The financial system plays a vital role in supporting and promoting economic activity by facilitating payments, transforming the maturities of assets and liabilities to suit the needs of households and

1 The author wishes to thank Richard Dion for his extraordinarily valuable assistance and Fred Gorbet and Nick Le Pan for their helpful comments. The author assumes sole responsibility for the content of this paper.

businesses, and transferring funds from savers to borrowers and investors. But it is vulnerable to contagion and subject to occasional turbulence and even crisis, which in turn may greatly harm the economy. Thus, in national jurisdictions including Canada, policy regarding the financial system should simultaneously promote two goals:

- Efficiency: facilitate the allocation of savings to the most productive uses by borrowers at low risk-adjusted intermediation costs (long-term growth and economic development); and
- Stability: at the macro level, minimize the contribution of the financial system to the inherent cycles of optimism/pessimism in the real economy (leaning against the wind); at the institutional level, minimize the risk of failure that could have systemic consequences; at the market level, assure continuous markets

At the broadest level, policy should facilitate the development of markets and institutions which enhance efficiency and innovation while at the same time assuring the macro stability of the system. These are often complementary objectives. Well-designed rules promoting financial stability bolster an efficient allocation of resources in general. Financial instability increases risk premiums and deters investment. In some instances, however, efficiency and stability can be conflicting objectives. Financial innovation can become a source of instability if regulation and risk management in the financial institutions fall behind the curve, as they did in at least two major episodes over the last century. Indeed, the global record seems to be one in which policy tends to focus on efficiency until evidence of financial fragility and stress emerges, and sometimes a financial crisis erupts. Hence, in the 1930s and late 2000s emphasis squarely shifted to stability amid financial crises that followed bouts of financial exuberance during which efficiency retained the attention of policy-makers more than stability.

As a legacy of the financial crisis of the 1930s, financial systems in Canada and elsewhere in the world in the decades after the Second World War were highly constrained by regulation operating largely through detailed controls. Monetary policy made heavy use of quantitative controls. In Canada then came the Porter Report in the mid-60s, which emphasized the importance of competition among financial institutions, liberalized markets, and a regulatory framework conducive to greater efficiency, including with respect to securities markets. This provided the impetus for a set of policies that put much greater emphasis on promoting efficiency from the late 1960s to the early 1980s. Then for 25 years or so thereafter, policy pursued stability along with efficiency. The catalyst for renewed emphasis on stability was the failure of two small domestic banks in the mid-1980s. More recently, the global financial crisis has squarely directed the attention of Canadian policy-makers on stability, although not because of troubles with weak bank balance sheets but as part of an international effort to bolster liquidity and stability in a world of interconnected financial institutions and markets.

Until the recent crisis, the growing scale and complexity of finance were widely believed to enhance both efficiency and stability, although such an assumption was less strong in Canada than in some other countries, notably the United States. Canadian financial institutions took a more cautious approach to financial innovation at some cost to their short-term growth and profits relative to more leveraged foreign competitors, relied relatively less on wholesale funding and kept relatively more liquidity. In part, this stemmed from more stringent, coordinated and effective regulation and supervision in Canada, which provided the right incentives to financial institutions. Moreover, the domestic mortgage market was not a source of instability in the Canadian financial system, in part because mortgage lending standards remained relatively high, mortgage securitization relatively low, and the generation of complex, risky products quite limited. If there was a problem to fix in Canada, it was with respect to improving the regulation and supervision of the issuance of complex securities to inadequately informed investors, as the the asset-backed commercial paper (ABCP) episode illustrates. On a broader front, authorities in Canada as in other jurisdictions felt the need to increase the transparency of transactions in derivative and complex products through changes in market infrastructure. Moreover the funding pressures that Canadian financial institutions episodically experienced during the financial crisis reminded everyone of the importance of continuous markets. All this being said, the “boring” Canadian financial system remained robust during the crisis and Canadian taxpayers were spared the burden of bailing out troubled financial institutions.

Besides concerns for financial stability, concerns about the cost and quality of the financial services provided to Canadians have held in check potential gains of efficiency in the Canadian financial system. Indeed in part such concerns led the federal government to reject proposals for bank mergers in the late 1990s. At the same time, the long-standing resistance of provincial governments to abandon a decentralized system of provincial securities regulation in favour of a single national securities regulator has likely reduced the country's capacity to oversee effectively the functioning and evolution of securities markets and establish effective forms of cooperation with other financial system regulators in Canada and capital market regulators in other countries.

The above constraints on potential gains in efficiency, which are unrelated to stability considerations, can be seen as pertaining to a third set of goals comprising access to quality financial services at reasonable costs and development of national financial institutions and markets. The latter goal was pursued through regulatory and policy efforts to encourage the development of local or regional financial institutions and through measures to preserve the domestic markets for Canadian financial institutions. Since my objective in this paper is to examine the Canadian financial system in light of the evolving balance of efficiency and stability over time, for all intents and purposes I will refrain from effectively dealing in any detail with access to services and promotion of national financial institutions and markets.

That still leaves many instructive lessons to take from how Canada has managed its financial system over the last 40 years or so. This paper therefore aims to trace the development of Canadian financial market policy from the Porter Commission to the present; first, to assess its successes and shortcomings in meeting the twin objectives of efficiency and stability and dealing with their inherent conflicts; and, to examine the challenges ahead in light of what we have learned from the current financial crisis.

Canadian Financial Market Policy

Canada has shown an uncommon propensity for bold initiatives regarding the financial system in the immediate decades following the second world war. The move to a flexible exchange rate in the 1950s was a daring, successful experiment. The progressive "liberalization" of the Canadian financial system in the wake of the Porter Commission recommendations in the mid-1960s was an even more profound transformation, ahead of its time.

The evolution of the Canadian financial system in the last 40 years or so has been the product of both regulatory and market-driven changes. Initially guided by the Porter Commission, amendments to the *Bank Act* from 1967 onwards have been key vehicles of regulatory changes. One of their main goals has been to stimulate competition in, and the competitiveness of, the financial sector by allowing its various institutions to respond to technological changes, the globalization of financial services, and demographic developments as they shape the desired asset-liability structure of household portfolios (Freedman, 1998). It is also worth noting that the 5-year sunset clause introduced with the 1992 amendments (in replacement of the previous 10-year sunset clause) ensures a frequent review of the effectiveness of federal financial institutions legislation respecting the objectives of stability, efficiency and innovation. It also enables the government to respond to changes requested by the federal financial institutions. The importance of this clause can hardly be exaggerated because it has imposed a continuous adaptation of laws and regulations to changes in financial instruments and markets rather than infrequent but massive overhauls. This adaptive process has more chance to bring and preserve the right balance of efficiency and stability.

The 1964 report of the Porter Commission set an important goal for future *Bank Act* revisions by promoting competition both within the banking system and between banks and other financial institutions as a way to achieve a safe, efficient, equitable and adaptable financial system. It also recommended that "government securities regulation should be further strengthened and a federal regulatory agency established" to give leadership in the development of high and uniform standards of securities regulation and legislation and to work in cooperation with provincial authorities." While its impact on the regulation of financial institutions has been considerable, securities regulation has remained firmly in the hands of provincial governments.

The 1967 *Bank Act* revisions removed interest rate ceilings on bank loans, introduced federal deposit insurance, permitted banks to invest in non-insured mortgages and to borrow by selling debentures, and imposed individual and aggregate (for non-residents) ownership limits on the shares of banks.

Subsequent amendments, especially those of 1987 and 1992, largely eroded the former segmentation of the financial system across its five pillars (chartered banks, trust and loan companies, co-operative credit movement, life insurance companies and securities dealers). An amendment in 1980 allowed banks to have subsidiaries operating in various financial areas (e.g. venture capital, mortgage loans) and foreign banks to establish subsidiaries in Canada; then in 1987 banks were allowed to acquire securities dealers; and, finally, in 1992 various regulated financial institutions were allowed to enter each other's business directly, through subsidiaries or as agents. Thus, by the early 1990s, financial institutions could develop into financial conglomerates, and indeed Canadian chartered banks did quickly become universal banks (except for limitations on investments in non-financial business and prohibition of retailing of life insurance), partly through mergers with or acquisitions of trust companies and investment dealers. In part, the resulting breakdown of segmentation reflects an adaptive response to the intensifying concerns about the future profitability and competitiveness of Canadian banks in a world of increasing market funding for corporations, securitization, globalization, and integration of financial functions. One important consequence of being universal banks that provide one-stop service for the (almost) full range of household investment vehicles has been a high ratio of depository funding to total assets, which in turn was a key factor behind the relative resilience of Canadian banks during the financial crisis (Ratnovski and Huang, 2009). As a complement to the breakdown of domestic segmentation, foreign banks were allowed in 1999 to establish branches in Canada, as opposed to subsidiaries only, thereby fostering competition and providing greater flexibility for foreign banks operating in Canada.

Efficiency gains in intermediating between savers and borrowers/investors were considerable, the range of products on offer to savers and borrowers at affordable costs expanded enormously, and transactions in foreign currencies and with non-residents increased vigorously. Regulatory and market-driven developments have led to upward trends in the bank shares of consumer loans and mortgage loans, and to a lesser extent business loans, from the late 1970's onwards (Freedman, 1998; Calmès, 2004). At the same time, the share of loans in non-financial business credit rose to a peak in the early 1980s and has since been on a downward trend as issuance of stocks, bonds and, from the mid-1990s, commercial paper has grown much faster. For banks, which have become heavily involved in the flotation of corporate securities, this has contributed to the observed shift in the sources of revenues from interest income on loans to non-interest income from fees and off-balance-sheet activities. On the funding side for banks, reliance on wholesale markets tended to grow somewhat faster than retail deposits, but has diminished substantially as a proportion of total funding since late 2008.

Along with changes to the *Bank Act*, a few important steps were taken to strengthen the infrastructure and regulatory framework of the financial system. In 1980, Parliament created by legislation a new Canadian Payments Association (CPA), which comprises both banks and non-bank deposit-taking institutions, to take over responsibility for running the cheque-clearing system from the Canadian Bankers Association and to assume responsibility for planning the future evolution of the Canadian payments system. One signal achievement of the CPA together with the Bank of Canada has been the building and implementation from 1999 onwards of Canada's large-value transfer system (LVTS) which provides clearing and settlement services to financial, corporate and government entities via chartered banks and other large deposit-taking institutions. Among other things, this contributed to a more predictable cost of overnight funding for financial institutions. LVTS exceeds world standards for risk control, and at a low cost (Longworth, 2006). This system continued to function well throughout the financial crisis, thereby supporting markets and financial institutions.

The increasing importance of electronic and mobile banking and unregulated e-payment systems (e.g. PayPal), and more generally incessant technological advances, raises the question of how the current payment arrangements need to evolve to be effective and efficient in the decades ahead. Quite appropriately, the Minister of Finance is engaged in a review of the payments system. Here again, achieving the right balance between efficiency and stability will be important.

Since 1987, the regulatory and supervisory framework has improved substantially, but only after the failure of Canadian Commercial Bank (CCB) and Northland Bank in the mid-1980s exposed severe deficiencies in the supervision of deposit-taking institutions.[2] The financial stress caused by the extraordinary surge of interest rates in the early 1980s to tame inflation contributed to the ultimate demise of these two small banks. Up to the late 1980s, the supervision of deposit-taking institutions "had been compromised by ambiguity about the role and mandate of supervision and by weak incentives to respond effectively to troubled institutions" (Engert, 2005). This was evident not only in the failures of the two Canadian banks but also in the increased deposit insurance liability and losses of the Canada Deposit Insurance Corporation (CDIC). This episode heightened the perceived need to reinforce the incentives and ability of supervisory institutions to deal effectively with failing financial institutions.

In the wake of the Estey Commission recommendations, important reforms took place in 1987 to strengthen the "financial safety net." First, a newly-created Office of the Superintendent of Financial Institutions (OSFI) replaced the Department of Insurance and the Office of the Inspector General of Banks, with the mandate to supervise all federally-chartered depository institutions and insurance companies. Second, CDIC was given more supervisory scope to mitigate the moral hazard and insurance loss associated with deposit insurance. And third, very importantly, a newly-created multi-agency Financial Institutions Supervisory Committee (FISC), comprising the Superintendent of Financial Institutions, the Chair of CDIC, the Governor of the Bank of Canada and the Deputy Minister of Finance, was charged with regularly discussing issues concerning the supervision of financial institutions,[3] including the development of strategies to deal with troubled financial institutions. FISC increased the ability of the various agents to influence supervisory decision-making and to provide support when confronted with problem institutions. The legislation also gave the Bank of Canada and CDIC the authority to require OSFI to investigate a financial institution. Another benefit of FISC is that it insures accountability in the system through the requirement to minute

2 This episode illustrates the potential conflict that can arise between the goal of access to regional institutions and that of stability.

3 It was only in 2001 that FISC's mandate was enlarged to include bank holding companies and insurance holding companies.

the discussions of the regulators/supervisors and to transmit these minutes to the Minister of Finance.

Since the late 1980s, the supervisory regime has evolved towards clearer goals, improved incentives, more accountability and greater and more flexible authority to act with regard to troubled institutions. In turn, this has strengthened the incentives for financial institutions to avoid excessive risks. The regime was importantly clarified and reinforced in the mid-1990s, not coincidentally following the *Bank Act* revisions of 1992 which led to major structural changes and efficiency gains in the financial system. In 1996, OSFI's mandate with respect to protecting the rights and interests of depositors, policyholders, and creditors was clarified while allowing financial institutions to compete effectively and take reasonable risks. This involved not only supervising financial institutions for soundness and legal compliance, but also promptly signaling and advising a financial institution that fails these criteria, promoting the adoption of policies and procedures to control and manage risk, and prudential surveillance of events that may have a negative impact on financial institutions. CDIC and OSFI jointly established a policy of early intervention with regard to a troubled institution according to four stages of increasing seriousness leading to insolvency. OSFI was also given the power to take control of an institution's assets, or of the institution itself, and through a court order close the institution. Leading to the early intervention legislation of 1996 were the heightened concerns about financial stability arising from the recent failures of Standard Trust Company, Sovereign Life Insurance Company, Confederation Life Insurance company, and Bank of Credit and Commerce International (BCCI). In 1999, OSFI started applying a framework for evaluating an institution's risks and the quality of its risk-management practices, and providing the supervised institutions with its assessment.

Partly in response to the rapid advance and diffusion of information technology in the 1990s and its perceived transformative role in the provision and consumption of financial services, the MacKay Task Force on the future of the Canadian financial services sector provided in 1998 recommendations on how to enhance competition among, and the competitiveness of, financial institutions, including recommendations on ownership and entry; how to empower consumers through transparency and disclosure; how to insure their access to basic financial services in their community; and how to improve the regulatory framework. The review process ultimately led to the adoption of Bill C-8 in 2001.

One offshoot of the Bill C-8 was the creation of the Financial Consumer Agency of Canada (FCAC) to strengthen oversight of consumer issues and expand consumer education in the financial sector. In July 2010, FCAC was also tasked with the oversight of payment card network operators and their commercial practices. For these purposes, it monitors banks, federally incorporated or registered insurance, trust and loan companies, federally incorporated credit unions, retail associations and payment card network operators.

It is interesting to note that while the MacKay Task Force was at work in 1998, large Canadian banks had their eyes on two mergers between themselves, which would reduce their number from five to three. Banks claimed that such mergers would generate economies of scale and boost their international competitiveness. The government turned down the proposed mergers and their potential stimuli to efficiency because of its concern that the Canadian marketplace might not be as well served by a more concentrated oligopoly. Thus, concerns about the cost and quality of the financial services provided to Canadians held in check potential gains in efficiency. Several years later, Allen and Liu (2005) reached the following conclusions from their research:

> Our findings suggest that, all else held constant, Canadian banks could enjoy cost savings from becoming larger. This does not necessarily imply that the same cost savings would arise from bank mergers, because the business mix and input prices are likely to change after a merger. Even if cost savings can be achieved by joining two banks, those savings may not be passed on to consumers. Whether savings are passed on depends on the market structure and contestability in banks, topics that merit further research. (p.81)

Developments on several other fronts have affected the financial system.

Money and capital markets have expanded enormously, with the issuance of paper, stocks and bonds accounting for an increasing share of corporate sector funding. Importantly, early stimuli to financial market development were the removal of interest rate ceilings on bank lending in the 1967 revisions to the *Bank Act* followed by a reduction in the chartered banks' secondary reserve ratio. This contributed to a sharp expansion of the treasury bill market, which in turn buttressed the expansion of private capital markets. Since the mid-1990s, markets for futures and derivatives have experienced considerable growth and the repo market has become a core funding source for banks and market makers. Securitization as a source of funding and investment opportunities through fixed-income markets has also grown substantially in importance until the recent financial crisis. The restructuring of the Canadian stock exchanges in the late 1990s allowed specialization and enhanced the expansion of the Montreal and Toronto stock exchanges. While the size, complexity and inter-connectedness of the financial markets have been increasing markedly over the last decades, provincial governments have resisted abandoning a decentralized system of provincial securities regulation in favour of a single national securities regulator, which likely offers a greater capacity to oversee effectively the functioning and evolution of securities markets and to establish effective forms of cooperation with capital market regulators in other countries.

Another factor contributing to the stability of the Canadian financial system relates to housing. Not only was the housing price cycle relatively subdued in Canada over the last decade, but the negative impacts that a fall in housing price could have had on mortgage defaults, lenders' losses and the value of mortgage-backed securities were bound to be much smaller than in the United States. Mortgage lending standards remained relatively high in Canada until the mid-2000s. Unfortunately, late in the cycle, the government raised the allowable loan-to-value ratio and increased the maximum amortization period despite clear evidence of excess demand and rising housing prices. Nevertheless, because this was done so late in the housing cycle, it did not do serious damage and the size of the sub-prime market was relatively small at the outset of the financial crisis. Moreover, the quality of verification and documentation remained relatively high.

Two other factors prompted financial prudence from Canadian borrowers. In Canada, the homeowner is personally liable for any deficiency that remains after the foreclosure and sale of his/her home, which is often not the case in the United States.[4] In addition, partly because mortgage interest is not tax deductible in Canada, in contrast with the United States, Canadians have tended to buy smaller, more affordable homes relative to their income than Americans would. In the 2000s, greater leverage in the mortgage market through no money down and extended amortization mortgages were allowed, but in 2008 the Central Mortgage and Housing Corporation (CMHC) ceased insuring non-prime mortgages and more recently the federal government tightened macro-prudential rules in regard to mortgages in response to high household indebtedness. These changes included *inter alia* shortening of the amortization period to 30 years (after shortening it from 40 to 35 years in October 2008), withdrawing CMHC insurance of home equity lines of credit, a reduction in the maximum refinance percentage from 90 per cent loan-to-value to 85 percent (after reducing it from 95 to 90 per cent in April 2010), and requiring a minimum down payment of 20 per cent on non-owner-occupied properties purchased for speculation.

The housing sector is particularly sensitive to interest rates and the business cycle: in periods of high real interest rates, for instance, it contracts more than the rest of the economy while in periods of low rates, it is prone to excessive expansion. Not surprisingly, housing price cycles have much larger amplitude than those of consumer prices. In this light, the CMHC can have a significant impact on economic stabilization and financial stability through the mortgage qualification rules they set and the mortgage bonds they buy. As I write, the Minister of Finance is engaged in an important and timely review of the mandate of CMHC. Such a review should take into account both the financial stability and economic stabilization impacts that CMHC policies can have.

Monetary policy experienced regime shifts over the last 40 years, which eventually led to better macroeconomic outcomes and more efficient financial markets. Monetary targets prevailed in the late 1970s, followed by a search for a nominal anchor over much of the 1980s and a shift to inflation-targeting in the early 1990s (Thiessen, 2001). Inflation-targeting anchored inflation expectations and contributed to reduced economic volatility and long-term

4 In reference to home foreclosures, lenders can pursue deficiency judgments in more than 30 states. This includes states such as Florida, New York and Texas. Many thanks to Mark Jewett for signaling this point.

interest rates. The publication of the *Monetary Policy Report* starting in 1995, the introduction of fixed action dates in December 2000 and the regular release of the *Financial System Review* from 2002 onwards buttressed the Bank of Canada's credibility by increasing transparency and accountability in policy-making. Fixed action dates also led to improvements in the efficiency of the Canadian money market.

The Financial Crisis

Canadian banks fared quite well compared with international competitors during the financial crisis. They held less toxic assets, had strong capital ratios, had higher levels of liquid assets as a share of total assets, and had a relatively high ratio of depository funding (Ratnovski and Huang, 2009). In the background, rates of mortgage delinquencies and defaults remained low in Canada. Some Canadian life insurers, on the other hand, suffered large losses from reserve increases on their variable-annuity and segregated fund guarantees during the crisis. These insurers continue to face substantial market risk. While the capital positions of insurers have exceeded the target level imposed by OSFI, one issue is whether existing capital requirements for segregated-fund guarantees are high enough. OSFI has released a draft advisory on this.

Canadian financial institutions did not escape financing pressures as funding markets became quite illiquid for a while. The importance of having continuous markets became stark, as well as the crucial liquidity supply role of the central bank and the federal government in helping institutions to obtain funding without having to engage in fire sales of less liquid assets in illiquid markets.

Canadian financial institutions started experiencing funding pressures in the summer of 2007. These pressures intensified in the fall of that year and then again in the fall of 2008 as counterparty concerns became very serious following the failure of large financial institutions in foreign markets. Liquidity premia in funding markets for government securities and financial institutions experienced spikes at that time. Funding markets, which include those for Government of Canada securities, repo, securities lending, unsecured private money markets, and foreign exchange provide essential liquidity to, and connect major players in, the financial system (Fontaine, Selody and Wilkins, 2009). If they dry up, financial institutions and non-financial corporations can incur very serious liquidity problems as the experiences not only of Lehman Brothers but also of AAA-rated General Electric in the United States vividly illustrate. That is where the role of a central bank as lender of last resort comes into play, and it did in a big way in the advanced economies, including in Canada. The Bank of Canada deployed a range of tools and facilities to provide liquidity in the system, starting in the summer of 2007 with traditional instruments (overnight special purchase and resale agreements and excess settlement balances) and by the fall of 2007 gradually expanding its framework with respect to terms to maturity, amounts, counterparties and eligible securities as the situation deteriorated (Zorn, Wilkins and Engert, 2009). In addition, the federal government, through CMHC, purchased securitized bundles of insured mortgages to provide liquidity to the banking system. By the summer and fall of 2009, financial market conditions had sufficiently improved that the Bank of Canada withdrew several extraordinary liquidity measures.

The non-bank asset-based commercial paper (ABC)P crisis that erupted in August 2007 in Canada demonstrated the inherent fragility of the ABCP market and the fact that the risks embedded in very complex and opaque financial products are often not properly communicated to and understood by investors (Chant, 2008). Issues of non-bank ABCP were exempt from prospectuses so investors were in the dark concerning the composition and nature of the assets underlying the ABCP programs. Since the crisis, progress has been made towards increasing the transparency and disclosure of ABCP programs. These include "measures undertaken by the Bank of Canada to introduce transparency requirements and minimum quality standards for ABCP accepted as collateral in its liquidity facilities, increased transparency on the part of bank sponsors, and enhanced transparency and disclosure measures for both ABCP and term asset backed securities (ABS) introduced by credit-rating agencies" (Selody and Woodman, 2009). The failure of authorities to properly assess the risk associated with exposure to U.S. toxic assets and take remedial action beforehand suggests that there was a hole in the supervisory net. In the wake of the ABCP crisis, OSFI emphasized that its mandate focuses on the solvency of Canadian financial institutions and moreover that many of the firms that sold the non-bank ABCP notes were not federally supervised and regulated and therefore not subject to the OSFI B-5 guideline with respect to capital charges for loans by Canadian banks to ABCP conduits (OSFI, 2008).

The financial crisis raises several issues for the conduct of monetary policy in Canada and other advanced countries in view of the limitations and potential of policy interest rates. Besides the problem of the zero lower bound, and whether price level targeting might help deal with this, there remains the question of whether the policy rate should be adjusted to supplement the coordinated use of prudential tools when imbalances in a specific market can spill over to the entire economy. Boivin, Lane and Meh (2010) reckon that this may be appropriate but that the resulting greater flexibility required in an inflation-targeting regime could be challenging in practice. In their view, more work is needed to bring understanding of these issues to the level required to clarify the implications for the monetary policy framework. This being said, and as I mentioned before, it is important to examine the complementary stabilization role that CMHC might play by adjusting rules for mortgage insurance. Other monetary policy issues of little direct concern to Canada but high concern elsewhere in the world relate to the use of quantitative easing and quantitative instruments (e.g. bank reserve requirements, capital controls) as complements to the policy interest rate. The former has been used by the United States and the United Kingdom and the latter by emerging market economies. The end of monetary policy history has not yet arrived.

Financial Reform

What lies ahead in Canada is essentially an agenda spearheaded by public authorities to buttress financial stability in conformity with the G-20 reform blueprint. This agenda aims at improving the resiliency of financial institutions, building robust financial markets and reducing the interconnectedness between institutions and markets (Carney, 2010).

At the core of decreasing the vulnerability of financial institutions to booms and busts are the provisions of the Basel III agreement to create global standards for liquidity, raise the quantity and quality of Tier 1 capital, and introduce a leverage ratio and a capital conservation buffer, to be complemented by a countercyclical buffer which would vary over time. As an economist I would make an argument for the use of countercyclical buffers. In the old days of non-transparency the governor would negotiate the amount of hidden reserves that banks would have to hold, in effect activating countercyclical buffers. Nowadays, regulators must be totally transparent and follow rules rather than judgment. An effective mechanism of countercyclical buffer, however, is difficult to design. Nevertheless, in the more principles-based system we have in Canada, I believe it is worth exploring further whether such mechanism cannot be implemented. The timetable for full implementation of Basel III extends to 2019. It should be noted that Canada has had a tier one capital target of 7 per cent going back to 1999, that 75 per cent of that tier one capital has had to be in common shares, and that a maximum leverage ratio, of 20 to 1, has been in force throughout that time.

As a complement to capital and liquidity rules for banks, introducing counter-cyclically variable rules for allowable loan-to-value ratio and maximum amortization period for government-insured mortgages would be an effective way to deal with the inherent swings between exuberance and excessive pessimism in the housing market. While this would be politically difficult, a clear assignment of a stabilization rule to CMHC would certainly contribute to greater stability in both the housing market and financial markets generally.

As a further complement, an OSFI draft advisory has proposed implementing capital standards with regard to the segregated-fund guarantees of Canadian life insurers, which would better cover all risks associated with equity holdings.

The key initiative for making financial markets more robust is reforming Canadian markets for over-the-counter (OTC) derivatives as per a G-20 commitment. This calls for standardized OTC derivatives to be traded on exchanges or electronic platforms and cleared through central counterparties (CCPs) by end-2012. An inter-agency working group, chaired by the Bank of Canada, issued a discussion paper in October 2010 and the Canadian Securities Administrators, gathering provincial regulators, issued a consultation paper in November 2010. In parallel, the Canadian Derivatives Clearing Corporation is working on developing a CCP for the Canadian repo markets to make these markets more efficient in good times and less vulnerable in difficult times (they experienced significant illiquidity in the fall of 2008). Standardization and CCPs will reduce counterparty risk, increase transparency and help prevent spillover effects of an institution's failure.

Many possible measures have been proposed for dealing with bank resolution – the risks posed by large, interconnected institutions. These include *inter alia* capital surcharges, systemic risk levies and living wills. The U.S. *Dodd-Frank Wall Street Reform and Consumer Protection Act*, which was signed into law in July 2010, advocates that “no bank or financial institution that contains a bank will own, invest in or sponsor a hedge fund or a private equity fund, or proprietary trading operations unrelated to serving customers for its own profit.” The preliminary report of the Vickers Commission in the United Kingdom does not go as far as recommending a separation of the commercial from the investment banking operations of banks, but advocates ring-fencing their retail arms and imposing a 10 per cent equity tier one capital ratio on systemically important lenders. For Canada, contingent capital, which has been the object of proposals by OSFI and the Basel Committee on Banking Supervision (BCBS), seems the preferred tool for dealing with bank resolution. They would improve the capacity of the private sector to contribute to the resolution of failing banks while reducing risks to the public sector and improving incentives to limit risk-taking. One important measure to clarify in order to promote investors' interest in contingent convertibles is the conversion criteria.

The new capital and liquidity rules will impose transitory economic costs over the medium term. The OECD has recently estimated that the higher capital requirements of Basel III effective as of 2019 would increase bank lending spreads by about 50 basis points over about five years, thereby cutting GDP growth in the United States, Europe and Japan by an average 0.15 percentage points per annum over this period (Slovik and Cournède, 2011). In my view, these estimates are likely to be somewhat too low. A significantly greater impact was estimated by the Institute of International Finance. The right answer probably lies somewhere in between.

Over and above the warranted costs of higher capital requirements, the precise and detailed rules proposed will add to operational and compliance costs for banks and financial intermediaries. In principle, higher capital and liquidity ratios are warranted but the detailed application rules seen so far would add greatly to the deadweight cost of regulation. Canadian financial institutions understand the need for better risk management and would benefit from the greater confidence that higher ratios would bring to markets. But compliance with the excessively detailed and intrusive operational controls implied by the proposed international rules would increase the cost of financial intermediation in Canada. Canada should avoid slavish adherence to the details of Basel III. Our system of principles-based regulation should continue to serve us well, even more so in a context where most national regulators elsewhere will not conform to the detailed, uniform international standards. What is required here in Canada is a high degree of cooperation between regulators and financial institutions to achieve stability goals. In the past, such cooperation in designing principles-based regulation has strengthened the Canadian system. We should not lose that advantage as we move forward. The long run stability benefits flowing from greater capital and liquidity requirements should outweigh transition costs provided that the new principles are applied in a way that minimizes the deadweight loss of operational inefficiency.

Balancing Efficiency And Stability

The experience of the last half century suggests that the solid, consistent performance of the Canadian financial system benefitted considerably from the reasonable balance between efficiency and stability that has prevailed in the Canadian financial system. Financial institutions have grown profitably and financial markets have expanded in scope and depth, but excessive leverage and risk-taking have been held in check, at least in part by well coordinated regulation and supervision and macro-prudential rules. The financial sector has provided a greatly expanded array of financial services and products to Canadian households and firms. Moreover, efficiency gains in the provision of such services have been passed on at least in part to customers, reflecting competition in the sector and market contestability through the potential entry of new firms.

Barring extraordinary shocks, global financial stability should be buttressed in the years to come as financial systems are repaired and reformed. The associated adjustment costs should be significantly lower in Canada than in most advanced countries in view of its already high prudential standards and strong regulatory framework. But of course we need to proceed in a way that minimizes the deadweight cost of regulation. Canada will nonetheless remain vulnerable to contagion from financial troubles elsewhere in the world and their collateral damage in terms of external demand. It therefore stands to benefit a lot not only from more resilient financial institutions and markets in Canada but also, and perhaps even more, from financial reform elsewhere in the world even if it entails transitory collateral damage for Canada in terms of slower growth in external demand.

Efficiency remains of paramount importance for economic prosperity, perhaps even more so than before given the need to mitigate the expected (transitory) rise in the cost of capital to firms and households as a result of more stringent capital and liquidity requirements for financial institutions in the years ahead. Preserving, if not enhancing, competition and market contestability may be the best way to promote efficiency gains and the transmission of the resulting cost reductions to Canadian households and firms. This traditional concern of Canadian policy makers since at least the Porter Commission is well worth preserving.

References

Allen, J. and Y. Liu (2005) "Efficiency and Economies of Scale of Large Canadian Banks," *Financial System Review*, June (Bank of Canada), pp. 79-82.

Boivin, J, T. Lane and C. Meh (2010) "Should Monetary Policy Be Used to Counteract Financial Imbalances?" *Bank of Canada Review*, Summer (Bank of Canada), pp. 23-36.

Calmès, C. (2004) "Regulatory Changes and Financial Structure: The Case of Canada," Bank of Canada Working Paper 2004-26.

Carney, M. (2010) "Bundesbank Lecture 2010: The Economic Consequences of the Reforms," Remarks of the Governor of the Bank of Canada at the Deutsche Bundesbank, 14 September.

Chant, J. (2008) "The ABCP Crisis in Canada: The Implications for the Regulation of Financial Markets," research study prepared for the Expert Panel on Securities Regulation.

Engert, W. (2005) "On the Evolution of the Financial Safety Net," *Financial System Review*, June (Bank of Canada), pp. 67-73.

Fontaine, J.-S., J. Selody and C. Wilkins (2009) "Improving the Resilience of Core Funding Markets," *Financial System Review*, December (Bank of Canada), pp. 41-46.

Freedman, C. (1998) "The Canadian Banking System," Bank of Canada Technical Report 81.

Longworth, D. (2006) "The crucial contribution of the financial system and monetary policy to economic development," *BIS Review*, Vol. 39, pp. 1-5.

Office of the Superintendent of Financial Institutions Canada (2008) "Backgrounder – OSFI's Role in the ABCP Market Issue,"

Ratnovski, L and R. Huang (2009) "Why Are Canadian Banks More Resilient?" *IMF Working Paper*, WP/09/152.

Selody, J. and E. Woodman (2009) "Reform of Securitization," *Financial System Review*, December (Bank of Canada), pp. 47-52.

Slovik, P. and B. Cournède (2011) "Macroeconomic Impact of Basel III," *OECD Economics Department Working Papers*, No. 844.

Thiessen, G. (2001) "Can a Bank Change? The Evolution of Monetary Policy at the Bank of Canada 1935-2000," *The Thiessen Lectures* (Bank of Canada), pp. 61-81.

Zorn, L., C. Wilkins and W. Engert (2009) "Bank of Canada Liquidity Actions in Response to the Financial Market Turmoil," *Bank of Canada Review*, Autumn (Bank of Canada), pp. 3-22.

What Is "Credible" Fiscal Policy? The Canadian Experience, 1983-2010:

The View of a Former Practitioner

C. Scott Clark[1]
C. S. Clark Consulting

I WAS ASKED INITIALLY TO CONTRIBUTE an article on "ideal" fiscal policy. I have no idea what "ideal" fiscal policy means and I doubt that any one else does as well. I decided, therefore, to replace "ideal" with "credible," even though I also know there is no agreement among economists as to what constitutes "credible" fiscal policy. Lack of agreement among economists is a normal state of affairs.

What I do know, however, is that I have heard and used the term "credible" fiscal policy on many occasions over the past 30 years, in numerous discussions with Canadian Ministers of Finance, in G-7 meetings of Finance Ministers and Central Bank Governors, and at meetings at the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD) and the European Bank for Reconstruction and Development (EBRD).

1 I would like to thank my colleague Peter Devries for comments, suggestions, and memory clarification.

I often heard the statement that "fiscal credibility is difficult to earn, easy to lose, and once lost, almost impossible to regain." It was always unclear to me, and perhaps also to others, exactly what had to be done to achieve this "honored state of credibility." There seemed to be an implicit understanding or agreement among participants in these discussions that "credible" fiscal policy meant "disciplined" fiscal policy, a policy in which a government was willing to make tough political choices in order to ensure long-run fiscal sustainability – a situation characterized by stable economic growth through control of the accumulation of government debt.

If one looks at the fiscal policy record of the G-7 countries in the post-war period, one would have to conclude that it was anything but "disciplined" or "credible." No country ever recorded a surplus until the mid-1990s and debt and debt burdens rose exponentially. In most G-7 countries, they still are rising relentlessly. There was little stability in financial and exchange markets, and monetary and fiscal policies were more often in conflict than in concert.

Unfortunately, little has changed today. The United States is in miserable financial shape and is unlikely to show any significant improvement within a decade or probably even longer. Japan is not much better and some of the smaller EURO countries are struggling to stay afloat and are threatening the very existence of the EURO. Exchange markets are erratic and fundamentally misaligned, and financial markets are just as vulnerable, if not more so, to instability today, as they were prior to 2008. I doubt that anyone would describe the fiscal policies of most G-7 countries as "disciplined" or "credible."

Defining Credible Fiscal Policy

Who decides whether fiscal policy is credible and on what basis do they decide? In my experience, governments usually seek the approval of their fiscal policies from four key groups. The ranking of these four groups in terms of importance depends on the country involved, the severity and nature of the fiscal problem, the actions being taken to bring about fiscal sustainability, and which groups are likely to be impacted most.

First, governments seek the approval of financial markets because their approval will be critical in determining the cost of borrowing for the government, as well as for other borrowers in the economy.

Second, governments seek the approval of important stakeholder groups, representing business, labour, consumers and educational institutions to mention only a few. This is done through extensive pre- and post-budget consultations. They are important because it is these sectors that will make the decisions that will affect investment, output, and employment. They also represent the "talking heads" that the media will consult for their opinions. They can significantly affect public opinion by their reaction to government actions.

Third, governments also seek the approval of the media, both domestic and international, because the media is critical in shaping public opinion. If initial media reaction is negative, then it could be difficult to change their observations and conclusions.

Fourth, but definitively not last, governments must seek the approval of elected bodies, and the general public. They must carefully explain why action is necessary, the nature of the actions being considered, and how such actions affect them. The public must be convinced that actions are necessary, that they are equitable and that they will lead to long-term benefits, even though there may be short-term pain. In some cases, the public is ahead of the government in demanding credible fiscal actions to control the buildup of debt.

What do these groups consider in deciding if fiscal policy is "disciplined" or "credible"? In my thirty years of experience, these groups consider four criteria in making their judgment.

First, fiscal policy must be **realistic**. By that I mean fiscal policy should be based on sound analysis and a careful and balanced view of economic and fiscal prospects, challenges and risks. Fiscal policy should not be based on a "rosy" or unrealistic view of future economic and fiscal prospects.

Second, fiscal policy must be **responsible**. This means the government must be committed to establishing and maintaining a sustainable medium or longer-term fiscal framework, one that supports long-run stable economic growth through control of the accumulation of public debt. Such a framework should be able to accommodate temporary fiscal actions, taken to stimulate aggregate demand and cushion fluctuations in output, provided these actions do not lead to permanent structural imbalances and a rising public sector debt burden. It is the case that if the debt-to-GDP ratio is allowed to increase unchecked, then eventually this will reduce the flexibility and capacity of government to deal with short-term fluctuations in output.

Third, fiscal policy must be **prudent** by including a reasonable amount of "insurance" to guard against forecast error and the impact of unforeseen events and necessary policy actions.

Finally, fiscal policy must be **transparent**. This means providing full disclosure of analysis and information since, without this, independent experts will not be able to assess how realistic the economic and fiscal forecasts are. Without transparency there can be no accountability. Such analysis should not be restricted to the current planning period, but identify potential risks in the future.

These four criteria are not mutually exclusive. For example, a sustainable fiscal framework based on a realistic assessment of future economic and fiscal prospects should also be prudent by including adequate insurance to offset risks and uncertainties.

The four criteria may be difficult to satisfy either individually or in combination. Depending on the government involved, the past fiscal record of the government, and the severity and nature of the fiscal situation, the relative importance of the individual criteria can vary, as can the overall level of credibility required to satisfy bond markets, stakeholders, the media, and the general public.

Arguably, it may not be fair to apply these four criteria in judging the credibility of fiscal policy in an historical context. After all, governments today have more data, more information, better analysis, access to more rapid data processing, and greater high-speed communication, than 30 years ago. One might think that this would make satisfying the four criteria easier and perhaps they do. But it is these same technologies that make achieving fiscal credibility even more important than in the early 1980s.

With the Internet and Twitter, policy makers now live in real time in a globalized world of instant information. Policy advisers and decision makers are acutely aware that financial markets can move instantaneously and brutally in response to real or perceived policy failures. This was evident in the response of financial markets to the banking failures in 2007 and 2008 and, more recently, in the response of financial markets to the failure of Greece, the European Central Bank (ECB), the IMF, and Germany to act in a realistic, responsible, prudent and transparent fashion.

There is an issue of how these criteria may be impacted by the size of government, measured by the size of spending and revenues as a share of GDP. In my view, these four criteria are important to determining the credibility of fiscal policy regardless of the size of government. What may change is the relative importance of the groups who need to be convinced that the fiscal actions (both tax and expenditure) being taken are appropriate, necessary, and adequate.

Realistic Fiscal Planning

Establishing fiscal credibility requires that fiscal planning be based on a realistic assessment of economic and fiscal prospects and the risks and uncertainties surrounding them. At its most basic level, this requires a government that demands from its public service the best analytical and policy advice possible.

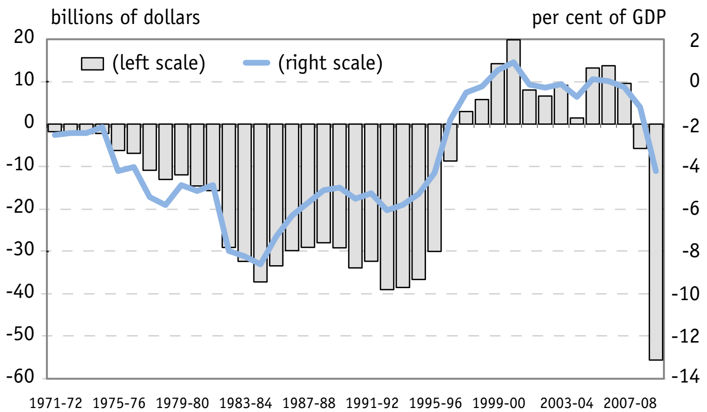
Chart 1 and 2 show the all too familiar deficit and debt record of Canadian federal governments from the early 1970s to the present. Over the period to 1983-84, the deficit as a share of GDP increased five-fold then declined steadily during the rest of the decade, before beginning to rise again in response to declining output and rising deficits during the 1990-91 recession.

Not surprisingly, both the level of debt and the debt burden (the ratio of debt to GDP) increased exponentially with debt increasing five-fold between the early 1980s and the mid-1990s and the debt burden reaching a record level of almost 70 per cent of GDP. With interest rates rising during this period, and economic growth slowing, public debt charges rose from 31 cents of every revenue dollar to 38 cents. By the early 1990s, interest costs on the debt were increasing faster than the operating surplus, and the government was borrowing just to pay the interest on its debt.

This outcome had in fact been predicted 10 years earlier by the newly elected Conservative government. In November 1984, the new government released a major assessment of Canada's economic and fiscal prospects entitled

A New Direction for Canada: An Agenda for Economic Renewal (The Agenda) (Department of Finance, 1984). Not only was this document a first of its kind, it also set a precedent and became the template for many similar reviews over the following 30 years.

Chart 1
Budgetary Balance



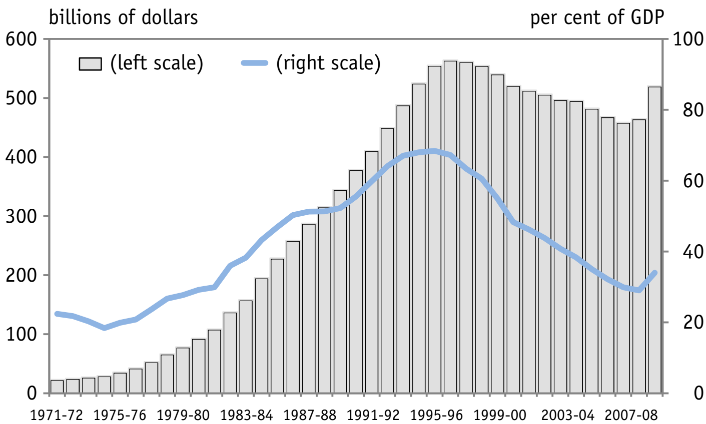
Sources: Public Accounts of Canada and Statistics Canada.

The Agenda described the fiscal problem facing the government in 1984 in the following manner.

> The mounting debt burden and rising debt charges pose a serious potential threat to the long-run growth of the economy. The great danger now is that the large stock of debt has left the federal government's fiscal position extremely vulnerable to a continuation of high real interest rates. Because the real rate of interest currently exceeds the economy's real growth rate, we have reached a point where normal growth in the economy is not in itself enough to pay the rising debt service charges on the debt. Thus, the economy would have to run faster and faster just to keep even with the rising interest payments on the growing debt. It is on an accelerating treadmill. The increase in public debt charges would lead to an

increase in public debt and to an increase in the debt to GDP ratio. This relentless process of debt service costs and debt, both growing faster than GDP, would continue as long as the real rate of interest exceeded the real growth rate of the economy. (Department of Finance, 1984, p.19)

Chart 2
Federal Debt
(Accumulated deficit)



Sources: Public Accounts of Canada and Statistics Canada.

The government was admitting that it faced the prospect of steadily rising deficits and debt that could only be stopped if interest rates fell significantly, economic growth rebounded strongly, and the government made major cuts to program spending and increases in tax revenues.

The government understood very well the risks and uncertainties with respect to interest rates.

> There can be no guarantee that the interest rate decline, which has been assumed, will indeed occur. It may be that the second half of the 1980s, like the first half, will see high and volatile interest rates, and the pressure on the deficit and the size of the debt will intensify. Given this

> possibility, prudent economic and financial management demands government action now to stop the federal debt from growing faster than the economy. The need for such action is not a matter of ideology. It is an inescapable reality we have to deal with. (Department of Finance, 1984, p.19)

In the May 1985 Budget, the Minister of Finance stated:

> If the past pattern of large federal deficits and growing debt were allowed to continue, upward pressure would be maintained on interest rates, (and) the government's control over fiscal policy would be jeopardized. The longer action is delayed, the more serious the problem will become and the more draconian the future corrective action would have to be. (Wilson, 1985, p.2)

The 1985 budget provided some interesting sensitivity analysis as to what would happen to the debt burden if interest rates did not decline and economic growth did not recover as assumed. An "unfavorable case," in which real interest rates exceeded real growth rates, projected that by 1990-91 the debt-to-GDP ratio would reach over 70 per cent. In a "favorable case," in which real growth rates exceeded real interest rates, the debt-to-GDP ratio was still projected to reach 60 per cent (Wilson, 1985, p.46). In other words, even in the "favorable case" there would have to be significant expenditure cuts and/or tax increases to stop the debt burden from rising before the end of the decade.

But no one inside or outside government seemed to be listening to this analysis. The government had a realistic and accurate view of the debt problem, but unfortunately it had an unrealistic view of what was going to happen to interest rates and economic growth. The government chose to base its fiscal planning on the "favorable case," in which it was assumed, without any basis, that interest rates would decline and economic growth would recover, despite the fact that the necessary fiscal and monetary policy conditions required for this to happen were not being implemented in either Canada or the United States. The alternative assumption would have required stronger fiscal action, which the government was not prepared to do. It preferred to hope for the best rather than plan for the worst.

In all its budget forecasts, the Department of Finance kept projecting a decline in the deficit and debt burden, based on unrealistic interest rate assumptions, and as a result postponing real policy actions. Interest rates did not decline, economic growth did not recover, the deficit and debt did not decline, and, as predicted in 1984, the debt-to-GDP ratio reached almost 70 per cent by the early 1990s. The failure to adopt realistic interest rate and economic growth assumptions hurt the credibility of the Department and the government.

In 1994 the Department of Finance commissioned Ernst & Young (E&Y) to conduct a review of its forecasting accuracy and methods (Ernst & Young, 1994). E&Y concluded that the Department's economic forecasts were consistently better than those in the private sector. Despite this, the government felt that "fiscal" credibility could only be restored to the budget process if private sector economists prepared the forecast of key economic variables. It also meant that if the economic forecast turned out to be wrong then the private sector economists could be blamed.

In October 1994, the Liberal government released a number of discussion papers under the general heading "Agenda: Jobs and Growth."[2] The 1994 Liberal Agenda was very similar to the 1984 Conservative Agenda with regard to the fiscal problem and what was required to deal with it. This is not surprising since many of the persons involved in writing the 1994 Agenda were also involved in writing the 1984 Agenda and the fiscal problem had not changed, only worsened.

> The government is, therefore, committed to reverse Canada's fiscal decline, first by achieving the announced deficit target of reducing the deficit to no more than 3 per cent of GDP by fiscal year 1996-97... The ultimate objective is to achieve a balanced budget and to significantly reduce federal debt as a percentage of the GDP. (Department of Finance, 1994b, p.vi)

Unlike in the mid-1980s, there was no denying the fiscal math in the mid-1990s. Real interest rates were above real growth rates (the unfavorable scenario in the 1985 budget) and public debt charges were growing faster than the surplus on the operating balance. In other words, the government was borrow-

2 The discussion papers included Department of Finance (1994a) and (1994b).

ing to pay interest on the debt and was facing a vicious circle of ever-rising deficits and debt.

Just as in the 1980s, the government knew that in order to eliminate the deficit interest rates would have to decline and economic growth would have to recover. The U.S. Federal Reserve Board and the Bank of Canada had both tightened monetary policy in the late 1980s and this had resulted in a major decline in output in both countries and a significant reduction in inflation. As a result, short-term interest rates had fallen and long-term interest rates were also beginning to decline as inflation fell.

Even though the prospect of a decline in long-term interest rates was better than in the 1980s, the extent and speed of the decline could not be predicted with any accuracy. The view in the Department of Finance was that broad and deep expenditure cuts were necessary to demonstrate the government's resolve to halt the deterioration in the fiscal situation and to restore some credibility with financial markets. This would reduce risk premiums, bring a more rapid reduction in long-term interest rates and support stronger economic growth. This in turn would strengthen government revenues and hopefully result in a "virtuous circle" – restrictive fiscal policy, loosening of monetary policy, decline in interest rates, stronger economic growth, higher revenues, lower cyclically-sensitive expenditures, lower deficits, etc.

As it turned out, the Department of Finance, as well as all the private sector economists, seriously underestimated the rapid decline in interest rates that occurred, the strength of the resulting recovery in economic and revenue growth, and consequently the size of the surplus. Fortunately, under-forecasting a surplus does not have the same impact on credibility as under-forecasting a deficit.

Unlike the fiscal situations inherited by the Conservative government in 1983 or the Liberal government in 1993, the fiscal situation inherited by the Conservative government in 2006 could not have been better. The government inherited a surplus of $13 billion, a significantly reduced debt level, and a debt-to-GDP ratio that had fallen to 35 per cent and was expected to continue to fall. In other words, the government had inherited a sustainable fiscal structure. Canada had the best fiscal record among the G-7 countries and had been referred to by *The Economist* as the "Maple Leaf Miracle."

The only challenge for the Conservative government in 2006 was to maintain this fiscal structure. Unfortunately, this has proved to be a bigger challenge than expected. There are three main reasons for this. First, in 2008, the government stated categorically that it would never record a deficit, as the economy would not go into a recession. The Minister of Finance, in his November 2008 Economic and Fiscal Update, produced a fiscal forecast showing surpluses as far as the eye could see. When it comes to adopting an "unrealistic" view of economic and fiscal prospects, this has to be one of the worst forecasts ever made by a Canadian government. The fact is, however, no one saw the recession coming. Certainly the Bank of Canada didn't. By 2009-10, the deficit reached $55.6 billion, in part because of the recession, but also because Canada, as a member of the G-20, chose to provide stimulus, and indeed relatively more stimulus than any other G-20 country.

The second reason is that it was unclear from the very beginning as to whether the government really understood what was required to maintain a sustainable fiscal structure. This was evident with the two-point cut in the GST rate (from 7 per cent to 5 per cent), which not only immediately wiped out the $13 billion surplus the government had inherited, but resulted in a growing revenue loss in future years. To make matters worse, there was no offsetting reduction in federal spending, which continued to grow faster than GDP. The government is in denial that the fiscal structure may no longer be sustainable. Instead the government believes that the entire deficit is due to the recession and temporary stimulus spending and that economic growth will eliminate the deficit.[3]

The government has consistently rejected analysis by the Parliamentary Budget Officer (PBO), the IMF, and others that indicates that the deficit includes a structural component that will not be eliminated without significant expenditure cuts and/or tax increases (Devries, 2011). Just recently, the PBO released an update of its fiscal projections, which showed a structural deficit of $6 billion in 2015-16 (Barnett, Danforth and Matier, 2011). The government,

3 In the March 2011 and June 2011 budgets the government committed to finding savings of $4 billion annually in order to eliminate the deficit one year earlier.

on the other hand, has rejected the existence of a structural deficit, without providing any supporting analysis.

The third reason is the refusal of the government to acknowledge the growing fiscal imbalance that will emerge over the coming decade due to the ageing of the population, which will increase government spending and reduce potential economic growth (Clark and Devries, 2011). The PBO has set out the fiscal implications of these developments and the IMF has also highlighted "the significant risks to long-term fiscal sustainability from the budgetary impact of the population ageing and health-care inflation" and stressed "the importance of increasing transparency and communication about these challenges (demographic) and their long-run implications, (and) to increase public awareness and contribute to a debate about possible solutions" (IMF, 2010) .

The government has steadfastly ignored these warnings about a growing fiscal imbalance. Since coming to office, the government has steadily lowered taxes with the result that total tax revenues have fallen from 16.7 per cent of GDP in 2006-07 to 14.3 per cent in 2009-10, while program spending has increased from 13 per cent of GDP in 2006-07 to 16 per cent in 2009-10. The government is committed to maintaining the growth of health and social transfers to the provinces when the current legislation expires on March 31, 2014 for the following two years. If the government subsequently refuses to raise taxes, then the full burden of a fiscal correction will have to fall on cutting program spending and reducing the size and role of the federal government.

The issue of fiscal credibility for the government has been less important in the last few years than it was in the 1980s, 1990s, and early 2000s. There are two main reasons for this situation. First, the Conservative government has been able to take advantage of the very high level of fiscal credibility earned by the Liberal government in the 1990s and the first half of the 2000s. The second reason is that Canada experienced a mild recession compared to other contries, and Canada's financial sector weathered the financial collapse extremely well compared to the financial sectors in other G-7 countries. Canada has continued to outperform all other G-7 countries, and this has helped maintain Canada's fiscal reputation internationally. Currently financial markets are more focused on the debt crisis in Europe and the growing fiscal problem in the United States.

The second reason is that the government has emphasized its commitment to achieving a sustainable fiscal structure, despite all the evidence to the contrary. Although Canada recorded the largest deficit ever in 2009-10, it was nevertheless considerably lower as a share of GDP by historical and international comparisons. The fact is that Canada's structural deficit problem could be dealt with without major expenditure cuts and/or tax increases if it had not taken the fiscal policy actions it did before the 2008-2009 recession.

Having achieved a majority in Parliament, the government is now in an excellent position to begin building a credible fiscal strategy to deal with the impact of the structural problems that will increase over the coming decade. But first it needs to be realistic and accept that there is a problem. The IMF has supported the government's fiscal strategy to date, but has stressed the need to begin "Cementing (the) Fiscal Situation, (and) to put Canada's net debt-to-GDP ratio (already low by international perspective) on a declining path over the medium term, to both bolster fiscal prudence and prepare for the coming demographic pressures" (IMF, 2010, p.10).

Responsible Fiscal Planning

This is the criterion that financial markets probably focus on most in making their assessment of fiscal credibility. This is not surprising since it usually requires that a government demonstrate that it is prepared to make tough political decisions, usually in the form of cutting government programs and/or raising taxes. Not surprisingly, governments, no matter what their political ideology, tend to resist doing this, unless they are put in a position, usually by bond markets, in which they have no other choice.

Some have argued that because of this "political reluctance" to act, it would be better to legislate fiscal rules that would bind a government to take action before a fiscal problem becomes a fiscal crisis. This, it is argued, would ensure credibility. The EURO zone countries are the best example of the rules approach and also the best example of fiscal rules not working. Ever since the Growth Stability Pact was adopted, member counties have been consistently breaking and changing the rules, to the point where the rules themselves now lack credibility. A review of fiscal rules (Kennedy and Robbins, 2001) concluded that there might be a role for legislated fiscal rules in certain cases, but that legislated rules are by no means necessary or sufficient for achieving fiscal consolidation. Fiscal rules, to be effective, must be restricted to those things over which the government has some control.

The IMF in the 1980s and 1990s took on the role of lender of last resort for emerging market countries in fiscal crisis. The governments of many of these countries lacked credibility because of their failure to make necessary fiscal adjustments, and in some cases for defaulting on their foreign debts. In all cases, access to private bond markets had been cut off, and financing would not be available unless the country agreed to an IMF structural loan involving very tough fiscal and monetary conditions. There is no consensus to date as to the success of these IMF programs as the countries often failed to meet the conditions.

By 1995, the fiscal math had finally caught up with Canada. Interest on the debt was increasing faster than the surplus in the primary balance and the government was confronting a vicious circle of ever-rising deficits and debt. Major rating agencies had downgraded government bonds and the IMF was publicly chastising the government for its failure to take needed fiscal action.

The 1995 budget was the watershed budget for the government, particularly given the negative response by the domestic and international media, and financial markets, to the 1994 budget. There would not be a third chance if the 1995 budget failed to deliver on its commitment to reduce the deficit-to-GDP ratio to 3 per cent, or better. In the end, the budget did deliver, and more importantly, it exceeded everyone's expectations. The budget went beyond just cutting government spending and government jobs, which it did in a dramatic fashion. It also demonstrated that the federal government would be smaller, more focused on areas of clear federal responsibility, and be less intrusive in the economy.

The budgets of every government department were cut, except for Indian and Northern Affairs. Some departments—Industry, Natural Resources, Regional Agencies, and Transport—had their budgets cut by almost half over a three-year period. The cuts were expected to reduce the spending of government departments by almost 19 per cent by 1997-98 compared to 1994-95. The major transfers to the provinces under the Canada Assistance Plan and Established Programs financing were consolidated into a new transfer, which was reduced from that originally planned. Further structural reforms were made to the unemployment insurance program. The total cumulative spending cuts over the three years amounted to $25.3 billion, while total cumulative savings amounted to $29 billion.

Program spending was projected to decline in absolute terms for the first time in the post-war period. The government projected that the ratio of program spending would decline from almost 17 per cent in 1993-94 to 13 per cent by 1997-98. The deficit was projected to hit the 3 per cent target and the debt-to-GDP ratio to stop rising.

The reaction to the budget was extremely positive, beyond the government's expectations. The decline in interest rates accelerated, as risk premiums were virtually eliminated, economic growth strengthened and the deficit declined even faster than projected. By 1997-98, the budget had been balanced, for the first time in the post-war period, and the government entered a 10-year period of growing surpluses, and declining debt and debt burden. The Liberal government deserves credit for creating a sustainable fiscal structure, restoring fiscal credibility and ensuring an on-going legacy of credibility.

The substance and ultimate success of the 1995 budget was, however, very much affected by the failures and successes of the fiscal, tax and economic policies of the 1980s. In many areas the Conservative government in the 1980s did not hesitate to make tough political choices: the partial de-indexation of the expenditure and tax systems in 1985; the reform of the personal and corporate tax systems in 1987; the introduction of the GST in 1991; the cap on program expenditures in 1991; and the negotiation of the North American Free Trade Agreement. By any comparison, historical or international, these were very tough political decisions.

However, the government did hesitate to introduce sufficient fiscal restraint in the 1980s. Even though program spending as a share of GDP fell, and revenues as a share of GDP rose, this was not enough. Nevertheless, without the changes made to the revenue and expenditure structures in the 1980s, the fiscal crisis in 1995 would have been significantly worse and the actions needed to fix it considerably more severe. The fiscal turn around in the mid-1990s was made easier by many of the structural policy decisions made in the 1980s.

The current majority Conservative government is in an enviable position compared to the previous two majority governments. It does not face a fiscal crisis, only a small fiscal problem. This does not mean there are no difficult obstacles to restoring and maintaining the sustainable fiscal structure that it inherited in 2006. The government has initiated a government wide process to find $4 billion in annual savings by cutting direct program spending. The government has claimed that this can be found through new efficiencies and attrition, and that there is no need for major cuts to programs. This is simply unrealistic and suggests an aversion on the part of the government to making tough expenditure decisions. This weakens the government's credibility.

In the 2010 budget the government froze the operating budgets of government departments with the goal of finding $1.8 billion in annual savings. In June of this year the government re-tabled its Main Estimates for 2011-12. The government reported that it expected that departments and agencies would decrease staffing by 6,000 by 2013-14. The PBO commented that a "6,000 FTE reduction could generate roughly one-third of the $1.8 billion target..." (Jacques, 2011). In other words, the government still needs to provide details on how it intends to find the savings proposed in the 2010 budget, let alone the additional $4 billion in expenditure cuts committed to in the June 2011 budget.

Eliminating the deficit by 2015-16, let alone 2014-15, will require substantially more than $4 billion in expenditure savings unless economic growth greatly exceeds current expectations, which is not likely to be the case. Moreover, on top of these yet unidentified cuts, resolving the fiscal pressures that will emerge in the second half of the decade will require even further spending reductions, including reductions in major transfers, including transfers to the provinces and possibly even transfers to individuals. Unless the government recognizes that there is a substantial structural deficit and addresses it effectively, it will run the risk of losing fiscal credibility.

Prudent Fiscal Planning

The adjective "prudent" is often used to describe a fiscal plan, without specifying exactly what is meant, or on what basis it is used. I would describe a fiscal plan as prudent if the plan includes adequate "insurance" against unforeseen events and inevitable forecasting error. The purpose of the "insurance" is to protect the fiscal targets as much as possible and to give confidence to financial markets and stakeholders that the targets might actually be achieved. This enhances the credibility of the fiscal plan.

As discussed in the first criteria, sound economic analysis and a realistic view of economic and fiscal prospects is a necessary first step in developing a prudent fiscal plan. This has not always been the case in Canada. During the 1980s fiscal planning used unrealistic economic assumptions and included no insurance against risks and uncertainties.

Although necessary, a balanced and realistic economic forecast alone may not be sufficient. The government recognized this in the 1994 budget by including additional "economic prudence" through adjustments to the private sector average forecast of interest rates and nominal GDP. In effect, the economic forecast adjustment built in an implicit buffer in the fiscal forecast by reducing tax revenues and by increasing public debt charges.

In the 1996 Budget, the benefits of using "prudent economic planning assumptions" were described in the following way:

> Use of prudent economic assumptions for fiscal planning was initiated in the 1994 budget.... This approach has helped restore credibility to the fiscal forecast and, as result, has helped bring forward the benefits of deficit reduction in the form of lower interest rates. (Department of Finance, 1996, p.90)

But the government went even further and included more prudence by including a Contingency Reserve of $2.5 billion in 1996-97 and $3.0 billion in 1997-98. The purpose of the contingency was described in the following way.

> The Contingency Reserve is included in the deficit projections primarily to cover risks arising from: (i) unavoidable inaccuracies in the models used to translate economic assumptions into detailed budget forecasts; and (ii), unpredictable events. The contingency reserve also provides an extra measure of backup against adverse errors in the economic forecasts. The Contingency Reserve is not a source of funding for new policy initiatives. (Department of Finance, 1996, p.94)

With the elimination of the deficit in 1997-98, the use of prudent economic assumptions and a Contingency Reserve were incorporated into the Debt Repayment Plan. Under this plan, the Contingency Reserve, if it were not needed, would be used to reduce debt.

In the 2000 Budget, the additional economic prudence was included explicitly in the budget framework rather than being included in adjustments to expenditures and revenues. This increased transparency and made it easier "to judge the credibility of the key components of the fiscal projections" (Department of Finance, 2000, p.1).

In the mid-1990s, prudence was important to enhance the credibility of the annual fiscal targets. With the emergence of balanced budgets and increasing surpluses, the need for prudence became less evident. However, prudence was still required to ensure that the current year point-estimate fiscal target would be met without having to take in-year action, which could be extremely disruptive to departmental planning.

In the 2006 Budget, the new Conservative government replaced the Debt Reduction Plan of the previous Liberal government with a commitment to reduce the debt by $3 billion annually. With the emergence of a deficit in 2009, the $3 billion debt reduction reserve disappeared and there has been no replacement with a "contingency reserve" since.

After 2006, the government continued to use the average of private sector forecasts in setting the economic assumptions. The use of private sector economic forecasts does not ensure that the economic forecast used in budget planning is in fact prudent. There could be a wide range of views among the private sector forecasts, which would be masked by using the average. Only three of the private sector institutions have fully articulated medium-term econometric models. The remaining institutions largely focus on the short term using rather simple models. This raises issues about the comparability between the short- and medium-term forecasts.

The government recognized these problems and a small economic prudence factor was included in the 2009 budget. This was removed in the 2010 budget but was re-introduced in the 2011 budget.

> The Government has adjusted downward the private sector forecast for nominal GDP for budget planning pur-

> poses by $10 billion in each year of the forecast. This adjustment for risk, representing a downward adjustment of $1.5 billion in fiscal revenues in each year of the forecast, reflects the remaining uncertainties surrounding the global economic outlook.
>
> The Government will continue to evaluate economic developments and risks to determine whether or not it would be appropriate to maintain this downward adjustment for risk in the future. (Department of Finance, 2011)

This allowance for risk in the economic outlook and in the methodologies for calculating deficits is only about one-quarter of the allowance made by the previous government during a period when the economy was much smaller. The 2005 budget included prudence increasing to $7 billion in the fifth year of the forecast, equivalent to 4 per cent of total government revenues.

In the June 2011 budget, the Minister of Finance expressed his concern about the debt crisis in Europe and the serious fiscal imbalance in the United States. Despite the evidence that economic growth is slowing in the United States, and that interest rates will not only rise in coming years but also be more volatile, he has not included any additional prudence in his fiscal forecast.

The financial meltdown in 2008-2009 underscores the uncertainties inherent in economic and fiscal forecasting. The debt problems in some EURO countries, the misalignment of exchange rates, and the fragility of the U.S. financial system clearly indicate a need for a substantial amount of prudence. Other unexpected developments (e.g., floods, SARS, Avian flu) can exacerbate the impact of economic uncertainties. The impact of structural imbalances affecting the fiscal framework further compounds these uncertainties.

No one could have forecast the fiscal impact of the latest recession. Nor should one attempt to offset the impact of automatic stabilizers on the fiscal balance. However, some degree of prudence is required to manage non-cyclical factors, especially errors in translating economic forecasts into fiscal forecasts. This would re-enforce the credibility of the announced fiscal targets. A prudence reserve rising to 4 per cent of total revenues or $7 billion over the budget horizon would not be unreasonable.

Transparent Fiscal Planning

At the present time, the fiscal planning process and the fiscal structure lack transparency. This has not always been the case. Liberal and Conservative governments in the 1980s and 1990s wanted their public servants to provide their best advice, regardless of whether that disagreed with the government; they wanted to know the costs of all the policy options; and, they were prepared to defend their decisions in public and before Parliamentary committees.

In the 1980s, the senior executive group of the Department of Finance was told to "get out of Ottawa" and meet with stakeholders (business, labour, social, financial groups) to discuss policy issues and explain government policies. Senior Finance officials appeared before House of Commons and Senate Committees on a regular basis to explain the details of fiscal policy. This was also true in the 1990s. The Minister of Finance introduced the mechanism of a Fall Economic and Fiscal Update at which the Minister agreed to appear to explain the economic and fiscal situations as a basis for pre-budget consultations. Economists in the Department of Finance were encouraged to publish their analysis and attend domestic and international conferences to present and debate their work. None of this has continued after 2006.

At the present time, neither the Minister of Finance nor his officials are available to explain fiscal policy to Parliamentary Committees or to the public. This is unfortunate and surprising given that the government was elected on a commitment to improve both transparency and accountability (Clark and Devries, 2010b).

The Parliamentary Budget Officer (PBO) was created in the Federal Accountability Act of 2006, but the office was not established until March 2008 (Clark and Devries, 2010a). The creation of the PBO was the result of a commitment made by the Conservative government during the 2006 election. It was hoped that this would promote greater "transparency and accountability" by the government in budget planning. This has not been the case. Since its creation, PBO has been in a constant battle with the government over its independence, inadequate budget, and lack of staff. In addition the government has denied the PBO access to data that it needs to do its work.

The PBO has a staff of only 13 and an annual budget of under $3 million. How does this compare with other OECD governments? According to a 2007 OECD survey of its 30 member countries, along with another 8 non-OECD countries, 16 countries reported that they had "a specialized budget research office/unit attached to the legislature to conduct analyses of the budget" (Anderson, 2009). The largest independent budget office is the Congressional Budget Office (CBO) in the United States. The CBO has a budget of $45 million and employs about 250 professionals. From its very beginning, the CBO has expanded its functions far from what was originally envisaged to become a nonpartisan, independent, objective, and analytical agency.

A strengthened and more independent Parliamentary Budget Office would promote greater understanding of complex budget issues; it would force the government to defend its economic and budget forecasts; it would promote a straightforward and more understandable and open budget process; it would promote accountability by commenting on the government's projections and analysis; and, finally, by being nonpartisan, it would provide research to all political parties.

At the present time, the Prime Minister appoints the PBO who then reports to the Library of Parliament. This needs to be changed. The PBO should be appointed by Parliament and dismissed by Parliament, not by the Prime Minister.

The PBO emphasized the need for greater transparency in the budget economic forecast. The private sector forecasters are only surveyed for a selected number of key economic aggregates. The private sector forecasters do not decompose their forecast of nominal income and expenses into their respective components, nor do they prepare the fiscal projections. This is done by the Department of Finance. The PBO believes that the Department of Finance should publish its forecasts of the components of national income (e.g., corporate profits) and expenses, rather than claiming that such information cannot be released due to "Cabinet Confidence." The last time this information was publicly released was in the November 2005 Economic and Fiscal Update. It should be a regular feature of the budget and economic updates.

The Government should, once again, (as in the 1980s) take full responsibility for the economic and fiscal forecasts presented in its budgets and economic and fiscal updates. The Department maintains one of the country's most comprehensive econometric models of the Canadian economy and its economic forecasts should be used to prepare the fiscal forecasts, rather than using the average of private sector forecasts. This would open up the debate on the applicable economic assumptions to use for budget planning. It would once again ensure that the government is fully accountable and more transparent for both the economic and fiscal projections.

The Department's economic forecasts should be compared with the average private sector economic forecasts, with differences fully explained and justified. This would once again engage the private sector economic forecasters in a public debate. Forecast details on both real and nominal GDP should be publicly provided so that assessments can be made on the composition of GDP. This should be provided on a consistent basis.

Like the Bank of Canada, senior officials of the Finance Department should be required to appear on a more regular basis before Parliamentary Committees to explain the economic and fiscal forecasts. Indeed allowing Finance officials to participate in a public discussion of fiscal policy would help strengthen the credibility of the policy.

The PBO has also expressed concerns over the lack of detailed costing information for new policy initiatives or a plan to secure the spending restraint savings announced in recent budgets. The PBO believes that Parliament is losing control over its fiduciary responsibilities, as set out in the Constitution, by approving legislation without knowing the full impact such legislation will have on the budgetary projections.

Main Observations and Conclusions

I have proposed four criteria for assessing the credibility of fiscal policy. To be credible, fiscal policy should be based on a **realistic** assessment of economic and fiscal prospects; it must be **responsible** by committing to a medium or longer-term fiscal structure that supports economic growth through control of the accumulation of public debt; it must be **prudent** by including insurance against forecast errors and unforeseen events; and finally, it must be **transparent** by making all information and analysis available to elected officials and the public. Without transparency, there can be no accountability.

The credibility of Canadian government fiscal policy, in terms of responsible fiscal actions, had probably reached its lowest by the mid-1990s. The debt-to-GDP ratio had increased to almost 70 per cent by 1995-96 compared to just over 38 per cent in 1983-84; interest costs were taking up a growing share of government revenues; and the government was borrowing just to pay the interest on its debt. The government had failed to adopt a realistic view of economic prospects and to include any prudence in it fiscal planning. Actions were taken to restrain the growth in spending and to increase taxes, which resulted in a surplus in the operating balance of the budget. These were insufficient, however, to offset the growth in public debt charges and further increases in the deficit and debt. Despite the inadequacy of fiscal restraint actions, the government made significant changes to the tax system, which contributed significantly to deficit elimination after 1995. During this period, there were major improvements in the transparency of budget planning.

The budget of 1995 and the subsequent elimination of the deficit in 1997-98 began a period of relatively high fiscal credibility both domestically and internationally. Financial markets, stakeholders, the media, and the Canadian public applauded the financial performance of the government. Canada went from being the second worst in fiscal terms in the G-7 to being the best in the G-7. Canada still has the best fiscal situation in the G-7. In the decade that followed the 1995 budget, significant achievements were made with respect to all four criteria, but especially with respect to responsibility and prudence.

In 2006 the new Conservative government inherited a sustainable fiscal structure and a high level of fiscal credibility. It remains to be seen whether they will retain either. Prudence has been virtually eliminated in fiscal planning, despite substantial world uncertainties and a struggling U.S. economy. Transparency in budget planning has been diminished to the point where claims of cabinet confidence are used to deny economic and financial data to Parliamentary Committees, the PBO, and the general public. The government ignores advice and research on economic prospects and fiscal challenges from reputable organizations. And finally, the government has yet to demonstrate fiscal responsibility by making difficult expenditure cuts.

At this juncture, Canada is in a very enviable fiscal position in the G-7, indeed in the G-20. Every other G-7 or G-20 country faces greater fiscal problems and greater threats to long-term economic growth and fiscal sustainability. Canadians want the government to adopt a fiscal strategy that is realistic, responsible, prudent, and transparent. With a Parliamentary majority, there is no reason for the government not to respond accordingly.

References

Anderson, B. (2009) "The Changing Role of Parliament in the Budget Process," *OECD Journal on Budgeting*, Vol. 1, pp. 1-11.

Barnett, R., J. Danforth and C. Matier (2011) "PBO Economic and Fiscal Outlook" (Ottawa: Office of the Parliamentary Budget Officer).

Clark, C.S. and P. Devries (2010a) "Good Bye Parliamentary Budget Officer," *3DPolicy*. Retrieved from http://3dpolicy.ca/content/good-bye-parliamentary-budget-officer

Clark, C.S. and P. Devries (2010b) "Time to Make the Budget Planning Process More Accountable, Transparent, and Prudent," *3DPolicy*. Retrieved from http://3dpolicy.ca/content/time-make-budget-planning-process-more-accountable-transparent-and-prudent

Clark, C.S. and P. Devries (2011) "To Minister of Finance, The Honorable J. Flaherty; Pre budget Submission; Confronting the Structural Deficit," *3DPolicy*. Retrieved from http://3dpolicy.ca/content/minister-finance-honourable-j-flaherty-pre-budget-2011-submission-confronting-structural-def

Department of Finance (1984) *A New Direction for Canada: An Agenda for Economic Renewal*, Presented by Michael H. Wilson, Minister of Finance, November 8 (Ottawa: Department of Finance).

Department of Finance (1994a) *A New Framework for Economic Policy: A Presentation by the Honourable Paul Martin, P.C., M.P., to the House of Commons Standing Committee on Finance*, October 17 (Ottawa: Department of Finance).

Department of Finance (1994b) *Creating a Healthy Fiscal Climate: The Economic and Fiscal Update* (Ottawa: Department of Finance).

Department of Finance (1996) *The Budget Plan*, Tabled in the House of Commons by Paul Martin, Minister of Finance, March 6 (Ottawa: Department of Finance).

Department of Finance (2000) "Fiscal Outlook: The Two-Year Planning Horizon to 2001-02" *Budget 2000*, Ch. 3 (Ottawa: Department of Finance).

Department of Finance (2011) *The Budget Plan*, Tabled in the House of Commons by James M. Flaherty, Minister of Finance, June 6 (Ottawa: Department of Finance).

Devries, P. (2011) "March 2011 Budget; The deficit that won't go away," *3DPolicy*. Retrieved from http://3dpolicy.ca/content/march-2011-budget-deficit-won-t-go-away

Ernst & Young (1994) *Review of the Forecasting Accuracy and Methods of the Department of Finance* (Ottawa: Department of Finance).

International Monetary Fund (2010) *Canada Staff Report for the 2010 Article IV Consultation-Supplementary Information* (Washington: International Monetary Fund).

Jacques, J. (2011) "Main and Supplementary Estimates (A) 2011-12," (Ottawa: Office of the Parliamentary Budget Officer).

Kennedy, S. and J. Robbins (2001) "The Role of Fiscal Rules in Determining Fiscal Performance," Department of Finance Working Paper 2001-16.

Wilson, M. H. (1985) *The Fiscal Plan* (Ottawa: Department of Finance).

Why Did Unemployment Disappear from Official Macro-Economic Policy Discourse in Canada?

Lars Osberg[1]
Dalhousie University

IAN STEWART WAS AT THE CENTRE OF MACRO-ECONOMIC policy making in Canada from 1966 to 1982. Through most of this period, the real hourly wages and living standards of most Canadian families rose significantly – in distinct contrast to Canadians' experiences since then. A festschrift for Ian therefore offers the opportunity to consider the appropriate objectives of macro-economic policy, and the continued relevance of his work as macro-economic analyst and policy maker.

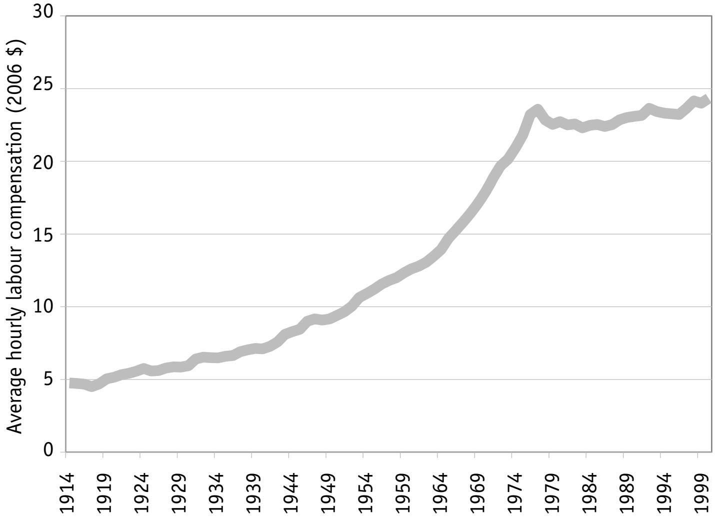
In particular, during Ian Stewart's period of policy-making, it was taken for granted that a major objective of modern governments was macro-economic stabilization that would minimize occasional deficiencies in aggregate demand

1 In revising this paper from the version presented at the author's workshop, I benefitted greatly from the comments of Gordon Betcherman, Fred Gorbet, Talan Iscan, Brian Maclean, Tim Sargent, Andrew Sharpe and other participants in the workshop. Errors remaining are my responsibility.

and lessen the social costs of the unemployment thereby produced. However, although unemployment has been relatively high over much of the period following Ian's departure from the Department of Finance, mention of it has virtually disappeared from macro-economic policy discourse. Since Ian's successors have been noticeably less successful in producing rising real wages and material living standards, the disappearance of unemployment from their radar screens has evidently not improved the ability of Ottawa decision makers to deliver these macro-economic policy outcomes. This essay therefore asks: why does official Ottawa now hardly mention unemployment? Is it possible that macro-economic outcomes would be better if more attention was paid to unemployment?

Section one of this essay starts by documenting the slowdown in real wage growth and family living standards of the last thirty years in Canada. Section two then contrasts the emphasis on unemployment as an important policy problem in official Canadian documents during the period before 1980 with the virtual disappearance of the issue from official documents which is characteristic of the present day. Section three surveys very briefly the evolution of economic thinking about unemployment and why macro-economic policy makers may have been educated to ignore unemployment. Section four then considers, and emphatically rejects, the possibility that unemployment is no longer discussed because economists have discovered that it is unimportant for human happiness and well-being. Section five examines briefly the evidence on the percentage of aggregate unemployment that is 'structural'. Although the macro policy levers which could produce faster real growth and lower unemployment have long been well understood, macro policy initiatives to reduce unemployment rates are considered unthinkable in official Ottawa, because low and stable inflation has become the over-riding goal of macro-economic policy and acceleration of growth is perceived to present risks of higher inflation. Section six therefore discusses whether the changing perceptions of relative risks and the incentive structure of macro-economic policy makers aligns well with the interests of most Canadians.

Chart 1
Real (2000$) Hourly Wage in Canada, 1914-2000



Source: CANSIM1 I603501 1961-2000; URQUHART 1914-1960.

Stagnation of Real Wages and Living Standards

Ian Stewart earned his BA and MA from Queen's, and after attending Oxford and teaching at Queen's and Dartmouth, he received his PhD from Cornell in 1965. He joined the Bank of Canada in 1966 as a macro-economic model builder, moved to Treasury Board in 1972 and rose rapidly to become Deputy Minister of Finance for Canada between 1980 and 1982. His childhood and adult life were therefore spent in a Canada in which it was the norm for average real hourly wages to rise, year over year – and, as a professional economist, Ian participated in the policy decisions which contributed to rather rapid improvements in real living standards during the 1970s, as Chart 1 illustrates.

Chart 1 splices together (in 1961) two statistical series, the latter of which ends in 2000. Its most prominent lesson is the structural break in average real wage growth[2] at the end of the 1970s, as central banks in North America and Europe raised interest rates to dramatic heights to bring down inflation. The anti-inflation crusade succeeded in reducing consumer price inflation in Canada from an average 8.1 per cent per year between 1976 and 1980 and a peak of 12 per cent in June 1981 to an annual average 3.8 per cent between 1984 and 1988. Governor Crow's Hansen lecture of that year committed the Bank of Canada to "a path that leads towards underlying price stability". After another round of high real interest rates and the resultant induced recession, inflation in Canada reached its target range of approximately 2 per cent in January 1992. Since then, for the past twenty years, annual inflation has remained in the 1 per cent to 3 per cent range. Over the 1991-2010 period, the average annual inflation rate was 2.01 per cent.[3]

Chart 2 documents the time path of average real wages for salaried and hourly paid employees over that period and confirms the continued stagnation of average real wages. Between 1991 and 2010 there was some improvement in the average hourly real earnings of salaried employees (an average growth rate of 0.8 per cent per annum), but much less for hourly paid workers (0.3 per cent).

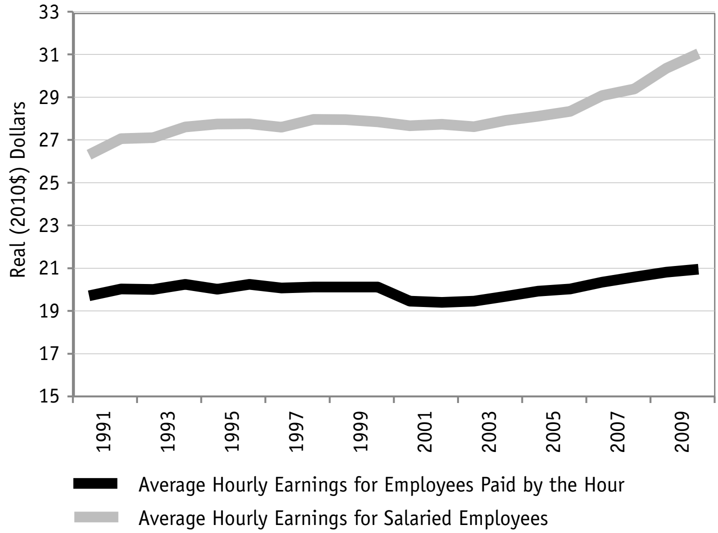
How does this performance compare with other historical episodes in Canada? During the 1951-1971 period, the inflation rate averaged 2.2 per cent., the national unemployment rate averaged 4.9 per cent and real hourly compensation more than doubled, growing at an average 3.3 per cent annually. During the 1967 to 1977 period, when concern about inflation surged because the all items Consumer Price Index rose at an average rate of 6.2 per cent, the national unemployment rate averaged 5.9 per cent, but real hourly wages were growing at a compound annual rate of 3.97 per cent. Compared to either

2 Throughout this paper, real wages are calculated as (nominal hourly wages) / (Consumer Price Index - CANSIM v41693271 Canada; all items). However, the wage concept underlying Chart 1 is total hourly compensation (i.e. including the cost of employer contributions to pension plans, health benefits and premiums for Employment Insurance and Workers Compensation) while Charts 2 and 3 refer just to hourly earnings, not including such costs. Sharpe *et al.* (2008) document the rising share since 1961 of Supplementary Labour Income in total hourly compensation.

3 Consumer Price Index - CANSIM v41693271 Canada; all items.

Chart 2

Average Real Hourly Wages, Canada, 1991-2010



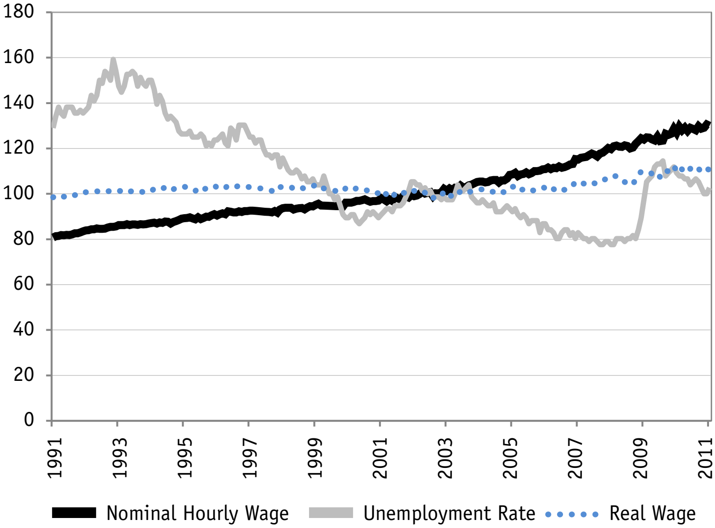
Source: Statistics Canada, CANSIM Tables 281-0030, 281-0036, and 326-0021.

period, growth in real hourly wages during the last twenty years has been pitifully small.

Chart 3 presents the real and nominal trend in the overall index[4] of the average hourly earnings of all employees. The steady increase in average nominal hourly wages, at approximately the rate of inflation, masks (with a slight uptick since 2006) the essential constancy of average real hourly wages. Although the unemployment rate has fluctuated significantly over the last twenty years, this has primarily been fluctuation over a range of unemployment rates that has not been so low as to produce enough demand pressures to bid up average real hourly wages. For hourly paid workers, expressed in 2010 dollars, the average hourly real wage in 2004 ($19.68) was virtually identical to that in 1991 ($19.71). Only when the national unemployment rate dipped below 7 per cent

4 Chart 2 presents average hourly earnings including overtime for employees paid by the hour (salaried). Chart 3 shows the fixed weighted index of average hourly earnings for all employees (SEPH), excluding overtime. Both are derived from the Survey of Employment, Payrolls and Hours.

Chart 3
Average Hourly Wages and Unemployment (All Workers), Canada, 1991-2011
(2002=100)



Source: Statistics Canada, CANSIM series v1606080 and v2062815.

during 2005-2008 was there an appreciable tendency to rising average real hourly wages.

Real average weekly earnings in Canada did rise a bit and fall again between 1992 and 2003 before beginning a clear upward trend after 2003 – but data on weekly earnings mingle the impact of changes in the availability of paid work hours and any changes in the real price of labour time. As an indicator of the trade-off for families between paid work and household production or leisure, and the improvement of material living standards over time, the real hourly wage has clear conceptual advantages.

However, a major disadvantage of Charts 1 to 3 is their use of the mean as a sufficient summary statistic for the distribution of hourly wages. In the statistical literature, a commonly expressed opinion is: "The median is often regarded as a more appropriate measure of location than the mean when variables with a highly skewed distribution, such as income, are studied." (Kuk and

Mak, 1989, p. 261). It is well known that the distribution of wages has always been highly skewed, but the fact that it has become much more skewed in recent years (see Atkinson and Piketty, 2007) implies that data on average wages or earnings are increasingly misleading as indicators of trends in the living standards of most citizens.

Trends in the real income[5] of each income quintile between 1980 and 2005 have analyzed by Heisz (2007) and Osberg (2008). They document a clear contrast between the stagnancy of real incomes within the bottom four quintiles – i.e. the bottom 80 per cent - and the increase in the average real income of the top 20 per cent (which is actually concentrated in the top percentile). As Murphy and Wolfson (2007) and Veall (2010) have documented, income gains in Canada have been concentrated at the very top, particularly within the top 1 per cent. Income gains there have pulled up the average of the top quintile, and the average of all incomes, but have left most household's incomes unchanged.[6]

Hence, if one of the objectives of macro-economic management is to increase material living standards over time, and if the criterion of success is person-weighted, then it appears fairly evident that the macro-economic managers who succeeded Ian Stewart at the centre of official Ottawa have not been particularly successful.

If living standards had increased, one could of course have debated the relative importance of macro policy decisions. Over this period, the Canadian population increased substantially in education levels and the Baby Boomers aged into their most productive years – so both demographic trends and

5 After tax equivalent income per person is the closest one can get to a measure of material standard of living, but trends in it are influenced by trends in household size and composition and by tax and transfer policy changes, as well as by the supply, demand and pay for labour of individual household members.

6 As Veall (2011) and others have noted, large increases in labour income among the top 1 per cent are an important part of their increase in aggregate income share. Such increases have pulled up the average hourly real wage of salaried workers (Chart 2) and the overall index of hourly wages (Chart 3). Because hourly paid workers are extremely unlikely to be in the top few percentiles of the wage distribution, the trends in their average real hourly earnings presented in Chart 2 have not, for this reason, changed as an indicator of the central tendency of the distribution of hourly wages for this class of workers.

greater average levels of human capital should have produced rising average real hourly wages. As well, an increased capital/labour ratio and substantial technological change should have increased the marginal productivity of labour, and hence wages. Over the last thirty years, a long series of micro-economic reforms have also aimed at attaining great market efficiency – e.g. deregulation, free trade (FTA and NAFTA and WTO), privatization of Crown corporations, lower taxes and massive cuts to unemployment insurance and social assistance. These market-oriented reforms and improvements in inputs and technology could have claimed partial credit, had an increase in living standards for most people been observed – but it wasn't.

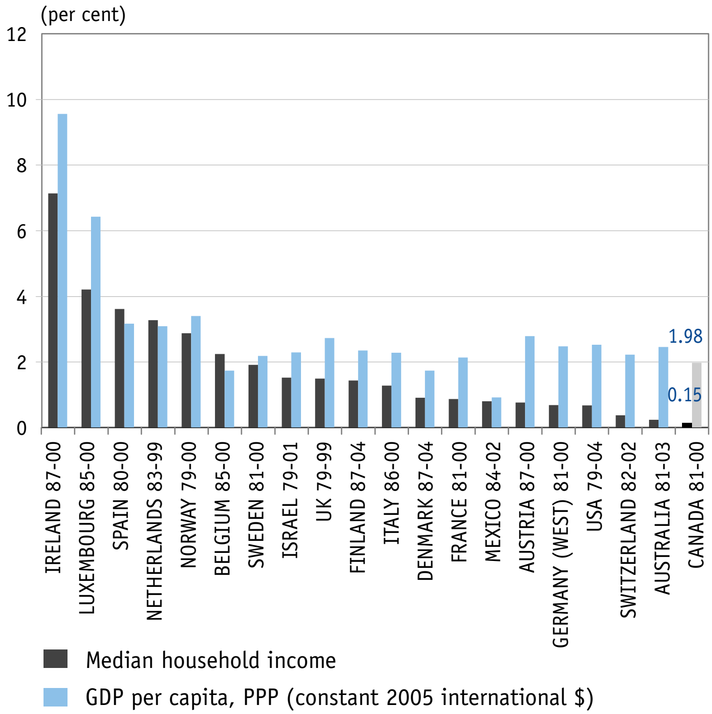
One possible response is to argue that "times were tough all over" – so what does Canada's macro-economic performance look like when compared to that of other affluent nations? Chart 4 presents the trends in Luxembourg Income Study (LIS) data on average annual growth rate of median real after tax equivalent household income, matched with comparably dated trends in GDP per capita.[7] Appendix 1 presents the same information in tabular form.

For Canadians, it is particularly notable just how bad, in comparison to other high wage nations, Canada's actual performance in raising median living standards has been.[8] As Chart 4 illustrates, in this group of 20 OECD nations, Canada came dead last in terms of median real income growth – by a solid

7 Atkinson and Brandolini(2001: 771) have called the LIS "the gold standard" for household income comparisons, because of its standardization of coding of the micro-data assembled from individual country surveys. Using LIS data offers the assurance that the same income concept is being compared, and the same adjustments to money income to account for taxation and possible differentials in household size are used (see http://www.lisproject.org/keyfigures/methods.htm). The disadvantage, for the analysis of long term trends, is that only a few countries had high quality household surveys twenty five years ago and one must rely on data sets from individual country surveys, which are not always done in exactly the same year. GDP and GNI data taken from World Development Indicators Online (WDI).

8 In most cases, the average rate of growth of GDP per capita has exceeded the rate of growth of median income – but not in all. Spain, the Netherlands and Belgium were exceptions.

Chart 4
Real Mean and Median Income Growth by Country
Average Annual Growth Rates



Source: Statistics Canada, CANSIM series v1606080 and v2062815.

margin. If the criterion of macro-economic performance is "to contribute to (…) rising living standards for Canadians",[9] median real income (adjusted for household size, after taxes and transfers) is a better indicator than GDP per capita – and by that criterion, Canada's post-1982 performance is particularly bad, relative to both previous Canadian performance and that of other developed nations.

As Sharpe *et al.* (2008) note, changes in the average real wage over time are the sum of changes in labour productivity, labour's share of national income

9 "The goal of monetary policy is to contribute to solid economic performance and rising living standards for Canadians by keeping inflation low, stable, and predictable." http://www.bank-banque-canada.ca/en/about/do.html

and labour's terms of trade.[10] In the long run, labour productivity trends are crucial, but as they point out: "the median earnings of full-time, full-year workers in Canada rose only $53 dollars, from $41,348 (2005 dollars) in 1980 to $41,401 in 2005. Over the same period, total economy labour productivity gains were 37.4 per cent" (Sharpe *et al.*, 2008, p. 17). As they demonstrate, in an accounting sense, a fifth of this divergence can be explained by measurement issues and another fifth by a decline in labour's share of national income, while 27.6 per cent can be ascribed to the increase in earnings inequality and a third is accounted for by a decline in labour's terms of trade.

However, in an economic sense, these components are unlikely to be independent. Specifically, slack labour markets can be expected to produce rising inequality among workers (which increases the divergence between median and average earnings) *and* a decline in labour's share of national income and slower growth in labour productivity (since employers have less incentive to economize on a not-so-scarce input and the success of training programmes and other labour market interventions depends heavily on job availability). Although Canada's low productivity growth rate has been the target of structural reform initiatives from free trade to deregulation, the possibility remains that low unemployment may be crucial – and this policy option also provides a clear answer to the question Sharpe *et al.* ask (2008): "If most Canadians are not seeing the benefits of labour productivity growth in the form of higher real wages, why should they support policies favouring productivity growth?" (p. 26).

Out of Sight, Out of Mind?

Unemployment and the Changing Rhetoric of Canadian Public Policy

In 2011, and for some years previously, the *Monetary Policy Report (MPR)* of the Bank of Canada has presented a quarterly analysis of the key issues and prospects affecting the Canadian economy. The *MPR* analyzes international trends in interest rates, inflation rates, US household savings, US housing

10 The ratio of the GDP deflator to the Consumer Price Index – which can be seen as the price of the output produced by workers relative to their cost of living.

markets, global commodity prices, global financial markets, oil prices, the current account, Canadian financial conditions and much else. The *MPR* also presents forecasts of what the Bank of Canada considers to be key macro-economic variables, such as the components of GDP growth and inflation. No forecast of unemployment is presented. Indeed, unemployment is often not mentioned at all. To be precise, a word search for "unemployment" in the Fall issues of the *Monetary Policy Report* between 1995 and 2009 obtained zero 'hits' in 5 years, one hit in each of 9 years and two hits in one year (an average frequency of 0.73). The recession produced 11 hits in 2010. By contrast, the word "inflation" appears quite frequently – for example, 105 times in the November 1996 issue (when national unemployment was 9.6 per cent and inflation was 1.7 per cent).

Presumably, in presenting an analysis of Canada's macro-economic situation, one discusses what one considers to be important and ignores what is unimportant. In the January, 2011 issue of *MPR*, unemployment in the United States is mentioned four times. Unemployment in Canada (then at 7.8 per cent) is mentioned only once – not as something important in itself,[11] but as an indicator, among others, of "the persistence of slack in the labour market". Although this issue was published at a time when emergence from the recession continued to be unsteady, the quarterly *Monetary Policy Report* of the Bank of Canada contained forecasts of inflation, GDP growth and other economic variables, but the unemployment rate was apparently considered too unimportant an aspect of the Canadian economy to be worth predicting.

Nor is this lack of attention to unemployment unusual. In the Federal Budget of 2008, for example, the word "unemployment" appears only once. In the Economic Statement of October 2007, unemployment is mentioned twice, to congratulate the then lowest unemployment rate in 33 years (6.1 per cent), and to express the expectation that it would hold at 6.2 per cent in 2008 and 2009 and average 6.0 per cent from 2010 to 2012. By the time of the 2009 federal budget, the recession had forced some consideration of unemployment back

11 It is an interesting commentary on the attitudes of public officials in Canada that the US unemployment rate is more frequently mentioned than the Canadian unemployment rate, in a macro-economic projection of the Government of Canada.

onto the agenda, and in 2010, when the unemployment rate was 8.3 per cent, the budget document noted "While unemployment remains a concern, the rise in the unemployment rate has been smaller than was initially forecast by private sector forecasters."

However, unemployment is often just not mentioned by the makers of fiscal policy. Since 1995, "Budget in Brief" has provided a concise (on average 23 pages) synopsis of the challenges facing the Canadian economy and the policy responses of the federal government – in 10 of these 16 years, the word 'unemployment' does not appear.[12]

In Canada, this disappearance of unemployment from official documents summarizing important trends in the Canadian economy has been accompanied by institutional and professional amnesia about the possibility of low unemployment. Because the Labour Force Survey was substantially expanded in scope and sample size in 1976, and it is data from the new version of the Labour Force Survey which is readily available on CANSIM,[13] most analysts focus on the period since 1976. Over the period 1976 to 2004, unemployment in Canada averaged 8.8 per cent, and only once fell below 7 per cent. Although researchers who are willing to look up the numbers can retrieve data from earlier periods, that takes more work and as a consequence, earlier Canadian historical experience with unemployment has mostly disappeared down the memory hole. Hence, when the national unemployment rate reaches the 7 per cent range, this can look like good times, compared to the rest of the post-1980 historical experience – macro-economic managers can then say "mission accomplished" and turn to other issues.

By contrast, when the national unemployment rate rose from 5.4 per cent in 1974 to 7.1 per cent in 1975, this followed a long period in which it had fluctuated in the 4 per cent to 7 per cent range, averaging 5.3 per cent over the 1953-1975 period. Hence, 7 per cent unemployment was then seen as "high"

12 'Unemployment Insurance' was mentioned 13 times in 1995, when it was cut back substantially – and 'unemployment' was mentioned four times in one year, two times in two years and one time in each of three years,

13 Larger sample size meant major improvements in geographic and demographic disaggregation became possible after 1975, but the questions defining 'job search' and the criterion of unemployment remained unchanged. Hence aggregate national unemployment rates are quite comparable across surveys.

– a major national problem. In a major study, *People and Jobs*, the Economic Council of Canada discussed the meaning of the unemployment rate as an indicator of financial hardship (in the context of the 1971 revisions to Unemployment Insurance and the increasing prevalence of dual earner households) and cyclical, structural, frictional and seasonal components of its evolution over time. In government documents of the day, the wisdom of reducing the unemployment rate was certainly seen as something debatable and as a process with distinct limitsminimization of inflation and maintenance of budget balance were clearly – also issues of major importance. But even if unemployment was not the only objective of macro-economic policy, it was at least mentioned, as one item on the list of potentially desirable outcomes.

How has Understanding of Unemployment Changed?

Within Canadian labour economics, perspectives on unemployment have changed enormously over time. When, for example, Stephen Peitchinis wrote *Canadian Labour Economics* in 1970, he began the chapter on unemployment by quoting Keynes: "The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary, and inequitable, distribution of wealth and incomes" (Peitchinis, 1970, p. 229).[14] In Peitchinis' view, the Canadian economy had only attained full employment during the 1947-1953 period (when the national unemployment rate averaged 2.7 per cent), so the average unemployment rate of 5.0 per cent for the 17 years since then represented a massive waste of economic potential.

All the same, when Peitchinis detailed the costs of unemployment, he stressed its socio-economic dimensions, arguing that: "The social aspects of unemployment are not fully appreciated by those who do not have the misfortune to experience unemployment. Particularly so the socio-psychological aspects – the way the man feels, as a member of society, and as a family-man with responsibilities; and the way his wife and children feel. These are subjective matters, and, therefore, cannot be appreciated through observation; they must be felt" (Peitchinis, 1970, p. 230). He then goes on to provide a lengthy

14 The quotation itself is the opening sentence of the concluding chapter of *The General Theory of Employment, Interest and Money* – see page 372 of MacMillan edition, reprinted 1964.

vignette of a middle class man`s unemployment experience. In 1970, Peitchinis was not unusual in his condemnation of unemployment – the competing labour economics text by Donald Woods and Sylvia Ostry had begun their chapter on unemployment by describing it as "the worst scourge of a free-enterprise system" (Woods and Ostry, 1962, p. 358).[15]

Modern labour economics texts (e.g. Benjamin, Gunderson, Lemieux and Riddell, 2007) are shorn of any hint of moral outrage at unemployment, or empathy for the unemployed. Micro-market models of job search behaviour, implicit contracts and risk sharing, efficiency wages and monitoring are rehearsed. Structural change and sectoral reallocation of labour are discussed. Major attention is paid to the debate on how the `incentives` of unemployment insurance in Canada may have influenced behaviour. The expectations-adjusted Phillips curve and the long-run vertical NAIRU hypothesis are presented.

But although modern labour economics does an excellent job explaining why there is some unemployment in all market economies, it has a harder job explaining why Canada had as much unemployment as it has had over the past twenty years. The large literature on longer job search and greater leisure preference possibly motivated by unemployment insurance incentives has to confront the implications of the fact that the system was dramatically cut back as it morphed into Employment Insurance in the mid-1990s. Now that the Sargent index of unemployment insurance generosity has returned to 1950s levels of generosity,[16] the question of why Canadians have not also seen a return to 1950s levels of unemployment has not been answered satisfactorily.

On balance, the micro-economic evidence also does not answer the question of why Canadian unemployment was rarely above 7 per cent from 1950 to

15 Woods and Ostry, as one might expect, do not make the casual assumption that the unemployed worker is male, and in fact discuss the differential socio-psychological implications of unemployment for male and female workers.

16 See James *et al.* (2007:11); also Grey and L'Italien (2001) who add consideration of uncertainty in job-finding and conclude "in labour markets where the arrival rate of job offers is low, individuals will tend to adopt a strategy of accepting the first available job offer because of the high risk of exhaustion of EI/UI benefits. This means that full use of benefits may reflect inability to find employment rather than a strategy to make full use of EI/UI benefits."

1975 and almost continuously above it thereafter. Judicious survey of the sectoral shifts and labour market rigidities argument leaves Benjamin *et al.* (2007) concluding "there is no evidence that the sectoral reallocation of low-skilled labour is behind the increase in aggregate unemployment" (p. 553). Similarly, Sargent (2000) earlier concluded "technological change cannot be held responsible for the poor overall performance of the Canadian labour market over the 1990s" (p. S122).

Considered purely as a micro-market issue, one might have thought that some structural changes of recent decades should have reduced both frictional and structural unemployment. For example, greater use of part-time and contingent employment relationships now enables firms to match more exactly paid hours of employment and the timing of labour demand. The percentage of workers unionized is now lower and the percentage self-employed is now higher than it was in the 1960s. The advent of internet-based job search (see Kuhn and Skuterud, 2004) has increased the speed with which labour market matches can be found and tele-commuting by internet has lessened the necessity for the supply and demand for labour to be geographically matched. Cheap air travel also now enables long-distance commuting (e.g. the new-found popularity of Cape Breton/Fort McMurray travel) to supply some of the labour required for resource boom development. In many respects, Canada's labour market has become much more flexible than it was 50 or 60 years ago – but unemployment is now substantially higher.

In analyzing unemployment, a huge amount of micro-data based economic research over the last thirty years has examined the relative probability that an individual worker of particular characteristics will enter or leave unemployment. A generation of labour economists has debated the relative size and statistical significance of coefficients on particular variables (with special attention paid to variables summarizing 'incentives' to job acceptance). But these models of which type of person is most likely to accept a job cannot explain the number of jobs which employers have available. Analyses of the relative individual probability of unemployment therefore cannot explain the aggregate level of unemployment.[17] And since the number of available jobs depends on the demand for labour by firms, which is in turn derived from the level of firms' sales and the demand for goods and services, there is no escaping the role of macro-economic demand management in determining the level of aggregate unemployment at any point in time.

In the 1960s, unemployment was part of the macro-economic debate, because the discussion of policy choices often started from the idea of a 'trade-off' between inflation and unemployment (see, for example, Bodkin *et al.*, 1966). Both inflation and unemployment were thought to be important policy objectives, and "Phillips Curve" estimates of their empirical relationship were often interpreted as a menu for policy choices – at least in the short-run.[18] However, during the 1970s the role of inflationary expectations was increasingly emphasized. Overwhelmingly, since the early 1980s the "standard view" of the options facing macro policy makers became that of "no long-run trade-offs" – that there is a unique level of potential output and unemployment driven by some variant of the expectations-augmented Phillips curve with a vertical long-run NAIRU (Non-Accelerating Inflation Rate of Unemployment). And if we are willing to ignore the short run and if there is only one possible unemployment rate in the long run and many possible inflation rates, it is understandable that policy discussion should focus on the perceived available choices (i.e. inflation).

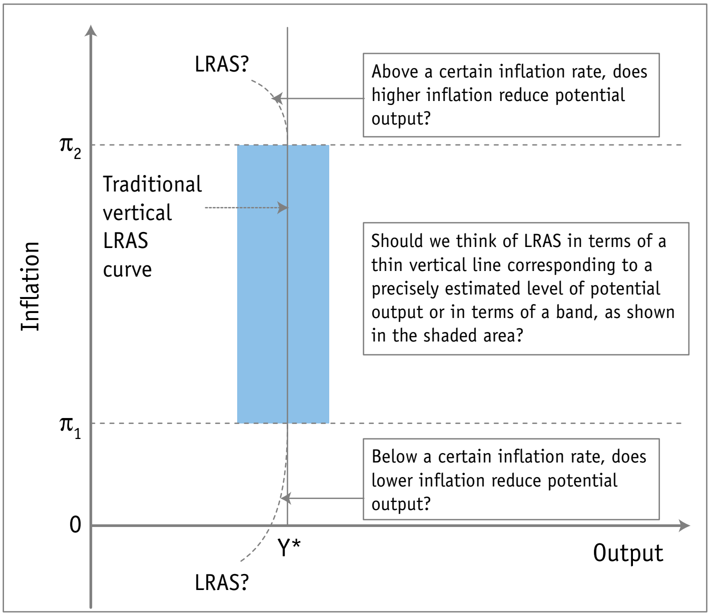
Exhibit 1[19] illustrates the idea. It is drawn in (output, inflation) space to represent the presumed relationship between aggregate output and inflation. The line labelled LRAS (Long Run Aggregate Supply) in Exhibit 1 can alternatively be called "Potential Output", and macro-economic models often use the notation of referring to actual output at a point in time as Y, while potential output is Y*. In structural models with micro-economic foundations, estimates

17 Specifically, in multiple regression cross-sectional models of individual unemployment, the size of the intercept remains unexplained. Similarly, in panel data the size of the dummy for year of observation is not explained.

18 Fortin (2010, p. 6) notes that the Governors of the Bank of Canada during the 1960s were well aware of the feedback of actual inflation into inflationary expectations, market behaviours and long term equilibrium outcomes, even if their arguments were not presented in formal mathematical terms.

19 See Frank *et al.* (2009, p. 293)

Exhibit 1



of potential output are often derived directly from some estimate of the NAIRU, so one can use the notation Y* = f(NAIRU). An alternative perspective in macro modelling is less theory-driven and uses techniques like the Hodrick-Prescott filter to mine inflation and output data for some estimate of potential output (i.e. Y* = g (X)).

However, whatever the intellectual origins of a specific empirical estimate of potential output, the key idea in Exhibit 1 is the expectation that if actual output exceeds potential output for any length of time (i.e. Y > Y*), inflation will start to accelerate. Although unemployment will be lower than it would otherwise be as long as Y > Y* continues, this is seen as a purely temporary benefit, which comes at the cost of accelerating inflation – an outcome which is to be avoided at all costs for a central bank whose mandate is solely to control inflation. For analysts raised in this tradition, macro-economic "risk" then comes to be seen solely as the risk of being above the inflation target. A "conservative" approach to macro-economic policy is then interpreted as minimizing the risk of inflation, *irrespective of real output or unemployment outcomes.* Concern about unemployment thus drops below the radar.

Although long dominant in official Ottawa, this perspective has not gone unchallenged in the wider world.

Logically speaking, one can only arrive at the long run future by going through the short run. If outcomes in the short run have long term consequences (e.g. spells of unemployment that last long enough to atrophy job skills such that the unemployed eventually become the unemployable), then even if the NAIRU is vertical in the very long run, an unemployment/inflation trade-off can last for an appreciable period of time. As Layard, Nickell and Jackman (1991) noted, the literature on "hysteresis" in aggregate unemployment was motivated by European experience of high unemployment in the 1980s and carries the implication that the costs of excess unemployment (when $Y < Y^*$) may persist for many years.

In the 1990s, as low inflation became embedded in many western nations, there was also a stiff debate about whether the NAIRU was still vertical at very low inflation rates. Akerlof, Dickens, and Perry (1996) noted that if workers resist nominal wage cuts, but do not quit their jobs when the rate of inflation exceeds the rate of growth of nominal wages, then economies with higher inflation have more real wage flexibility than economies with very low inflation. This implies that potential output may be lower, in the long term, if inflation is kept low – as represented by the bend in the NAIRU in the dashed line at the bottom of Exhibit 1.[20] Fortin (2010) surveys the Canadian evidence and notes that such a non-linearity can explain the "missing deflation" of the early 1990s recession in Canada – when, despite continuing high unemployment, low inflation never actually turned into deflation. In general, when nominal wages are downwardly rigid for employed workers, high unemployment (i.e. $Y < Y^*$) does not actually produce declining wages and prices, hence low inflation can be consistent with a range of unemployment rates.

In addition to these old debates, the financial crisis of 2008 and the subsequent recession has produced new uncertainties. In 2007, macro-economists

20 The dashed lines at the top of Exhibit 1 are meant to indicate the possibility that hyper-inflation may have more severe costs for potential output than 'normal' inflation rates – but the definition of hyper-inflation is uncertain.

may have been talking of the Great Moderation and congratulating themselves on how successful macro-economic policy had been in eliminating cyclical fluctuations, now that low and stable inflation had become the sole target of central banks in many parts of the world – but events since then have destroyed that complacency. Some influential voices in academia are now questioning the uniqueness of macro-economic equilibrium, and framing models in which any unemployment rate may be a steady-state equilibrium, since mutually consistent expectations can occur at any number of real growth rates (Farmer, 2011).

All these perspectives are theoretical critiques of the vertical NAIRU concept, and have in common the implication that, particularly in a low inflation environment, it may be more useful to think of a band of unemployment rates corresponding to a particular inflation rate, rather than a specific, uniquely defined unemployment rate unaffected by past macro-economic events or the current level of inflation.

As well, in practice policy makers have to make their decisions using *estimates* of future output, potential output and of the NAIRU. Setterfield, Gordon and Osberg (1992) demonstrated that minor changes in plausible specifications of the estimating equations implied alternative NAIRU estimates which spanned the historical range of observed unemployment rates.[21] Both monetary and fiscal policy decision makers know that decisions must be taken now, but will affect actual output and employment sometime in the future, with significant, and often uncertain, lags, and with the possibility of unforeseeable events (like wars, insurrections or earthquakes) occurring in the interim. If estimates of future outcomes in both inflation and unemployment are uncertain, then decision makers have to trade off *risks* of undershooting or overshooting on both dimensions.[22]

21 Any given econometric estimate also has some level of statistical uncertainty surrounding estimates of parameter values – an uncertainty surrounding estimates of the location of the NAIRU which underlies the shadings of confidence interval bands around a central estimate of potential output which can occasionally be seen in the *Monetary Policy Report*.

Hence, one way of summarizing the policy maker's problem is to ask: "How thick is the chalk with which you draw the NAIRU?"[23] If there is a finite range of unemployment rates consistent with non-accelerating inflation, what is the output gain associated with being at the bottom edge of that range, rather than at the top end?

Logically, potential output (Y*) and the NAIRU must have some finite "thickness". No theoretical framework tells the policy maker which units of measurement to use, but they do have to use forecasting models to decide if actual output is likely to exceed potential output, or not (i.e. to distinguish between $Y=Y^*$ and $Y \leq Y^*$). Although the computer output from these models can print estimates of expected future GDP to any desired number of decimal places, it would make no sense at all to pretend that one could predict future GDP to the dollar, or even to the nearest million dollars. It is hardly credible that inflation in a $1.7 trillion economy would suddenly accelerate if aggregate demand was a million dollars (i.e. 1/1,700,000) "too high". Hence, some larger unit of measurement is inescapable, but should one think of $Y = Y^*$ as measured to the nearest billion, or the nearest ten billion, or the nearest trillion? Correspondingly, is the NAIRU to be thought of as having seven decimal places (e.g. 5.1531472 per cent),[24] or one decimal place (e.g. 5.2 per cent) or as a range (e.g. 4 per cent to 6 per cent)? Although in Canada the habit is to produce unemployment statistics with one decimal place, this is nothing more than "the way it has always been done".

If the NAIRU is better thought of as a range, then there is a social benefit – in output, tax revenue and human happiness (see section 4 below) – to being at

22 Any point estimate of future actual GDP (Y), and any point estimate of future potential output (Y*) from a given model, will have associated standard errors of estimate – call them ε and ε^*. If one uses the subscript T to denote the "true" parameter (whatever its units of measurement), the policy maker has to work with estimates (i.e. $Y = Y_T + \varepsilon$ and $Y^* = Y^*_T + \varepsilon^*$), while any impact on future inflation depends on actuals (i.e. $Y_T - Y^*_T$). Since choosing a policy variable that influences Y_T has implications for both actual unemployment and inflation, one cannot avoid weighing relative risks (i.e. ε and ε^*).

23 I owe this phrasing to Chuck Freedman.

24 Note that even a number like 5.1531472 really summarizes a range (5.15314715 to 5.15314724).

the bottom end of that range, and a corresponding risk (of possible inflation) to macro policy makers who probe for that end. If, on the other hand, policy makers are content with the top end of the range, the risk is that unemployment will be too high, and growth will be slower than it could have been.

How large is the range of unemployment rates consistent with stable inflation? Peach, Rich and Cororaton (2011), using US data, estimate a Threshold Philips Curve Model and demonstrate its superior fit to US inflation dynamics. They conclude that the threshold for the unemployment gap to influence inflation is approximately 1.6 percentage points, plus or minus (i.e. a range of 3.2 percentage points in the unemployment rate is consistent with stable inflation in the United States).

The difference in annual GDP between being at the top or the bottom of the range of unemployment rates associated with stable inflation is rather large. Standard textbook estimates (see Blanchard and Johnson, 2010, p. 218) put the Canadian "Okun's Law" relationship between percentage point reductions in unemployment and gains in GDP at 3:1. If the Peach *et al.* (2011) estimates of the range (3.2 percentage points) of unemployment rates associated with stationary inflation can be generalized to Canada, this implies a range of approximately $163 billion in GDP, with an associated change of over $50 billion in tax revenue. If the Okun's Law relationship is similar to that in the United States (2.5:1), the GDP range would be smaller (roughly $136 billion) but still very significant.

The crucial question is: how much weight do Canadian policy makers place on the risk that unemployment will be in the top end of the corresponding Canadian range – i.e. higher than it needs to be to maintain stable inflation? In Canada, unemployment estimates are not part of the announced objectives of macro-economic policy. Thus, although any macro policy that aims at a particular future level of output will have implications for both unemployment and inflation, it is only the inflation outcome that is discussed in official Ottawa's macro-economic discourse. Hence, discussion in Ottawa of the perceived "risk" associated with policy choices no longer mentions the possible risk that policy will produce an output level that implies excessively high unemployment.

By contrast, in the United States the mandate of the Federal Reserve has continued to include minimizing unemployment, as well as controlling inflation, and it is commonplace to discuss both objectives. A concrete example of the importance of maintaining an official interest in unemployment levels came in the mid 1990s, when US monetary policy did not shy away from probing for the potential output limits of the US economy. Although the US NAIRU had previously been estimated to be around 6 per cent, the Americans discovered that inflation did not in fact increase when Greenspan Fed maintained monetary stimulus and the unemployment rate was allowed to fall – first below 6 per cent, then below 5 per cent. Running a risk of inflation produced, in this case, substantial benefits in lower unemployment and higher output that lasted for the better part of a decade.

Whenever actual output falls short of potential output ($Y < Y^*$) unemployment will be greater than otherwise, while output (and the tax revenue derived from it) will be less. But when the mandate of a central bank is limited to inflation control, it is being told explicitly that these other costs to society are *not* to be considered when making monetary policy decisions.[25] If the Akerlof *et al.* critique of greater real wage inflexibility at very low inflation is at all valid, these other costs to society will be greater at lower rates of target inflation.

The rise in unemployment associated with aggregate demand shortfalls may not produce declining wages and prices and a moderation in inflation. To the extent that nominal money wages are inflexible downwards, excess supply in labour markets just produces more unemployment, at roughly unchanged real wages. (i.e. if $Y \leq Y^*$, unemployment rises, but inflation remains unchanged). But although macro-economic policy that produces excess unemployment is costly to Canadians, those costs are not considered in inflation targeting, which is surely a large part of the reason why macro policy makers in Canada perceive no need to talk about unemployment.

25 Inflation control mandates are typically specified as a target range – in Canada, 1 per cent to 3 per cent in 'core' CPI. On average, actual outcomes in Canada have been very close to the middle of that target range. In principle, the larger the target range is, the greater is the potential latitude for policy makers also to consider other policy objectives (such as unemployment), but there is no hint in Bank of Canada documents that this is done.

Is Unemployment Unimportant for Individual Well-Being?

In present day labour economics texts in Canada there is little sense that unemployment is socially destructive. This is in distinct contrast with a large literature in social psychology (e.g. Kelvin and Jarrett, 1985). As Jahoda (1979) has put it:

> There are latent consequences of employment as a social institution which match human needs of an enduring kind. First among them is the fact that employment imposes a time structure on the waking day. Secondly, employment implies regularly shared experiences and contacts with people outside the family. Thirdly, employment links an individual to goals and purposes which transcend his own. Fourthly, employment defines aspects of status and identity. Finally, employment enforces activity.
>
> It is these objective consequences of work in complex industrialized societies which help us to understand the motivation to work beyond earning a living; to understand why work is psychologically supportive, even when conditions are bad, and, by the same token, to understand why unemployment is psychologically destructive. (p. 423)

Economists who pride themselves on their quantitative skills have often tended to dismiss the case study and vignette description methodology of much of this social psychology literature. However, in recent years, economists have also begun to question the perspective of Peitchinis' generation that experiences of unemployment are "subjective matters, and, therefore, cannot be appreciated through observation; they must be felt". Self-reported survey responses have become increasingly accepted as valid evidence. And an explosion of articles on self-assessed 'happiness' and 'life satisfaction' in the last decade has begun to remind many economists that unemployed people are often miserably unhappy as a result. Winkelmann (2006) is representative of a large literature in saying:

> ... individual unemployment has a large negative effect on subjective well-being. This mirrors the well documented

> effect of unemployment on physical health and on mental health. This negative effect appears to be causal: we know from panel data estimators that the association persists once we follow the same individuals over time, and thereby control for individual specific fixed effects. Neither is it the case that unemployed people have a completely different personality, or that they anchor their responses on the well-being scale in a way that is systematically differently from the way employed persons anchor theirs. Nor does it seem that there is an instance of reversed causation, i.e., that unhappiness causes unemployment (or, for that matter, that happiness leads to idleness).
>
> It is also clearly understood that the negative effect of unemployment on well-being goes well beyond the effect that the income loss associated with unemployment can bring about. Indeed, the non-pecuniary cost of unemployment seem to exceed the pecuniary cost by far. (p. 1)[26]

Leuchinger *et al.* (2008), among others, have also noted that higher unemployment decreases the self-reported well-being of the employed, as well as the unemployed, because "increased *economic insecurity* constitutes an important welfare loss associated with high general unemployment". This accumulation of evidence on the unpleasantness of unemployment has undermined the foundations of perspectives which saw all non-work time as essentially similar, and pleasurable, and the voluntary choice models of unemployment built on those assumptions.

Recently, Helliwell and Huang (2011) have analyzed a very large (2.3 million) US sample and used multiple measures of well-being covering self-assessments of life, mental health and emotional experience. Their bottom line is that: "local unemployment has significantly negative effects on well-being among the entire population, including those who are still employed (p. 21)." Their results confirm the findings in Winkelmann and Winkelmann

26 See also Frey and Stutzer (2002), Di Tella and MacCulloch (2003), and many others.

(1998) that the non-pecuniary effect of becoming unemployed is much larger than the effect stemming from income losses which the unemployed experience. Specifically, they estimate that "if the direct monetary loss of the unemployed is 1, then the additional SWB (Subjective Well-Being) loss of the unemployed is 5, while at the population level the spill-over effects is 10, making the total well-being costs of unemployment fifteen times larger than those directly due to the lower incomes of the unemployed" (Helliwell and Huang, 2011, p. 24).

In general, since the vast majority of Canadian households derive their market income almost entirely from labour earnings, it might be thought to be fairly obvious that increases in the price (i.e. the real hourly wage) at which they can sell their labour time is important to the material well-being of most Canadians. Since the unemployment rate is an indicator of the relative balance of aggregate supply and demand in the labour market, it indicates both the probability of being actually able to sell labour time at the going wage now and a signal of the likelihood that the real wage will increase in future periods. Hence, the unemployment rate always has had strong reason to be thought important as a predictor of individual material well-being.

However, Helliwell and Huang argue that the impacts of higher local unemployment go well beyond this. They control for the employment status of the respondent and note that the spill-over effects of unemployment could also come from worsening social conditions and economic prospects in local areas. They also examine the Clark (2003) hypothesis that when unemployment becomes very high, social norms change such that the stigma of being unemployed is lessened and the well-being gap between the employed and the jobless disappears. Their estimates "suggest that the gap will disappear at 48.5 per cent unemployment rate in the case of life satisfaction and 48.4 per cent in the case of mental health" (Helliwell and Huang, 2011, p. 30).

Interestingly, their data "does not provide any support to the hypothesis that more generous benefits narrow the well-being gap, regardless which measure of well-being and which replacement rate are used." As they put it,

> Similar to the European study in Di Tella *et al.* (2003), we uncover no evidence to support the view that unemployment benefits have made life too easy for the unem-

ployed. To the contrary, we find the well-being gap to be greater in states that have higher benefit replacement rates (either measured at the legal maximum or at the average).

The literature on the impacts of unemployment on happiness is unanimous in finding empirically large and statistically highly significant negative impacts – Helliwell and Huang argue that their contribution is to use a very large sample of US data, a multiplicity of indicators of subjective well-being and a battery of robustness checks. Which raises the conundrum – now that we know more precisely than ever before that unemployment causes great unhappiness, why has it largely disappeared from official consciousness?

Is Most Unemployment Structurally Unavoidable?

One possible reason for not talking about unemployment is that it might be unavoidable – if so, perhaps discussion of it would just add to the pain it causes. Could it be that most unemployment is "structural?"[27] Finance Canada has defined this as: "structural unemployment occurs when workers are unable to fill available jobs because they lack the skills, do not live where jobs are available, or are unwilling to work at the wage rate offered in the market."

Osberg and Lin (2000, p. 141) argued that this definition implies that the number of available jobs – i.e. the number of vacancies for immediate hire from outside the firm – sets an upper bound to the extent of structural unemployment. At that time, the Workplace and Employee Survey asked a relatively small (748) sample of firms a question on vacancies, which implied that the vacancy rate was about 0.75 per cent of the labour force. Lin and Osberg also used an estimated relationship between the Help Wanted Index and the Job Vacancy Survey (which Statistics Canada discontinued in 1978) to impute a vacancy rate in 2000 of 0.45 per cent. They concluded:

> The measurement of vacancies is important for microeconomic labour market policy design and macroeco-

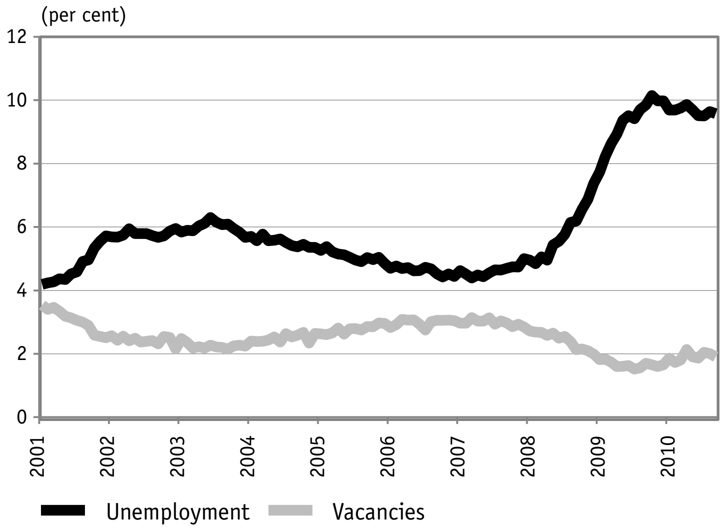
27 In April 2011, Michael Ignatieff, then leader of the Liberal party, in responding to a question about what a Liberal government would do for Canada's unemployed, stated: "In Canada, there are people without jobs and jobs without people" and went on to talk about the importance of retraining. (CPAC broadcast, approx. April 7, 2011)

> nomic policy settings. Vacancies and the extent of structural unemployment could be systematically measured in Canada, but are not. The obvious conclusion is that perhaps it is time to get some better information on Canadian vacancies (...) Since the cost of better information is likely to be small compared to the cost of bad policy based on bad statistics, perhaps it is time to invest in some more knowledge about the extent of structural unemployment in Canada. (Osberg and Lin, 2000, p. S152)

In the United States, the Bureau of Labor Statistics has been publishing vacancy data from the Job Opening & Labor Turnover Survey (JOLTS) since January, 2001. Vacancies are defined in a manner analogous to unemployment: a position is considered a job vacancy if the firm is actively recruiting and has the funds available for immediate hire. The survey samples 16,000 business establishments nationally and asks a wide variety of questions surrounding the separation and hiring of workers. For a job to be counted as a job opening: (1) there must be a specific position and work available for that position, regardless of whether it is full-time or part-time, permanent or otherwise; (2) it must be possible for the job to start within thirty days, regardless of whether or not the firm is able to hire someone; (3) there must be active recruitment for workers outside of the firm in question.

Chart 5 is taken from Rai (2011) and plots the time path of unemployment and vacancies, both expressed as a percentage of the labour force, between 2001 and 2010. The vacancy rate in the United States is higher, as a fraction of the labour force, than the estimates of Osberg and Lin for Canada in the 1990s. In early 2001, when the US unemployment rate hovered just above 4 per cent, vacancies were relatively common, at around 3.4 per cent of the labour force. However, as one might expect, the vacancy rate has fallen sharply since 2008. In late 2010, the number of vacancies was only about a fifth of the number of unemployed people, implying that there is now significant room for expansion of employment in the US before further downward shifts in the

Chart 5
Unemployment and job vacancies as percentage of US labour force, 2001 to 2010



Source: Rai (2011).

unemployment rate would be meaningfully constrained by 'structural' unemployment.[28]

When the US unemployment rate was similar to Canada's current unemployment rate of 7.7 per cent, the JOLTS data indicate that the US vacancy rate was about six percentage points lower at 1.8 per cent of the labour force. Does this imply that there is now similar room for stimulative macro-economic policy in Canada? When we consider the cost/benefit ratio for retraining programs to equip unemployed workers for 'available jobs', how many such jobs are there? What type of jobs are these? Where are they? How much is it reasonable to invest in training? If we had good vacancy data in Canada,

---

28 Note that the number of vacancies at any point in time includes both "structural" vacancies that cannot be filled from the local labour pool and "frictional" vacancies that will be filled by locally available workers. The vacancy rate is an *upper bound* on structural unemployment and should not be interpreted as an estimate of structural unemployment.

we could distinguish between the demand-deficient and structural roots of unemployment and answer such policy questions with greater certainty – but such data has not been collected. When government could collect such data, but chooses not to, one has to presume that it either does not want to know or thinks the information to be of little value, because unemployment is not an important problem to analyze.

In the United Kingdom, the ONS Vacancy Survey began in April 2001 (results became National Statistics in June 2003).[29] On a monthly basis, rolled up to a three month moving average, it provides comprehensive estimates of the number of job vacancies across the UK economy. The survey asks employers how many job vacancies they have in total for which they are actively seeking recruits from outside their organisation, for example, by advertising or interviewing. In addition, statistics of Jobcentre vacancies, that is job openings notified by employers to Jobcentre Plus, are also collected from the Jobcentre Plus administrative system. In Australia, the Job Vacancies Survey provides vacancy data on an industry and state basis going back to 1983, and on a national basis to 1979.[30] The survey was briefly suspended during 2008-09, but has been continued since. The US, UK and Australian data should not be thought unusual – the OECD routinely publishes vacancy data for fifteen other countries.[31]

In Canada, by contrast, there has been no ongoing national survey of job vacancies since 1978. Historical data from 1971 to 1975 is available[32] but other data on vacancies is episodic and fragmentary. In early 2011, Statistics Canada ran a pilot survey[33] of 4,500 firms with questions on job vacancies that closely matched the JOLTS survey in the US. If and when an ongoing regular survey of vacancies is instituted, important data will become available. However, the data from this is, at best, some years in the future.

---

29 See http://www.statistics.gov.uk/STATBASE/Product.asp?vlnk=9390

30 See http://www.abs.gov.au/ausstats/abs@.nsf/mf/6354.0.55.001

31 See OECD. Statextracts Registered Unemployed and Job Vacancies (MEI): Job Vacancies. http://stats.oecd.org/index.aspx?queryid=250

32 See http://www.statcan.gc.ca/pub/11-516-x/sectiond/4057750-eng.htm

33 See http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=180&lang=en&db=imdb&adm=8&dis=2

If macro-economic policy makers in Canada had wanted to aim at producing national labour markets that were tight enough to produce rising real wages, but not so tight that an inflationary wage-price spiral would occur, then it would have appeared sensible to learn how tight the labour market is – how many vacancies exist – at any point in time. Many nations have found it worthwhile to collect such statistics – but for over thirty years Canada has not. Measurement of labour market tightness has evidently not been a priority, because reducing unemployment has not been an important enough policy goal.

Incentive Alignment

The analysis of this paper is conditioned on the evidence that "downward nominal wage rigidity is an important feature of the Canadian labour market".[34] In such a context, although wages do not necessarily fall when unemployment rises, average real hourly wages are unlikely to increase appreciably until employers have to start competing for employees. Hence, the perspective underlying this paper is the hypothesis that a necessary condition for the distribution of real hourly wages to shift up over time is a reasonably 'tight' national labour market.[35]

For roughly thirty years, the average real hourly wage has hardly changed in Canada, and the national unemployment rate has simultaneously been high by historical Canadian standards. This stagnation of real hourly wages is historically unprecedented, not explicable in terms of adverse trends in productivity-related worker characteristics and is an important part of the stagnation of median household income and material living standards. It coincides with a long period in which reducing unemployment has dropped off the list of stated priorities of macro-economic policy in Canada.

By contrast, during Ian Stewart's career as a macro-economic policy maker, as throughout the earlier 1951-1971 period, both unemployment and inflation

34 See Stark and Sargent (2003:18), among others. In a low inflation environment, of course, the distinction between downwardly sticky real and nominal wages becomes somewhat moot.

35 In the longer term, since there are distinct limits to any possible shift in labour/capital shares of national income, labour productivity must rise if real wages are to continue to increase. "Tight" labour markets encourage innovation which economizes on the now-scarce resource of labour.

were viewed as appropriate targets of macro-economic policy. Aggregate demand management certainly did not aim just at unemployment minimization – between 1951 and 1971, the rate of inflation in Canada averaged 2.2 per cent annually. However, although it was well appreciated at the time that inflation could always be kept low if enough slack was maintained in commodity and labour markets, low inflation was thought to be no big accomplishment on its own. The skill of macro-economic policy making was then seen as keeping labour markets tight enough to ensure low unemployment and rising real wages, but not so tight as to produce unacceptable price inflation. Canadian policy makers succeeded in this for twenty years.

In the aftermath of the Vietnam War boom in the United States and commodity price inflation globally (especially the dual oil price shocks of 1973 and 1979), inflation in Canada accelerated – and extreme policy measures were adopted to bring it under control (i.e. wage and price controls, followed by 20 per cent + nominal interest rates). Real wages continued to grow strongly in the 1970s, but the achievement of inflation targets in the late 1970s was highly unsatisfactory and discussion of inflation came to dominate the macro policy agenda.

The occasion of this festschrift in honour of Ian Stewart is a useful time to reflect that Ian's departure from Finance in 1982 was at approximately the same time as a regime shift in official Ottawa's macro policy thinking, as the conviction became established that monetary policy should focus solely on inflation control. The growth of the debt/GDP ratio during the 1980-82 recession, combined with earlier tax policy changes, left public finances highly vulnerable to any increase in debt carrying costs. Hence when, in moving from 4 per cent to 2 per cent inflation, real interest rates were massively increased by the Bank of Canada in 1988-90, the interest burden of past debt sky-rocketed. This, added to the cost of the automatic stabilizers of the recession of the early 1990s, produced a major public debt crisis (see Osberg and Fortin, 1996). The expenditure cuts of the mid-1990s succeeded in erasing the federal deficit, but discussion of federal finances came thereafter to be dominated by a rhetoric of annual budget balance.

In this new policy environment, the possibility that fiscal policy might be used to reduce unemployment slipped from official consciousness – until late

2008. Even then, it took an unprecedented level of threat to the political survival of the government of the day and the onset of what the IMF has called the worst global recession since World War II to resurrect fiscal policy stimulus to aggregate demand. Although in substance Canada's "Economic Action Plan" was as Keynesian a policy package as one can imagine, it resolutely refuses the label. Canadians are instead promised a quick return to federal budget balance on a year by year basis – there is no mention of what future unemployment rate is envisaged.[36]

Meanwhile, the Bank of Canada focuses solely on inflation control and seems not to have learned from the experience of the US Federal Reserve in the 1990s that it is possible to probe for faster growth without inflation – and to find it. Given the Bank's single-valued objective, it has no interest in "risking" any possibility of tight labour markets. With monetary policy aimed solely at inflation control and fiscal policy aimed solely at year by year budget balance, the unemployment rate has dropped off Canada's macro-economic policy agenda. Given the thirty year history of high unemployment this policy stance has produced, public policy expectations have adjusted. Discussion of whether the national unemployment rate could be significantly lower – e.g. less than 6 per cent for extended periods of time – just does not happen. It is considered wildly irresponsible to even imagine the possibility that stable prices and budget balance might be achieved at a range of unemployment rates, and that, if so, there are substantial real advantages to balancing a possible risk of inflation against a risk of perpetually low growth.

When unemployment, to the extent it is considered at all, is considered to be a micro-economic problem, it can be allocated to Human Resources and Skills Development Canada (HRSDC). Inflation control, as already noted, is the sole stated objective of monetary policy makers at the Bank of Canada. Annual budget balancing is the turf of Finance. In the tidy silos of Canadian economic policy, no agency is interested in aggregate demand stimulation that might, in general, tighten up labour markets. Indeed, a cynic might think that

36 As Fred Gorbet has noted, in principle a Keynesian macro policy would balance the government budget over the business cycle – which implies running a surplus when the economy is at full employment. Year by year budget balancing, by contrast, amplifies cyclical shocks.

if labour markets are kept forever slack, inflation control is easier, so at least one major institutional player in Canadian economic policy is unlikely ever to rock the boat and "risk" better real outcomes.

However, it does remain something of a puzzle why the constituencies of potential support for lower unemployment are so very feeble in Canada. It is easy to understand that advocates of labour's interests (such as the Canadian Labour Congress) are today where they have always been in Canada – outside the circle of influence. Since Canadians have adjusted their expectations of labour markets to fit the realities of the last thirty years, it is also easy to understand acquiescence in the wider body politic. Even if unemployment causes a great deal of unhappiness, and even if real hourly wages are stagnant, it is all "the new normal" – nobody is protesting much because nobody expects anything more.

Nevertheless, if the rate of growth of aggregate output could be made marginally higher the Department of Finance would find it much easier to balance the federal budget. And although lower unemployment might produce the dreaded 'labour market shortages' so feared by the business media,[37] it would also produce more sales and output growth – and more profits. Historically, Canadian capitalism did very well when unemployment was low – even if capital's share of national income can be marginally lower when labour markets are tight, the economic pie is growing much faster, so capitalists also gain from low unemployment. The lack of advocates of growth in the business community is thus a bit surprising. All in all, the continuing absence of powerful advocates for lower unemployment remains a puzzle.

References

Akerlof, G.A., W.T. Dickens, and G.L. Perry (1996) "The macroeconomics of low inflation," *Brookings Papers on Economic Activity*, Vol. 1, pp. 1–59.

37 In the business media, the possibility of future labour market shortages due to demographic change has often been portrayed as something terrible for "the economy", rather than as a trend that could produce rising real wages and better job choices for that vast majority of Canadians who are labour sellers, not labour buyers.

Atkinson, A. B., and Andrea Brandolini (2001) "Promise and pitfalls in the use of 'secondary' data-sets: income inequality in OECD countries as a case study," *Journal of Economic Literature*, Vol. 39, No. 3, pp. 771-799.

Atkinson, A. B., and T. Piketty (2007) *Top Incomes over the 20th Century: A Contrast Between Continental European and English-Speaking Countries* (Oxford: Oxford University Press).

Benjamin, Dwayne, Morley Gunderson, Thomas Lemieux, and Craig Riddell (2007) *Labor Market Economics (*Toronto: McGraw-Hill Ryerson).

Blanchard, Olivier, and David Johnson (2011) *Macro-economics*, 4th Canadian Edition.

Clark, Andrew E. (2003), "Unemployment as a social norm: psychological evidence from panel data," *Journal of Labor Economics*, Vol. 21, No. 2, pp. 289–322.

Di Tella, Rafael, Robert J. MacCulloch, and Andrew J. Oswald (2001) "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness," *American Economic Review*, Vol. 91, No. 1, pp. 335–341.

Eardley, Tony, Peter Saunders, and Ceri Evans (2000) "Community attitudes towards unemployment, activity testing and mutual obligation," SPRC Discussion Paper No. 107, Social Policy Research Centre, University of New South Wales, Sydney, Australia.

Economic Council of Canada (1976) *People and Jobs: A Study of the Canadian Labour Market* Information Canada, Ottawa.

Farmer, Roger (2011) "Animal spirits, rational bubbles and unemployment in an old-Keynesian model," NBER Working Paper No. 17137.

Fortin, Pierre (2010) "The Bank of Canada and the inflation-unemployment trade-off" http://www.bankofcanada.ca/wp-content/uploads/2010/09/inflation1.pdf.

Frank, Bob, Ben Bernanke, Lars Osberg, Melvin Cross, and Brian MacLean (2009) *Principles of Macroeconomics: Third Edition* (Toronto: McGraw-Hill Ryerson).

Frey, Bruno, and Alois Stutzer (2002) *Happiness and Economics: How The Economy and Institutions Affect Well-Being* (Princeton: Princeton University Press).

Grey, Alex, and Frances L'Italien (2001) "The Sargent Index of EI/UI Behavioural Effects: The Impact of Uncertainty," Applied Research Branch Strategic Policy, Human Resources Development Canada.

Heisz, Andrew (2007) *Income Inequality and Redistribution in Canada: 1976 to 2004*, Statistics Canada, Business and Labour Market Analysis Division.

Helliwell, John, F., and Haifang Huang (2011) "New measures of the costs of unemployment: evidence from the subjective well-being of 2.3 million Americans," NBER Working Paper 16829. http://www.nber.org/papers/w16829

Hicks, J.R. (1939) "The foundations of welfare economics," *Economic Journal*, Vol. 49, No. 196, pp. 696-712.

Jahoda, Marie (1979) "The psychological meanings of unemployment," *New Society*, Sept. 6, pp. 422-425.

James, Steven, Tim Sargent, Russell Barnett, and Claude Lavoie (2007) "The Canadian labour force participation rate revisited: cohort and wealth effects take hold," Working Paper 2007-01, Finance Canada.

Kaldor, Nicholas (1939) "Welfare propositions of economics and interpersonal comparisons of utility," *Economic Journal*, Vol. 49, No. 195, pp. 549-552.

Kelvin, Peter, and Joanna Jarrett (1985) *Unemployment: Its Social Psychological Effects* (Cambridge: Cambridge University Press).

Kuhn, Peter, and Mikal Skuterud (2004) "Internet job search and unemployment duration," *The American Economic Review*, Vol. 94, No. 1, pp. 218-232.

Kuk, Anthony Y. C, and T. K. Mak (1989) "Median estimation in the presence of auxiliary information," *Journal of the Royal Statistical Society*, Vol. 51, No. 2, pp. 261-269.

Layard, Richard, Stephen Nickell, and Richard Jackman (1991) *Unemployment: Macro-Economic Performance and the Labour Market* (Oxford: Oxford University Press).

Little, I.M.D. (1957) *A Critique of Welfare Economic* (Oxford: Oxford University Press).

Luechinger, Simon, Stephan Meier, and Alois Stutzer (2008) "Why Does Unemployment Hurt the Employed? Evidence from the Life Satisfaction Gap between the Public and Private Sector," Public Policy Discussion Paper No. 08-1, Federal Reserve Bank of Boston.

Murphy, Brian, Paul Roberts, and Michael Wolfson (2007) "High-income Canadians" in *Perspectives on Labour and Income*, Statistics Canada Cat No. 75-001-XIE, September, pp. 5-17.

Osberg, Lars, and Pierre Fortin (eds.) (1996) *Unnecessary Debts* (Toronto: James Lorimer Publishers).

Osberg, Lars, and Zhengxi Lin (2000) "How much of Canada's unemployment is 'structural'?" *Canadian Public Policy*, Vol. 25, No. 1, pp. S141-S158.

Osberg, Lars (2008) "A quarter century of economic inequality in Canada 1981 – 2006," Canadian Centre for Policy Alternatives, Ottawa, April.

Pallage, Stéphane, and Christian Zimmermann (2006) "On voters' attitudes towards unemployment insurance subsidies across regions: a Canadian simulation," *Journal of Population Economics*, Vol. 19, pp. 391–410.

Peach, Richard, Robert Rich, and Anna Cororaton (2011) "How does slack influence inflation?," *Current Issues in Economics and Finance*, Vol. 17, No. 3, pp. 1-7.

Peichnis, Stephen G. (1970) *Canadian Labour Economics: An Introductory Analysis* (Toronto: McGraw-Hill).

Piketty, T. (2007) "Top incomes over the twentieth century : a summary of main findings," Chapter 1, pp. 1-17, in *Top Incomes over the Twentieth Century : a Contrast Between Continental European and English-speaking Countries* (Oxford: Oxford University press).

Rai, Vikram (2011) "How much of US unemployment is structural?" Honours BA Thesis, Dalhousie University, Halifax.

Sargent, Timothy C. (2000) "Structural unemployment and technological change in Canada, 1990-1999," *Canadian Public Policy*, Vol. 25, No. 1, pp. S109-S123.

Setterfield, Mark, Dan Gordon, and Lars Osberg (1992) "Searching for a Will O'the Wisp: an empirical study of the NAIRU in Canada," *European Economic Review*, Vol. 36, January, pp. 119-136.

Sharpe, Andrew, Jean-François Arsenault, and Peter Harrison (2008) "Why have real wages lagged labour productivity growth in Canada?" *International Productivity Monitor*, Fall, No. 17, pp. 16-27.

Stark, Alan, and Timothy C. Sargent (2003) "Is there downward nominal wage rigidity in the Canadian Phillips curve?," Department of Finance Working Paper 2003-01.

Veall, Mike (2010) "Top income shares in Canada: updates and extensions," Working Paper, Version 2010-12-12, Department of Economics McMaster University.

Winkelmann, Liliana, and Rainer Winkelmann (1998) "Why are the unemployed so unhappy? Evidence from panel data," *Economica*, Vol. 65, No. 257, pp. 1-15.

Winkelmann, Rainer (2006) "Unemployment, social capital, and subjective well-being," IZA DP No. 2346.

Woods, H.D., and Sylvia Ostry (1962) *Labour Policy and Labour Economics in Canada*, Toronto, MacMillan of Canada.

Appendix 1
Income Growth, International Comparison

Country	Period	Median household income	GDP per capita, PPP (constant 2005 international $)
		(average annual growth rate, per cent)	
IRELAND	87-00	7.14	9.56
LUXEMBOURG	85-00	4.21	6.43
SPAIN	80-00	3.62	3.17
NETHERLANDS	83-99	3.28	3.09
NORWAY	79-00	2.88	3.40
BELGIUM	85-00	2.25	1.74
SWEDEN	81-00	1.91	2.19
ISRAEL	79-01	1.53	2.29
UK	79-99	1.50	2.73
FINLAND	87-04	1.44	2.35
ITALY	86-00	1.29	2.28
DENMARK	87-04	0.92	1.75
FRANCE	81-00	0.87	2.14
MEXICO	84-02	0.81	0.93
AUSTRIA	87-00	0.77	2.79
GERMANY (WEST)	81-00	0.69	2.48
USA	79-04	0.68	2.53
SWITZERLAND	82-02	0.38	2.22
AUSTRALIA	81-03	0.25	2.46
CANADA	81-00	0.15	1.98

Rethinking Tax-Transfer Policy for 21st Century Canada

Robin Boadway[1]
Queen's University

> ... licensed by the apparent support of authority and law, minimizing one's tax burden rather than any notion of community burden-sharing has become the contemporary ethic... Taxes are grants and the degree of their voluntariness is the measure of a society's capacity to agree on collective purposes and needs, and to concur in the collective means by which they will be served and provided. (Stewart, 1986a, p. 118)
>
> ... only if a strong majority of taxpayers can come to recognize that they have a personal stake in the success of the reform process, can it withstand the pressures for retreat which ultimately stampeded the federal government into rejecting the principles and proposals of the Carter Commission. And only radical reform can restore

1 I am grateful for very helpful comments by Fred Gorbet, Steve Richardson, Andrew Sharpe and Stan Winer.

> a public commitment to the provision of public services and their financing. Equity, neutrality and ease of understanding may be principles of reform more capable of withstanding the assaults of special interests than any more incremental process. (Stewart,1986a, p. 126)

> Contrary then to what might be called today's conventional wisdom, the reworking of distributional and redistributional arrangements to sustain interpersonal equity and support might make a fundamental contribution to the easing and accommodation of the structural pressures of today and tomorrow. (Ian Stewart,1986b, p. 312)

TAX-TRANSFER POLICY FORMULATION was one of Ian Stewart's many responsibilities over the course of his distinguished career as a public servant. His writing during a stint as Skelton-Clark Fellow at Queen's University while on leave from the public service displayed remarkable candor about his views of the principles that ought to govern tax-transfer policy. Efficiency and simplicity were important. But, more important, fairness and social decency were necessary not just for their own sake, but for avoiding what he called 'share quarrels' that eroded the social contract by which citizens voluntarily contributed to society. He shared this view with the Carter Commission of two decades earlier, which said "Unless the allocation of the burden is fair, the social and political fabric of the country is weakened and can be destroyed" (Royal Commission on Taxation, 1966, ch. 1). This led Ian to argue for a fair and efficient system with a broad base, minimal tax expenditures, and the lowest tax rates consistent with an equitable system. He also argued for integrating social transfers with the income tax system so as to achieve adequate targeting of transfers with minimal tax-back rates and less demeaning needs-testing, and for maintaining the federal leadership role in the tax-transfer system as indispensible for a fair and harmonized tax-transfer system. Not surprisingly, he was a principal architect behind the introduction of refundable tax credits, arguably one of the most important innovations in recent years, and he pursued other objectives vigorously, like the rationalization of interest deductibility provisions. His approach was prescient. The principles he espoused remain as relevant today as ever.

Introduction

The tax-transfer system in Canada serves many public policy purposes, including such diverse objectives as revenue-raising, income redistribution, social insurance, social policy, equality of opportunity, retirement income policy and human capital policy. The broad architecture of tax-transfer policy has evolved piecemeal since the days of the Carter Commission (Royal Commission on Taxation, 1966), with some episodes of innovative measures.[2] Occasionally, major reform proposals have been made for the rationalization of broader aspects of the tax-transfer system, including the Macdonald Commission (Royal Commission on the Economic Union and Development Prospects for Canada, 1985), the Economic Council of Canada (1987), various targeted proposals for pension and Employment Insurance (EI) reform, and the Mintz Report (Technical Committee on Business Taxation, 1998) on business tax reform. Relatively few coordinated policy measures have come out of these proposals. A rethinking of the existing system and how it serves its many objectives would be timely.

There are a number of reasons why a major rethinking of the Canadian tax-transfer system is warranted, apart from the seeming incoherence of the current system as a whole. First and foremost, views about what constitutes an effective tax-transfer system have evolved considerably in the past few decades. This evolution is best captured in the recent Mirrlees Review (2011) in the United Kingdom entitled *Tax by Design*, which is a comprehensive review of the best principles and practices of tax design. It draws heavily on the cumulative literature on the theory and empirical foundations of tax policy. Although this was written in the context of the United Kingdom, its contributors were noted experts from around the world, and its analysis and recommendations have resonance elsewhere, including in Canada. Similar major tax reform proposals have recently been completed in the United States (the Pres-

2 These include tax-assisted retirement savings schemes (Registered Pension Plans (RRPs), Registered Retirement Savings Plans (RRSPs), Tax-Free Savings Accounts (TFSAs)), the Tax Collection Agreements (TCAs), the Goods and Services Tax (GST) and the Harmonized Sales Tax (HST), refundable tax credits, the replacement of deductions with credits, the income-testing of various transfers, and the implementation of activist labour market and various human capital incentive schemes.

ident's Panel, 2005) and in Australia (the Henry Review (Australian Treasury (2010)), though not as yet implemented. Indeed, attempts by the Australian government to implement the mining tax proposals of the Henry Review, eminently sensible as they were, precipitated the fall of the Prime Minister, indicating how politically fraught tax reform can be. There is no doubt that the time is ripe for such a rethinking for Canada, given some of the unique issues we face.

A second reason for rethinking the tax system is that the world has changed. Economies are more open to international competition and the mobility of factors of production that entails. Labour markets have changed dramatically: female participation has increased; volatility of earnings and job insecurity have increased; skills have become more important; unionization in the private sector has declined; pension plans have been threatened; the workforce is aging; and the industrial structure has undergone fundamental changes. The ability of a tax system designed for earlier times to cope with these changes is limited.

As a result of these and other factors, inequality has increased considerably, and at the same time, tax-transfer policies have become less redistributive, as the OECD (2008) study *Growing Unequal* has documented. In Canada, in particular, redistribution has become much less effective, except for some segments of society (the elderly, children). The rate structure of the tax system as a whole has flattened considerably, especially at the provincial level. Transfers to the least advantaged have worsened significantly, with real welfare payments to the disabled and long-term unemployed falling fairly dramatically over the last 30 years.

As well, budgets are becoming tighter as governments retrench from the recent recession, as the cost of basic public services rise in relative terms, and as the population ages. There are also new demands that are being put on the tax-transfer system, such as environmental externalities, the treatment of natural resources, and the desire to encourage human capital investment as part of an equal-opportunities agenda.

All of this suggests that the tax-transfer system needs to be smarter, and arguably much more targeted than has been the case in the past. The purpose of this paper will be to outline the key elements of the design of a tax-transfer system that might address these challenges. This will draw on lessons from the tax-transfer policy literature as well as proposals that have been made elsewhere, such as the Mirrlees Review. There are unique features of the Canadian economy that will condition one's views, including especially the decentralized nature of the Canadian federation, the reliance on natural resources and the openness of the economy. But, the end objective of an effective tax-transfer system is the same: how to raise revenues in the least costly way and subject to tight budgets, while at the same time achieving redistribution, social insurance and equality-of-opportunity goals.

In contemplating a rethinking of the tax-transfer system, we shall purposely eschew political constraints, despite the experience in Australia. This is not because political considerations are not critically important in carrying out an agenda of tax reform. It reflects instead a conviction that the political process can be best informed about the desirability of alternatives if they are proposed on the basis of normative principles without being constrained by perceived political feasibilities. Indeed, since political constraints are themselves malleable, limiting the discussion to what appears to be politically feasible in the short term might unnecessarily rule out otherwise beneficial alternatives.

Concerns with the Existing Tax-Transfer System

The Canadian system of taxes and transfers has many attractive features. The overall mix of the main revenue sources — income, sales and payroll taxes — is fairly well-balanced, and the division of the tax room between the federal and provincial levels of government serves the federation well. The structure of the GST is efficient by international standards, and the HST mechanism in place for harmonization with provincial sales taxes is reasonable, despite its less-than-universal uptake by the provinces. The Tax Collection Agreements (TCAs) for income tax harmonization have many attractive properties. Some of the details of the tax-transfer components are well-conceived as well. This includes the imaginative use of refundable tax credits, the system of tax assistance for retirement savings, the income tax treatment of housing, some elements of the treatment of human capital investment and the public pension system. However, several problems remain, and we identify them in this section, in no particular order of importance.

The Business Tax System

Problems abound with the way in which businesses are taxed. The corporate tax system systematically favours some industries, such as natural resources and manufacturing, at the expense of others. The structure of the corporate tax invites distorting behaviour, especially to exploit the deductibility of interest expenses. The system does a relatively poor job of taxing rents, which is a serious drawback in an economy that relies heavily on primary industries. The system also favours large, established firms at the expense of young firms, especially those engaged in risky and innovative activities. Especially important in this regard are interest-deductibility, the absence of full loss-offsetting of risk, and the favourable treatment of intangible investments such as advertising. Sales taxes remain an impediment to competitiveness in those provinces that retain retail sales taxes (Manitoba, Prince Edward Island and Saskatchewan). And, property taxes on business represent profit-insensitive levies, which are not related to local business services and act as a deterrent to investment.

Business tax problems are exacerbated by the fact that some businesses are incorporated and others are personal firms. In an attempt to treat personal businesses on a par with small corporations, so as not to discourage incorporation and to treat capital income the same whether earned directly or through corporations, governments have provided preferential treatment to the latter in the corporate tax system. This runs the risk of distorting the treatment of small versus large corporations. Chen and Mintz (2011) argue that the small business tax rate can deter growth by encouraging small size firms to form and by discouraging firms from growing larger.

Especially problematic is the treatment of natural resources, particularly non-renewable ones. Given that natural resources are public endowments, revenue systems should aim to recover a reasonable share of resource rents for the public sector in an efficient manner. The systems actually used are neither efficient, as evidence of marginal effective tax rates confirms, nor capture a reasonable share of rents for the public sector (though this share is considerably enhanced to the extent that auctions for licenses to explore for natural resources and leases to develop them are efficient). This is true of both provincial resource tax systems, which are exclusive sources of revenue to the provinces, and also the corporate tax system, which is a main way in which the federal government can obtain a share of resource rents. Some resource taxes, especially in oil and gas, are also subject to discretionary revision as resource prices change, leading to political uncertainty that itself is detrimental to efficiency.

The manner in which non-renewable natural resource revenues are husbanded is very problematic. Rather than setting them aside in a fund to be amortized for the use of future citizens, they tend to be spent on either current services or on the promotion of local industry. The result is an exacerbation of the so-called 'resource curse', which does significant damage to other provinces' economies (Boadway, 2009). This is undoubtedly a consequence of the feature of the Canadian federal system whereby natural resources are 'owned' by the provinces, but it has troubling consequences for Canadian public policy that cannot be ignored in contemplating reforms.

Finally, the pricing of environmental damage, whether due to global warming, congestion or local pollution, remains very uneven. From a social point of view, this is detrimental. As well, governments — including the federal one — are forgoing a potentially important source of revenues that could be used to relieve the burden of other taxes.

Individual Income Tax

The personal tax system pays lip-service to the comprehensive income tax ideal of the Carter Report, but in reality it is a messy compromise between income taxation and progressive expenditure taxation. Its structure is contradictory, and it does a mediocre job of achieving equity, a task for which it is uniquely suited.

The contradictions concern the treatment of asset income. Capital income that is taxed is treated on a par with labour income, as an income tax system would suggest. However, a significant amount of asset income is not taxed. It is useful, following the Mirrlees Review (2011), to make the distinction between two forms of sheltering: i) the EET system, which exempts savings when they are made, exempts capital income as it accumulates and taxes accumulated principal and interest on withdrawals, and ii) the TEE system, which taxes income before it is saved, then exempts both capital income as it accumulates and exempts withdrawals when the asset is run down.[3] Savings for retirement up to specified limits are either given EET treatment (RRPs and RRSPs) or more recently TEE treatment (TFSAs). Savings in excess of the limits are fully taxed. Housing and other consumer durables are treated as TEE, although housing does incur property tax payments for local services. Human capital investment gets EET treatment as far as forgone earnings are concerned, but financial costs are not deducted.[4] Instead, there is a system of partially refundable tax credits that are limited in size and bear only an indirect relation to actual costs. There is also the Registered Education Savings Plan (RESP) system that implicitly reduces the borrowing costs of financing post-secondary education. Capital income from unincorporated business assets are in theory taxed as ordinary income, but this is necessarily done imperfectly, and crucially, losses are not treated symmetrically with gains. Finally, earnings from ownership of Canadian corporations are afforded some credit for corporate taxes having already been paid via the dividend tax credit and preferential treatment of capital gains, but the crediting is very imperfect, especially for capital gains.

The result is a system that treats different forms of capital income arbitrarily differently. It differs from what theory would suggest, which would be for either no taxation of capital income or uniform taxation at rates lower than labour income tax rates. Many countries around the world have addressed this problem, especially in the European Union, by adopting schedular systems that systematically impose a different rate structure on capital income compared with earnings.

3 The letters E and T in the acronyms EET and TEE indicate whether assets are exempt or taxable during the three phases of i) asset acquisition (exempt from the tax base or not), ii) accumulation of capital income (exempt or taxable) and iii) running down of the asset (accumulated principal and interest exempt or taxable). As the Mirrlees Review noted, these tax treatments are equivalent in present value terms except to the extent that super-normal returns are made on assets. We discuss this further below.

4 Forgone earnings are given implicit EET treatment since it is as if they are fully deducted from the income tax base: one's tax base falls by the full amount of forgone earnings and rises again when the forgone earnings give rise to future augmented earnings, comparable to, say, saving in RRPs for retirement.

The inclusion of unsheltered capital income along with earnings in the tax base has another deleterious effect, and that is to compromise the progressivity of the income tax, especially at the upper end. An important factor in the determination of the rate structure is the responsiveness of the tax base to the tax rate, the so-called elasticity of taxable income (Feldstein, 1999; Gruber and Saez, 2002; Department of Finance, 2010). One expects that this is higher for capital income than earnings because of the greater freedom to change one's capital income by tax planning, relocation and outright evasion. If capital income were taxed separately from labour income, concerns with high tax rates at upper-income levels might be mitigated. Given that much of the recent growth in income inequality comes from earnings inequality rather than capital income, especially at the upper end (Piketty and Saez, 2006), it could be argued that anything that makes redistribution easier at the upper end is welcome.

There is a more general problem of eroding progressivity in the tax-transfer system. Progressivity is determined mainly by the rate structure of the income tax and the system of transfers to low-income persons. The rate structure has become flatter in recent years, and this has been most pronounced at the provincial level. As the provinces have acquired more and more income tax room, and have as a result successfully argued for more discretion in their rate structure, they have adopted much flatter rate structures than that of the federal government. This has been partly compensated for by converting most tax deductions to tax credits, which add progressivity to the rate structure for those liable to pay taxes. More important, the advent of refundable tax credits, which are themselves income-tested, has added a potentially important source of progressivity at the bottom end by reaching those with no positive tax liabilities. This has been of special importance for low-income families with children and to some extent low-income workers, but the amounts involved are far from adequate to address the needs of the poorest.

Transfers to Low-Income Persons

Those who must rely on social assistance, especially the disabled and employable singles, receive what can only be called a pittance with which to survive. Welfare incomes, including both social assistance and refundable tax credits, remain well below poverty levels and have been falling in real terms since the mid-1990s (National Welfare Council, 2010; Boadway and Cuff, 2011). This is a national disgrace. Provincial welfare systems also have incentive problems. Earnings limits are extremely low, and tax-back rates tend to be 100 per cent once those limits are reached. As well, asset ownership restrictions make saving unattractive even if resources permitted.

Federal low-income transfer programs have been less draconian than at the provincial level. Transfers to the elderly through the OAS-GIS have been relatively successful at lowering poverty rates for the elderly, and are well-targeted to the neediest, despite complaints that this has reduced incentives to earn and save. Tax credits for children have also been helpful, although their targeting has not been particularly tight. The EI system on the other hand, has relatively little redistribution built into it. Financing by payroll taxation is very regressive, and benefits have only limited redistribution built in through extra assistance to low-income workers with families and some tax-back of benefits to higher-income workers.

Indeed, more generally, the decentralization of revenue-raising responsibilities to the provinces has coincided with a reduction in redistribution in the system as a whole, and it is not hard to imagine an element of causation. As mentioned, the transfer of income tax room to the provinces has resulted in a less progressive income tax system. Those groups of low-income persons for which the provinces are responsible — the disabled and the long-term unemployed — have fared less well than those for whom the federal government has assumed responsibility — children, the elderly and the short-term unemployed. Further back in time, when inheritance tax was transferred to the provinces, they soon abandoned the field. There are exceptions to this, of course. Provinces have maintained universal health care systems. Quebec has been particularly aggressive with respect to children, though less so with respect to the disabled and the long-term unemployed. And, the federal government's record with the Aboriginal population has not been stellar. Nonetheless, there is apparently some substance to the idea that fiscal competition can lead to a race to the bottom.

Indirect Taxes

The structure of the federal GST is sound, though the rate is arguably unreasonably low, not just for efficient revenue-raising purposes, but also for pursuing further harmonization with the provinces. Probably, one lesson we have learned from the TCAs is that it is more difficult to maintain a fully harmonized system the less tax room the federal government has. For better or for worse, as the provinces obtained more income tax room, they demanded more say in tax policy, and this resulted in more discretion over the rate structure and the system of income tax credits. So far, the principle of a common base has been maintained. The argument is that the same issue could arise with the GST/HST as the federal share of HST revenue falls relative to the provinces'.

In the case of sales tax harmonization, the danger is that the integrity of the HST system will be eroded as more provinces join in. Allowing a different set of exempt or zero-rated products in different provinces complicates the system unnecessarily. One lesson we have learned from tax theory, and one that has been elegantly defended in the Mirrlees Review (2011), is that redistribution is more efficiently pursued by the direct tax system than by differential sales tax rates. The system of refundable tax credits is a suitably progressive complement to the GST/HST that renders further exemptions unnecessary and counterproductive. Moreover, a system that has fewer instances of preferential treatment is administratively less complex. Whether the federal government can succeed in convincing all provinces to replace their PSTs with a broad-based HST is an open question. In fact, the HST system introduced in British Columbia and Ontario has already compromised the principle of a common base by allowing certain items to be exempt from the provincial portion of the HST (e.g., children's clothing, footwear, diapers and car seats; books and newspapers in Ontario; residential energy in British Columbia).

More important than the HST rate structure across goods and services is the fact that different provinces are now allowed to set their own rates as part of the HST, unlike when the HST was first introduced in three of the Atlantic Provinces. Thus, the rate is 13 per cent in New Brunswick, Newfoundland and Labrador, and Ontario, while it is 15 per cent in Nova Scotia and 12 per cent in British Columbia, falling to 10 per cent in 2014. This too makes the system unnecessarily complicated administratively. Operating a value-added tax system in a fully decentralized way is a recipe for complexity and an invitation to unscrupulous producers taking advantage of the absence of border controls to set up schemes of evasion that are all too well-known from experience in the European Union. Fortunately, the existence of the Canada Revenue Agency as the sole tax-collecting agency for the HST mitigates the problem considerably, but it remains to be seen how well the system can sustain different tax rates across provinces.

The Quebec sales tax (QST) system is the exception to a harmonized system with a single tax-collecting agency. Although the QST base is reasonably well harmonized with the GST, both the QST and GST are collected by the Quebec revenue agency. This introduces additional collection and compliance costs, and opens up the possibility of difficult enforcement at the borders.

What we are left with is a system in which half of the provinces participate in the HST with its single tax-collecting agency, albeit with different rates and slightly different bases, while Quebec maintains full discretion over its sales tax rate and collects its own revenues separately along with the GST. This has strayed some way from the original HST system joined by New Brunswick, Newfoundland and Nova Scotia with its high degree of base and rate harmonization. The principle has now been established that provinces that join the HST have some discretion over their rates and bases. Whether the extra accountability presumably achieved from this discretion outweighs the additional administrative complexity now and in the future is an open question.

Equality of Opportunity

Equality of opportunity is a dimension of fairness to which all governments pay lip service, and to which the Canadian Constitution in principle commits both levels of government in Section 36(1). There are a number of policies that have equality of opportunity as a rationale, such as public education, health care and various constraints imposed by the Charter of Rights and Freedoms. Refundable tax credits for children are presumably motivated by equality of opportunity, the idea that children ought to have comparable chances to succeed regardless of their socio-economic background. The same could be said for early childhood education and childcare policies. To achieve equality of opportunity successfully would require tax credits and in-kind transfers to be well-targeted to children most in need. Although the Canadian system of targeted transfers for children and for services for children may not go as far as some would like, the basic structures are in place that can be built on.

The case of post-secondary education is less clear. There exists a myriad of policy instruments available both in the tax-transfer system and alongside it. We have mentioned the implicit deductibility of forgone earnings, which corresponds with cash-flow, or EET, tax treatment. However, that is not as generous as it might seem since the rate of tax applicable to forgone earnings is typically much less than that paid later on, given the progressive income tax rate structure. This constitutes a disincentive to invest in human capital. Full EET treatment for post-secondary education would also include full and refundable deductibility of financial costs for which the current system of education and tuition credits is an imperfect and inadequate substitute. In addition, RESPs seem largely to be a windfall gain to families who can afford to save for their child's education (Milligan, 2005), although it may be a nudge policy for those who, though they can afford it, would neglect to save sufficiently because of present-biased behaviour. One could argue that post-secondary education includes an element of consumption as well as investment, and on that account should bear some tax. On the other hand, there may well be externalities associated with education that work in the opposite direction. More generally, human capital investment takes place in many ways besides post-secondary education, such as training, work experience and so on. In principle, similar sorts of policy considerations should apply to these other forms, although there are undoubtedly difficult administrative problems that would have to be taken into account in a more detailed approach.

A more serious concern from an equality-of-opportunity perspective is that there are sources of market failures associated with post-secondary education. Three are particularly important. One is that education is a particularly risky form of investment, for which standard forms of insurance or risk-pooling are inadequate. The second is that, given the difficulty of borrowing against one's human capital, liquidity constraints are prevalent, particularly for persons coming from low-income families. Finally, and related to the latter, persons from disadvantaged socio-economic backgrounds who are both able and motivated face the double disadvantage of inadequate resources and poor preparation to succeed. The current system deals with these issues mainly through a system of government-backed student loans combined with a spotty system of grants targeted to those from needy backgrounds or those with superior abilities. Post-secondary institutions typically offer their own financial assistance as well, depending on their resources.

The result is a system that is inadequate in dealing with risk and in targeting the neediest able students, and that relies too much on educational institutions themselves as gatekeepers of student aid. Policy instruments exist that can deal jointly with risk and liquidity constraints, such as income-contingent loans or their equivalent. Moreover, grant schemes could be designed that are more effective at targeting those most in need than the mix of refundable tax credits and student aid schemes now offered. Indeed, the structure of the recently introduced Canada Student Grant Program could readily be enhanced.

One final area where Canadian tax policy fails to address equality of opportunity is the treatment of intergenerational transfers. Being born into a privileged family is an enormous advantage. Life outcomes are influenced not just by the ability of better-off families to finance opportunities both inside and outside the education system, but also by the transmission of human capital across generations through intra-family learning and skill transmission. The hallmark of an equitable tax-transfer system is its ability to redistribute among persons according to the advantages that they are endowed with through luck of birth. The income tax does this on the basis of earnings and to some extent capital income. Earnings partly reflect the advantages of parental well-being, and capital income includes the return on inherited wealth: indeed, one of the arguments for taxing capital income is precisely to get at returns to inherited wealth. However, the benefits of inheritances per se are not taxed in Canada. Instead, accrued capital gains on inheritances are taxed, which is a highly inadequate way of dealing with inherited wealth.

Tax by Design: The Mirrlees Review

The Mirrlees Review was initiated to mark 30 years since the publication of the influential Meade Report (Report of a Committee Chaired by Professor James Meade, 1978) in the United Kingdom. The latter, along with the U.S. Treasury Blueprints (1977), represented an abrupt change in personal tax policy prescription from the traditional advocacy of Haig-Simons comprehensive income taxation, of which the Carter Report (Royal Commission on Taxation, 1966) was the pinnacle. Like the Meade Report, the Mirrlees Review was written by a committee of tax policy experts, but it went further in some important respects. For one, it studied the entire tax system, including income taxes, social insurance contributions, sales taxes, and excise taxes, especially environmental ones. For another, it relied heavily on the cumulative economic literature on optimal tax theory and policy, and it grounded its recommendations on thorough empirical analysis. And, its advice included not only recommendations for structural reform of the tax base but also detailed recommendations about reform of the rate structure that were meant to be roughly revenue-neutral and distribution-neutral. In effect, the aim of the Mirrlees Review proposals was to extract revenues in the most efficient way consistent with given redistribution objectives and required revenues. While the context for the Mirrlees Review recommendations was the U.K. tax system, it provides a useful template from which to consider reforms in Canada.

The main elements of the Mirrlees Review proposals are straightforward and can be summarized as follows:

- The proposed direct tax base for individuals was an elaboration of the expenditure tax proposals of the Meade Report. The latter proposed sheltering of capital income using one of two methods, TEE (tax-prepaid) and EET (registered), and would allow taxpayers some discretion in treating their assets in either way. The Mirrlees Review added a third option, a Rate-of-Return Allowance (RRA), referred to as TtE treatment. It taxes the return on assets in excess of normal returns (the lowercase t), and would be applied mainly to equity income: housing and interest-bearing assets would be treated as TEE, while pensions would be EET. In fact, RRA treatment is equivalent to EET in the sense that it taxes excess asset returns (or credits losses), but it does so earlier in the life of the asset. The

Mirrlees Review deemed this to be an advantage, despite the administrative costs of RRA versus EET.

- Particular attention was paid to ensuring that the rate structure of all taxes and transfers taken together did not have adverse incentive effects, particularly with respect to the labour force participation decision. The latter is especially important for parents of children beyond infancy and above and persons nearing retirement age.
- The corporate tax system would take the so-called Allowance for Corporate Equity (ACE) form, which is the equivalent of the cash-flow tax recommended by the Meade Report. This is a neutral tax system that taxes rents, but results in tax liabilities earlier in an investment's life than a cash-flow tax. This is the analogue of the RRA at the personal level, and would apply to unincorporated businesses as well.[5]
- The other direct tax would be a tax on inheritances received over a taxpayer's lifetime, whether transferred on death or *inter vivos*. This also finds its close analogue in the Meade Report. It would serve an important equality-of-opportunity objective, and would complement the fact that normal returns to saving would not be taxed.[6]
- The VAT system would move to a fully uniform one by eliminating exempt and zero-rated goods and services, and accompanying it with adjustments to the income tax system to maintain distribution-neutrality. (Special treatment for financial services and housing would apply.)
- Social insurance contributions, which give rise to various anomalies in the overall rate structure in the United Kingdom, would be harmonized with the income tax so that a single rate schedule applied to both.
- A single carbon tax would replace the existing incoherent system of fuel charges and would apply uniformly to all emissions sources (taking due account of sources that were already subject to the EU emissions trading

5 As discussed later, ACE treatment involves adding all capital expenditures to an account, applying a risk-free interest rate to the value of the account as a tax deduction each year, and reducing the account annually by a depreciation rate.

6 The rationale for such a tax is outlined in Boadway, Chamberlain and Emmerson (2010).

system). As well, a road congestion tax would be applied nationwide, and revenues from both environmental charges and congestion pricing would go into general revenues.

We turn next to what we might take from these proposals for the Canadian context.

Tax by Design for Canada

As mentioned, the Mirrlees Review proposals were devised mainly with the U.K. tax system in mind. However, most of the recommendations have resonance for other countries, including Canada. At the same time, there are some key differences between the circumstances facing Canada and the United Kingdom that would make wholesale adoption of the proposals problematic. First, Canada is a federal country in which a significant share of tax room is occupied by the provinces. This raises issues both of tax design and harmonization. It also raises important issues of coordinated policy-making in the area of transfers to low-income persons, given the important role the provinces play in that regard. Second, natural resources are much more important in Canada than in the United Kingdom, and give rise to special problems given their decentralized ownership. Third, Canada has no tax on bequests or inheritances, while the United Kingdom does. While in principle this ought not to detract from recommending that lifetime inheritances be taxed, it would involve a more significant reform than in the United Kingdom where a tax on bequests, albeit very imperfect, already exists. Fourth, congestion pricing does not assume the urgency in Canada as it does in the United Kingdom. Environmental pricing presumably does, although important coordination issues both with the provinces and with the United States must be taken into consideration. Finally, for whatever reason, the Mirrlees Review paid no attention to the tax treatment of human capital accumulation. This is unusual, given the debate in the United Kingdom over student fees and student financing of post-secondary education.

These considerations suggest that the application of tax reform principles to Canada would likely emphasize somewhat different features than in the Mirrlees Review. At the same time, since we would draw on a common body of literature, one would expect there to be considerable overlap. This was certainly the case for the President's Panel (2005) in the United States and Henry Review (Australian Treasury, 2010) in Australia. What follows is some musing about what proposals a document entitled "Tax by Design for Canada" would contain.

Individual Income Tax

The design of the individual income tax is critically important since it not only raises the most revenue but also is the main tax instrument used to deliver equity objectives. There are three main issues: the choice of the base, the choice of the rate structure, including refundable tax credits, and the harmonization of federal and provincial taxes. Other issues that we do not have space to deal with include the taxpaying unit (individual, family, etc.), the use of the tax for influencing behaviour, and international aspects of individual taxation.

The choice of the individual tax base is dominated by the treatment of capital income, or equivalently, the case for taxing present and future consumption at differential rates. The theory poses the question this way: what is the most efficient way to raise revenues over the life-cycles of heterogeneous households so as to achieve a desired amount of redistribution, defined on a lifetime basis, while satisfying an intertemporal budget constraint.[7] The theoretical prescription is agnostic, especially when practical considerations such as administrative complexity, evasion, and individual behavioural anomalies are taken into account. We can, however, identify some broad arguments for and against taxing capital income.[8]

One main argument in favour of taxing capital income is that in the absence of a tax on wealth transfers, some persons have sources of purchasing power that would otherwise go untaxed. This is the case under most bequest or inheritance taxes, which typically affect only the relatively wealthy and exclude transfers other than bequests. In the current Canadian context, this argument

7 In the literature, matters are made more complicated by the requirement to satisfy an information constraint, which precludes high-earners from wanting to mimic low-earners. Moreover, the income tax system may be called on to achieve intergenerational redistribution in the event that there are restrictions on instruments of intergenerational transfers, such as debt.

8 Banks and Diamond (2010) give a detailed summary of the case for taxing capital income. See also the Mirrlees Review (2011), Chapter 14.

carries considerable weight. A further argument is that high-income persons tend to have higher preferences for saving, because they are more patient and because they expect to live longer. Taxing saving is an indirect way of taxing their earning ability (which is the ideal basis for redistributive taxation, for which actual earnings is an imperfect proxy). Related is the argument that saving, or future consumption, is complementary with leisure, so taxing it is an efficient way of indirectly taxing leisure, which would otherwise be untaxed despite the fact that it, like goods and services, is a source of individual welfare. More technical arguments involve uncertainty and liquidity constraints. If future earnings are uncertain, so the need for saving is itself uncertain, taxing saving will implicitly redistribute from those who turn out to have high income to those whose incomes are lower. At the same time, if individuals are liquidity-constrained, taxing capital income is a way of postponing tax liabilities until later in the life-cycle when the constraint no longer binds. A recent paper by Conesa, Kitao and Krueger (2009) has simulated the U.S. tax system using an overlapping-generations model with uncertain earnings and liquidity constraints, and has argued that a plausible optimal tax rate on capital income is about 35 percent.

The case against taxing capital income is equally compelling. Taxing capital income is administratively complex and not all forms can be included. Capital gains cannot be taxed on accrual, so a corporate tax backstop is needed along with a system of integration. Inflation indexing is a necessity; taxing the imputed incomes of consumer durables, unincorporated business income and human capital income are almost impossible; and in the absence of full loss offsetting, investing in risky assets is discouraged. Since not all asset income can be taxed, asset allocations are distorted. As well, despite the theoretical gains from taxing capital income, these may be small compared with the distortions in behaviour induced by capital income taxation. To the extent that saving is a vehicle for life-cycle consumption smoothing, a capital income tax is a distortion with very little gain in equity. Indeed, it discriminates against those with more variable earnings streams. Taxing saving might also be considered as detrimental to the extent that saving is already too low for behavioural reasons, especially saving for retirement. The less saving people do for their retirement, the more might the state feel obliged to come to their rescue.

It is sometimes argued that capital income should be taxed because higher-income persons have relatively more capital income than low-income persons. However, this ignores that fact that the rate structure can be chosen independent of the tax base, and that can typically undo any adverse distributive consequences of eliminating capital income from the base. In fact, including capital income in the base may actually constrain the progressivity of the income tax. To the extent that the elasticity of capital income with respect to the income tax is higher than for earnings, especially at high income levels, inclusion of capital income in the tax base can discourage progressivity. This is an important consideration given that much of the recent increase in income inequality derives from inequality in life-cycle earnings, and arguably a relatively progressive earnings tax structure is a reasonable policy response to that.

Given these competing arguments for and against capital income taxation, what are the policy alternatives? There is a strong case against comprehensive income as the ideal. Even if one wanted to tax capital income, there is no reason to tax it at the same rate as earnings. There are two reasonable alternatives. One is the so-called dual income tax, exemplified by the Nordic income tax initially adopted in Scandinavia that spread to other European countries.[9] Earnings would be taxed according to a progressive tax schedule, while capital income would be subject to a separate schedule, typically at a uniform rate (equal to the lowest earnings tax rate in the Nordic system). Uniform capital taxation simplifies the system by allowing for withholding by financial institutions and reducing wasteful tax planning. It also satisfies the argument for some capital income tax, albeit at different rates than earnings taxation, which can be as progressive as desired. The dual tax does not eliminate all complications. Some asset income cannot be taxed, and policymakers might want to positively encourage saving for retirement. There is still a need for the corporate tax to serve a withholding function, which might compromise its use as a rent-collecting instrument, and which as mentioned is difficult to do in an open economy in any case. Enforcement problems also arise in distinguishing earnings from capital income in unincorporated businesses. And, taxing capi-

9 The dual tax was also one of the options recommended by the President's Panel (2005).

tal income at a uniform and low rate means that much income from inherited wealth goes untaxed. For that, as well as for reasons of equality of opportunity, wealth transfer taxes are a complementary policy instrument to the dual income tax.

The second alternative is to adopt a form of personal expenditure taxation, along the lines of the Meade Report or the Mirrlees Review. In the Meade Report, assets would be treated in one of two forms: TEE (tax-prepaid) or EET (registered). Some assets whose returns are difficult to measure, like housing, would necessarily fall under TEE. Others, like personal business assets, human capital accumulation and possibly pensions, would naturally face EET. For others, taxpayers might be allowed to choose either TEE or EET so as to average their tax liabilities over the life-cycle. In such a system, if all returns to assets were normal, TEE and EET would give rise to equivalent tax bases in present-value terms. However, to the extent that asset income deviates from normal, the two will differ. Some assets might obtain windfall earnings, which are only captured under EET. Others might be risky so could earn either more or less than normal returns. In this case, EET would generally implicitly treat above-normal and below-normal returns symmetrically. The government would effectively share the risk, and thereby encourage risk-taking.

The Mirrlees Review adds a third treatment, TtE, which taxes in each year all returns in excess of the normal rate of return, or RRA. They specify that this will apply especially to equity assets, whose return is liable to include above or below-normal returns. TtE differs from EET in that all non-normal asset returns are cumulated and taxed when the asset is disposed of under EET, but are taxed as they accrue under TtE. As long as all losses are treated symmetrically with gains, TtE accomplishes much the same as EET, but averages tax liabilities over time and advances government revenues. The Mirrlees Review makes no other allowance for self-averaging by choice of asset treatment, presumably because the use of TtE makes income averaging less necessary. TtE treatment does, however, add considerable complexity to the system since it requires that both asset returns be reported and normal returns be measured each year.

Unincorporated business income could also be treated in one of two ways. The Meade report recommended cash-flow business taxation, or EET in Mirrlees' parlance. The Mirrlees Report proposes the ACE system mentioned above and discussed in more detail below. It is the analogue of the RRA that they propose for equity income at the personal level. Again, the difference is primarily in the timing of tax liabilities: The ACE advances taxes but does so at some administrative cost. What is critical in both cases, especially cash-flow business taxation, is that losses be treated symmetrically with gains, either through full refundability of tax losses or carry forward with (risk-free) interest. Refundability has a further advantage in relaxing financing constraints that young growing firms might face.

Among the three alternatives — dual income tax, Meade-style expenditure tax, or Mirrlees TEE-TtE-EET combination — the Meade system with TEE and EET alternatives seems preferable, provided it is accompanied with an inheritance tax. The inheritance tax largely undercuts the need for capital income taxation, and the Meade version of expenditure tax is less complex that the Mirrlees one, while accomplishing the same thing. If inheritance taxation is not feasible, the Nordic-style dual income tax would be a second-best choice. In all cases, it is reasonable to maintain TEE treatment for housing, especially given that housing draws property taxation, and EET for retirement savings.

All of the above alternatives require that the government choose a rate structure to apply to earnings.[10] By rate structure, we mean not only the system of tax brackets and exemptions, but also tax credits — refundable or not — that exist for redistributive purposes.[11] There is no unambiguously optimal rate structure, given the value judgments involved. However, a number of considerations influence how progressive the tax might be:

10 We use the term earnings, but transfers from government would typically be included with earnings in the non-capital-income tax base.

11 Some nonrefundable tax credits exist for other reasons, such as to reflect costs of earning income or to encourage certain types of behaviour (charitable and political contributions), or simply to adjust the base (medical expenses). For reasons of space, we do not deal with these, although they do raise issues of tax policy.

- First, the separation of the rate structure on earnings from capital taxation removes a constraint on progressivity, especially at the top end, as we have mentioned.
- Second, in the Canadian context, extra responsibility is placed on the federal rate structure to achieve national redistributive goals, given that the provincial rate structures are apparently bound to be less progressive.
- Third, progressivity is largely determined by what happens in the upper and lower ends. At the upper end, two factors are relevant. One is that adding a bracket near the top adds much less revenue than adding one lower down (since there are fewer persons to whom it will apply). The other is that the elasticity of the tax base is often estimated to be relatively high at the upper end.[12] This would presumably be reduced if only earning were included in the progressive tax base. *A priori*, the effect of higher taxes at the upper end can go either way. While there is a substitution effect tending to reduce earnings, an income effect should operate in the other direction. Given the fact that inequality in earnings has become so pronounced in recent years (OECD, 2008), a strong case on equity grounds could be made for adding an additional bracket at the top.
- It is at the lower end where real progress could be made. Given the acceptance and experience with refundable tax credits, there seems to be no reason not to make all credits refundable. This would turn the tax system into a proper negative income tax system and go a long way to redressing the shameful treatment of persons at the bottom of the income distribution who are not working. Indeed, the refundable tax credits could be made even more progressive by conditioning them on family income so that they vanish before middle income levels.
- The Mirrlees Review, following recent literature on optimal tax theory, emphasized reducing participation tax rates for taxpayers whose participation in the labour force was sensitive to after-tax income.[13] Three groups

12 The Department of Finance (2010) estimated the elasticity of taxable income in the top percentile of the income distribution in Canada to be about 0.62-0.72, compared with 0.2 in the top decile.

13 The participation tax rate is the additional tax incurred plus transfer forgone when an individual participates in the labour market.

were singled out: low-income workers, parents of children at minimum school age and older workers near retirement. For the first category, the Working Income Tax Benefit (WITB) is a suitable instrument, although as discussed below, care must be taken to ensure that those unable to work or find jobs are not put at a disadvantage as a result. For parents with children, refundable tax credits for children could be used. To achieve both redistribution and participation objectives, they could be conditioned not only on family income, but also on the age of the child and whether the parent is working or not. Thus, they would be most generous for working parents of children from three- to five-years old from low-income families. (Parents with younger children could also have tax assistance for daycare costs.) This would involve a major overhaul of the current Canadian Child Tax Benefit (CCTB), National Child Benefit Supplement (NCBS) and Universal Child Care Benefit (UCCB), which taken together are not well targeted. For those near normal retirement age, for whom participation in the labour force is quite elastic, revisions to public pensions could ensure that there is less financial incentive to retire.

- Finally, what is relevant for redistribution purposes is lifetime welfare rather than annual welfare. Given that the income tax system is based on annual income, this is problematic. One's income in any given year need not reflect one's lifetime income. To the extent that one uses consumption as the tax base, which EET treatment would approximate except for services of consumer durables, the problem is partly mitigated if household consumption reflects permanent income. However, this will not be true if there is uncertainty about future income. To mitigate the problem that current taxable income does not reflect lifetime income, a system of general income averaging is both feasible and suitable, and should be instituted. It will be especially important for those with volatile incomes, such as entrepreneurs for whom risk-taking is a characteristic. General income-averaging is not without its practical problems, such as how to deal with new entrants into the labour force or how to account for changes in the level of taxation and public services over time. Any form of general averaging will be imperfect, but it will be better than no averaging.

Income Tax Collection Agreements

One final area of concern regarding individual income tax policy involves income tax harmonization between federal and provincial governments. The current TCAs represent a reasonable balance of a common tax base and collection agency with some provincial discretion over their own rate structures. Any new system ought to make it attractive to maintain the TCAs, which obviously means attaining provincial consent. There are a few issues that are relevant here.

One is the importance of the federal government retaining a significant share of the income tax room. Given the tendency for the provinces to adopt less progressive rate structures, the progressivity of the federal income tax must be largely relied on to achieve the redistributive goals of the tax system. This can be done more easily the greater the tax room the federal government occupies.

A second issue is that decentralization of income tax room to the provinces has implications for the integrity and sustainability of the equalization system. The more decentralization there is, the more horizontal fiscal disparities there will be: given that provinces have varying sizes of tax bases, the more they rely on own revenue, the greater will be differences in tax rates across provinces to finance given levels of public services. This will make satisfying the equalization commitment more difficult financially for the federal government, and perhaps also more difficult politically.

Last, the integrity of the TCAs is more likely to be maintained the greater is the share of the income tax room occupied by the federal government. The TCAs were initially conceived in the early post-war period when the federal government was the sole occupant of the income tax system. As tax room devolved more and more to the provinces, pressures for disharmonization increased. Provinces naturally wanted more discretion to set their own income tax policies, and initially pursued that by deploying an increasing number of provincial tax credits, deductions and rebates. Eventually, the TCAs were reformed so that the provinces could choose their own rate structures and tax credits within limits. The system has now devolved about as much as it can without jeopardizing harmonization.

Business Income Tax

The current business income tax for both corporations and unincorporated businesses is predicated on the idea that the corporate tax should be a tax on corporate equity income. The rationale for this is based on the presumption that the personal tax should be on comprehensive income. In this context, the corporate tax serves a necessary withholding role to preclude shareholders from postponing taxation on their equity income by retaining it within the corporation. Given this rationale, a system of integration is needed to give credit for corporate taxes paid when the equity income is eventually taken out of the corporation. As well, interest deductibility is justified by the fact that no withholding against interest is necessary: individuals can be taxed on interest income as it accrues.

The design of the corporate tax to fulfill this rationale has always been very imperfect. As various calculations have shown (e.g., Boadway, Bruce and Mintz, 1987; Technical Committee on Business Taxation (The Mintz Report), 1998), the marginal effective tax rate — which is a measure of the distortion imposed on investment decisions — has generally been non-zero, and has varied considerably over industries and types of asset. Natural resource industries, and to a lesser extent manufacturing, have been heavily favoured, while service and tertiary industries have suffered discrimination. Indeed, investment in some non-renewable natural resources has actually been subsidized at the margin, owing to the excessively generous mix of deductions. The interest-deductibility provisions also have deleterious effects. They encourage debt finance, which as the recent deep recession shows, can be counter-productive. As well, interest deductibility is a main element of the tax system that firms can use to shift profits from one jurisdiction to another to minimize their tax burden.

These problems can be largely avoided by re-designing business taxation to be a tax on rents. If the personal tax is based on expenditures, in either the Meade Report or Mirrlees Review senses, there is obviously no need to use the corporate tax for withholding against domestic shareholders: the dividend tax credit can be eliminated. Even with a dual tax, withholding loses much of its rationale, especially in an open economy like Canada. At the same time, the case for a tax on rents generated in the business sector is strong. Rent taxes are an efficient source of revenues. Moreover, in the natural resource sector, they are, along with auctions for the right to exploit natural resources, ways for the government to obtain a share of the fruits of the nation's endowed wealth.

Designing a rent tax is also much simpler than designing a tax on business equity income. The simplest version is the cash-flow tax recommended by the Meade Report where the tax base is simply the revenues of the firm less its cash expenditures. There is no need for accrual accounting, for indexing, for interest deductibility or for depreciation. Nor is integration with the personal tax needed. The main problems are three-fold. First, one must decide how to treat financial services, that is, whether to tax them on a cash-flow basis as well.

Second, there may be some enforcement problems with implementing a cash-flow tax. Since taxes are implemented by self-reporting, the tax authority would have to rely on the cash flow as reported by firms. Firms might have an incentive to overstate their costs, for example, by exaggerating the cost of inputs from their operations abroad. As well, self-operated firms might have an incentive to convert labour costs into profits to reduce their tax burden.

The first two problems are ones that may prevent the tax from being perfect, but are not significant enough to preclude using a cash-flow tax. The third problem is that cash flow taxation typically leads to negative cash flows when firms are investing and positive ones later on. For full neutrality, negative cash flows need to be treated symmetrically with positive ones. Refundability is one way of doing that. It is an attractive way from the point of view of assisting with the financing problems firms might have, but conceivably refundability could lead to fraudulent behaviour. The alternative is to allow firms to carry forward their losses at a risk-free interest rate — risk-free, assuming that there is no risk that the government will not honour them, even if the firm goes bankrupt. However, admitting the possibility of carrying forward tax credits opens up the possibility of a wide variety of cash-flow equivalent efficient business tax systems.

A particular case of this is the ACE system, whereby a firm effectively is allowed to deduct financing costs from the full value of the firm's accounting capital stock. More specifically, when a firm invests, it adds the amount of investment to its accounting capital stock, and claims two deductions. One is the risk-free nominal interest rate applied to its entire accounting capital stock, no matter how it was financed. The other is a depreciation rate based on its accounting capital stock, which then reduces its book capital. Regardless of the rate of depreciation chosen, this is a neutral tax. The tax is implemented on a cash basis: neither accrual accounting nor indexation is required. The only important additional information needed over and above a cash-flow tax is the risk-free interest rate.[14]

The ACE system is the preferred tax system under our alternative personal tax bases, and it avoids special treatment of small relative to large corporations that are alleged to cause anti-growth biases (Chen and Mintz, 2011). It is worth reiterating that efficiency of the business tax is only preserved if all negative tax liabilities are either carried forward with interest or refunded. Refunding must apply to projects that do not succeed and go bankrupt. This is especially important for the resource industries where the success rate in exploration can be very low.

One final issue concerns the corporate tax rate. The proposed cash-flow-equivalent tax would be a tax levied at source, rather than destination. Traditional source-based corporate taxes are prone to tax competition: lower tax rates attract capital, but they also induce profit-shifting. However, corporate taxes based on rent are not subject to the same competitive pressures as those based on equity income. A properly defined tax on rent should, in principle, have little effect on investment decisions and therefore on location. At the same time, the absence of interest-deductibility removes one major vehicle for profit shifting. That is not to say that profit-shifting cannot still occur through transfer pricing, but at least it will be mitigated. This resistance to tax competition is an important feature of a rent tax, especially in the Canadian context where the corporate tax is one instrument the federal government has to get a share of natural resource rents, to which we turn next.

Special Case of Natural Resources

14 The ACE tax is a special case of the general neutral tax proposed by Boadway and Bruce (1984). They showed that neutrality is achieved whatever the depreciation rate used, provided the interest cost is based on the resulting book value of capital. Bond and Devereux (1995) showed that the neutrality property is preserved when the firm faces uncertainty, provided all accumulated tax credits are available when firms go bankrupt.

The tax treatment of the natural resource industries is obviously particularly important and contentious for Canada. It is important since natural resources are a substantial potential source of revenues, and these can be interpreted as the public's claims to the fruits of its endowed resources. It is contentious because the provinces have an ownership right to natural resources. As well, in the case of non-renewable resources, the stock will run out in finite time, and an issue is how the benefits should be shared with future generations.

The tax treatment of natural resources is complicated by a number of factors. There is more than one policy instrument used to obtain revenues. Rights to explore and develop resources are sold, often by auction. In principle, these should generate close to 100 per cent of expected future rents if a competitive auction is used. However, this will be compromised to the extent that there are other revenue instruments used downstream, that there is political risk about future tax policies, and that the rights acquired are limited in time or by stage of production. Provinces also deploy dedicated resource taxes, such as royalties or mining taxes. And, resource industries are subject to general business taxes by both the federal and provincial governments. Resource production is a very lengthy process involving many stages of production and possibly many different firms at various stages. As well, there is a high degree of uncertainty, both about the outcome of exploration and, given the volatility of natural resource prices, about future revenues. There are also environmental issues involved both during production and with the shutting down of resource operations. We cannot do justice to these issues here. We focus mainly on the application of general business taxes to natural resource industries.[15]

The rent-collecting motive is paramount in resource taxation, which makes cash-flow taxation or its equivalent, such as ACE taxation, ideal. Thus, natural resources should face the same corporate tax system as other industries. The use of cash-flow-equivalent taxation implies that all costs incurred at all stages of production should be expensed or carried forward at a risk-free interest rate. There should be no additional deductions for depletion or interest, and

15 A more general treatment of natural resource tax policies may be found in Boadway and Keen (2010).

no special mining allowance. Nor should there be a deduction for provincial resource taxes against the corporate tax. That simply transfers revenue from the federal government to resource-owning provinces, as well as creating a distortion in incentives.

Since what is being taxed is rent, there is no natural limit to the rate of tax that should apply: natural resources are not mobile. In a sense, the higher the tax rate the better, since this is both an efficient source of government revenues and a particularly important source of revenues for the federal government given its obligation to equalize provincial revenue capacities.

There are, however, some design features of cash-flow taxation that are especially relevant for natural resources. Loss-offsetting is particularly important given the risk associated with the industry. Loss-offsetting should apply at all stages of production, including at the exploration stage. A proper measure of rent allows a deduction for all expenditures beginning with initial exploration. Also important, but even more difficult for policy-makers to abide by, is to avoid changing tax rates when circumstances change. If firms anticipate this, and there is no reason why they should not, their investment decisions will take it into account and will be distorted as a result. Being able to commit to tax rates is obviously difficult for governments. It is one reason why advancing tax liabilities earlier in the firm's production cycle is important.

The multi-stage nature of production also leads to potential problems when different firms are involved at different stages. The cash-flow tax system should see through changes in ownership, and ensure that cash-flow taxation is applied over the entire life cycle of natural resource property acquisition, development and shutdown. Taxing natural resources on a cash-flow basis is more difficult when other industries do not face the same tax because it is necessary to distinguish resource cash-flows from those of other activities. However, if, as we propose, all industries are subject to cash flow taxation, this problem is avoided.

Special issues arise with respect to the provincial right to tax natural resources. Naturally, the same principles of rent tax design ought to apply to the provincial resource tax regimes. In addition, there are some other important issues. The ideal division of tax room between the federal government and the provinces is by no means clear. On the one hand, the provinces can claim some right to ownership and the property rights that entails. On the other hand, the federal government has the right to levy corporate income taxation on all producers, including natural resource firms, and has done so for many years. It is particularly important that the federal government have some access to resource revenues, given its constitutional commitment to equalization. The greater the share of natural resource revenues collected by the provinces, the greater fiscal disparities will be, and the more difficult it will be for the federal government to fulfill its equalization obligations.

Provincial access to resource revenues has some other potentially damaging effects on the Canadian economy. To the extent that resource rents are not saved, future generations are deprived of a share of the benefits and the economy is more prone to the Dutch disease.[16] If the revenues were saved in a heritage fund held in foreign assets, as in the Norwegian case, exchange-rate appreciation would be restrained, and the damage done to non-resource sectors mitigated. Seemingly, provinces do not have the inclination to set aside natural resource revenues for future use, despite in the case of Alberta the existence of a Heritage Fund whose intent was precisely that.

One reason for that is the temptation that exists for resource-rich provinces to spend their revenues on province-building infrastructure. This is a form of fiscal competition that is likely to be inefficient from a national perspective. There is no particular reason on economic geography grounds for industrial development to be located where natural resource endowments happen to be largest.

For all these reasons, a strong case can be made for the federal government obtaining a reasonable share of natural resource revenues through a rent-based corporate income tax that applies to all industries.

16 The Dutch disease, or resource curse, refers to the adverse effects that natural resource production can have on the growth of an economy by attracting resources out of more innovative sectors, by damaging export-oriented sectors as a result of exchange rate appreciation if the proceeds of natural resource production are spent rather than saved in foreign assets, and by perhaps encouraging poor governance by making resource revenues too readily available for spending or wasting.

Sales Taxation

General sales taxation can potentially fulfill three purposes: raising revenue, providing a vehicle for decentralizing own-source revenues to the provinces, and supplementing the income tax as a redistributive instrument. In fact, the latter two roles invite difficulty.

Consider first the decentralization of sales taxation room to the provinces. It is hardly arguable that the ideal form of sales tax is a value-added tax (VAT), of which the GST is an example. By eliminating taxes on producer inputs, the GST achieves production efficiency and also evens the playing field between domestic and foreign producers. This makes it a relatively efficient tax, certainly more efficient that single-stage sales tax alternatives. The main detraction from efficiency is probably the evasion that the GST draws, partly because of the taxpayer resentment fueled by the fact that the federal government chose to levy it in a highly visible way.

Decentralizing the GST to the provinces, even in a relatively harmonized way, faces difficulties. For decentralization to be meaningful, provinces would have to be able to exercise discretion at least with respect to the provincial tax rate. However, running a VAT in a federal system in which different provinces charge different tax rates gives rise to both complexity and opportunity for evasion. The evasion opportunities mainly arise from the absence of border controls combined with destination-based taxation. This leads to input tax credit payments at the border, which invites the kind of schemes that have caused difficulty in the European Union (summarized fully by Crawford, Keen and Smith, 2010). This can be mitigated by having a single tax authority as in Canada, but the difference in tax rates across provincial borders adds complexity nonetheless for firms that buy and sell in more than one provinces. In principle, this problem can be further minimized by differential provincial tax rates applying only at the final, consumption, stage, while having a common rate of tax on inter-firm transactions, but this too is complicated.

An important point is that not much is gained by allowing provinces to choose their own sales tax rates within a harmonized sales tax system. The argument is that discretion to set tax rates improves accountability. However, that argument is over-stated. Provinces infrequently change their sales tax rates as it is: they simply take whatever revenue is exogenously raised from the given tax rate. Little is lost by not having the discretion to change rates. Given that, the original HST system, whereby the participating provinces abide by both the federal GST base and the rate structure, is by far the best approach.

The choice of the structure of the GST raises the redistribution issue. Should some necessities be given preferential rates, including either exempt or zero-rated status? The Mirrlees Review argued that the VAT should be uniform with no exceptions, even for things like food and children's clothing. Their argument relied on established, but somewhat technical, optimal tax theory findings which said that if the income tax is chosen optimally, preferential commodity taxes are only helpful to the extent that they apply on goods that are the most complementary with leisure (and these need not be necessity goods). Unless particular goods are complementary with leisure, which their empirical estimations indicated was not the case for necessity goods, redistribution can be more efficiently carried out through the progressive earnings tax system, including refundable tax credits. Put differently, it is better to eliminate preferential treatment of particular goods and replace it with adjustments to the income tax and refundable tax credit systems so that low-income persons are no worse off.[17]

This argument is not entirely convincing for a couple of reasons. One is that there may be constraints on the progressivity of the income tax because of the possibility of evasion or changing earnings into capital income, or because the federal share of the income tax is unduly restricted. In this case, some progressivity can be achieved that could not be possible under the income tax alone. As well, redistribution involves persons who are not in the labour force for whom complementarity with leisure is not an issue. For these reasons, it may be reasonable to maintain preferential treatment of some goods that are heavily relied on by low-income persons, despite the fact that this adds some complexity to the system. It is important, however, that the exemptions apply to goods that are disproportionately consumed by low-income persons.

Given these principles, the ideal system would be one in which all provinces participate in the HST (although Quebec is a special case because of its par-

17 The Mirrlees Review argued that there should be an exception for financial services and housing, but that was not on redistributive grounds.

tially harmonized QST and agreement with the federal government to collect both GST and QST revenues), with a uniform base and rate structure and a single tax-collecting authority. The tax mix could be changed in favour of the HST relative to the current system, provided the federal government retains enough income tax room to achieve its redistributive objectives. Under a full-fledged HST system, the revenues could even be equalized before being turned over to the provinces, as in the Australian case, rather than being equalized after the fact. *Ex ante* equalization can be used to ensure that the high-fiscal-capacity provinces are equalized down, unlike in the current system.

The Equality-of-Opportunity Agenda

Most redistributive tax-transfer policy is motivated by the social welfare principle of equalizing outcomes, subject to efficiency costs of both taxes and transfers. However, equality of opportunity is a complementary objective, and one that is stressed in the Constitution Act, Section 36(1). The meaning of equality of opportunity is not clear. A weak notion is that all persons should have equal opportunity to succeed, given their skills. A stronger notion is that society should invest more in persons with lower skills in order to equalize skills. We focus on what kinds of policies would be appropriate for the weak notion of equality of opportunity, that is, for ensuring that persons are able to make the best of their given skills and not be at a disadvantage because of, say, socio-economic background.

There are a number of tax-transfer policy instruments that can serve an equality-of-opportunity objective. One is the inheritance tax. The Mirrlees Review recommendation for a lifetime tax on inheritances was explicitly motivated on equality-of-opportunity grounds. The idea is that persons who receive inheritances are placed at an advantage in life through no effort of their own. The inheritance tax is a natural complement to a tax system that treats capital income preferentially. Ideally, it would be a component of the Canadian tax system.

Another set of policies concern transfers for children. Targeted tax credits for children in low-income families serve to finance some minimal level of needs of such children. On these grounds, a system of refundable tax credits that are contingent on family income, are sizable, and fall off quickly with family income would be helpful. This motivation for refundable child tax credits is different from that behind deductions or credits for child care, which are essentially intended to facilitate participation by parents in the labour market. (Tax credits that also target stay-at-home parents with children seem much less justified.)

Related to both inheritances and child tax credits is an imaginative idea that originated in the United Kingdom. Not too long ago, the United Kingdom government implemented a Child Trust Fund, which was a lump-sum payment, or birth bond, to all newborns, with the accumulated value of the fund being accessible after age 18. The idea was to make available to all children some startup funding for any purpose, such as education, when they finish school. The payment could have been targeted according to, say, family income, but the government chose not to do so. The Child Trust Fund was unfortunately abolished recently by the U.K. government as part of their austerity program. The idea of a birth bond was partly emulated in Canada with the Canadian Learning Bond. This is an initial $500 contribution by the government into an RESP for children whose parents qualify for the National Child Benefit Supplement to the Canada Child Tax Benefit, augmented by $100 per year up to a maximum federal contribution of $2,000. This is a well-targeted equality-of-opportunity measure that could readily be enhanced.

Perhaps the most important equality-of-opportunity policy is education at all levels. This takes the form of public schooling at the elementary and secondary levels. Tax-transfer policy becomes relevant at the post-secondary level. There are two main dimensions to the tax treatment of post-secondary education (PSE).

An income tax system that shelters asset income from tax should also shelter investment in human capital. The simplest way to do that is by the EET method: full deduction for all material costs of PSE (and other forms of human capital investment) as well as the implicit deduction of foregone earnings.[18]

18 Our discussion assumes that spending on PSE is an investment whose returns take the form of higher future earnings. It might be argued that part of the benefit of education is pure consumption, in which case it should be subject to a consumption tax (GST). Further, education is highly subsidized, so tuition does not cover the full costs. This further justifies the progressive taxation of earnings.

For this to be efficient sheltering, several features are important. The first is that, since the costs of education are incurred upfront and the benefits only apply later, full loss-offsetting is required. Ideally, this would take the form of refundability of financial costs, but otherwise carry-forward with interest would be next best. Second, since tax rates applicable on forgone earnings are less than those on future increments of income, income-averaging is important. Third, some of the costs of PSE are borne by parents, while the child reaps the benefit. This poses tricky issues for EET treatment. There could be some justification for allowing parents to deduct the financial costs of their child's education, with the returns fully taxed later on in the child's hands. This would be better than the current RESP system, which allows no deduction of savings, but taxes returns from the RESP, which are then used to finance PSE without a deduction. It is hard to justify such a system under either a personal expenditure tax system or a dual tax system. As mentioned, perhaps one rationale for an RESP-type instrument is a behavioural one: to encourage saving for PSE that would not otherwise be done.

Finally, there are imperfections in the financing of PSE. Many prospective students face liquidity constraints that restrict their ability to borrow for PSE, especially those from low-income families. As well, PSE is a highly risky investment for which insurance is not available. To some extent, the taxation of future returns provides implicit insurance: the government shares in the gains and the losses. But, some uninsured component remains. The riskiness of PSE investment combined with the fact of liquidity constraints can be addressed by a fully funded income-contingent loan system. It would take us too far afield to discuss the details of such schemes, especially in the context of Canadian federalism.[19] The general argument for income-contingent loans as the preferred form of student loans is strong.

Income-contingent loans go partway to addressing equality-of-opportunity objectives by relaxing the financing constraint that students from lower-income families face. But it does not overcome the fact that some students are able to take advantage of the fact that parental income is a significant source of

19 A more detailed discussion can be found in Beach, Boadway and McInnis (2005).

support for PSE. Students from the least advantaged families face a double disadvantage in terms of background preparation for PSE and of being able to finance it once they are accepted. For able and motivated students from disadvantaged family backgrounds, equal opportunity to pursue their capabilities requires financial aid. The recently introduced Canada Student Grant Program is well designed and well targeted on the basis of family income, but it is really quite inadequate in generosity, and covers only a portion of tuition fees (a maximum of $2,000 per year for students from the lowest-income families). While it is supplemented by other grants from the provinces and the universities, the amounts are not really adequate for those least able to afford PSE. Tax preferences are much less well targeted and comprise an increasing proportion of financial assistance: in the past ten years, government spending on tax credits and savings grants has climbed from 20 per cent of needs-based grants and loans to over 60 percent! Education and tuition tax credits are available to all households regardless of means, but because they are not refundable, their value to the lowest-income families is highly compromised.

Social Protection

Social protection policies are those that protect the most vulnerable in society, including the disabled, the injured and ill, the long-term unemployed, low-income elderly and single-parent families, and those on short-term involuntary unemployment for whom self-insurance is most difficult or for whom finding a job is a challenge. Many social protection programs exist, some of which involve the income tax system, and some of which are delivered by the provinces. By definition, these are needs-related and should be targeted as such. The current system does a relatively poor job both of targeting assistance to those who need it most and of providing adequate levels of assistance. Moreover, the levels of support for many categories of poor have deteriorated significantly in the past two decades (National Welfare Council, 2010).

Some target groups have fared better than others. Low-income seniors and families with children have been served relatively well, while the disabled and long-term unemployed have done poorly. The temporarily unemployed who are eligible for EI receive reasonable benefits, but a significant number of persons who become involuntarily unemployed are not eligible, especially new or repeat entrants into the labour force, or they run out of benefits if they face structural unemployment. They enter the pool of long-run unemployed alongside those who have never held a job. The long-term unemployed and the disabled receive extremely low support, well below conventional poverty lines.

At the risk of over-simplification, two sources of these problems can be singled out (Boadway and Cuff, 2011). One is that those programs that are federal responsibilities (pensions, children, EI) seem to have offered better social protection than provincial ones (disability, social assistance). This may be because of the greater competitive pressures that provinces face, though it may also reflect that fact that policies for addressing the needs of the disabled and the long-term unemployed are more challenging. The relevance of competitive pressures affecting provincial redistribution is supported by the fact that provincial income taxes have become systematically less progressive than the federal one since the TCAs were revised to allow provinces discretion in the choice of rate structures. The second source of these problems is that transfers to low-income persons come mainly from stand-alone transfer schemes. The income tax system delivers only a small amount through refundable tax credits. As a result the contribution of the federal government to eliminating poverty is minimal.

The income tax system could be a much more important redistribution device through straightforward reform. Nonrefundable tax credits whose intent is to add to the progressivity of the income tax, such as personal credits and credits for dependents, could be made refundable. Moreover, they could be made much more progressive by phasing them out with income, as is done with the GST credit. This would be an effective way at targeting transfers to the needy, and could be done in a revenue-neutral way. It would effectively turn the income tax system into a sort of negative income tax system with progressive rates at the bottom, thereby addressing perhaps the most intolerable aspect of Canada's social policy program.

Conclusions

This has been a far-reaching discussion covering broad aspects of the tax-transfer system. But, the main features of our preferred tax design for Canada can be succinctly summarized as follows.

- The business tax system should be reformed to be a rent tax applying to all industries, using a cash-flow equivalent approach such as the ACE system.
- Ideally, earnings should be taxed on a progressive expenditure tax basis, using a combination of TEE and EET approaches, accompanied by a lifetime tax on inheritances beyond some minimum. A second-best option, if inheritance taxes are too difficult to implement in the Canadian context, would be a dual income tax structure, with a uniform personal tax on capital income at a low rate.
- Progressivity should be enhanced by a combination of fully refundable and income-tested tax credits, and a more progressive rate structure, accompanied by general averaging.
- A uniform personal tax on capital income at a low rate accompanied by a lifetime tax on inheritances beyond some minimum should ideally be deployed.
- For both equality-of-opportunity and productivity reasons, the tax treatment of human capital investment should be rationalized by a combination of EET treatment for both forgone earnings and financial costs, an income-contingent loan system, and highly targeted and adequate student grants for students from low-income families.
- The federal government should retain a significant share of income tax room to maintain influence on progressivity and harmonization.
- The HST should be adopted by all provinces except Quebec, preferably with a common base and common rate, though some necessities should be treated preferentially.

The full details of such a reform would have to be worked out, but it is important to get the principles in place first. Other elements of the fiscal system that we have not been able to discuss would also have to be addressed, such as equalization and social transfers, EI and pensions. What is particularly important is that the tax-transfer system be highly targeted to those most in need, and that the system be as efficient as possible.

References

Australian Treasury (2010) *Australia's Future Tax System* (The Henry Review) (Canberra: Commonwealth of Australia).

Banks, James and Peter Diamond (2010) "The Base for Direct Taxation," in Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (eds.) *Dimensions of Tax Design: The Mirrlees Review* (Oxford: Oxford University Press), Ch. 6.

Beach, Charles, Robin Boadway and Marvin McInnis (eds.) (2005) *Higher Education in Canada* (Kingston: John Deutsch Institute for the Study of Economic Policy).

Boadway, Robin (2009) "Natural Resource Shocks and the Federal System: Boon or Curse?," in John R. Allan, Thomas J. Courchene and Christian Leuprecht (eds.), *Canada: The State of the Federation 2006/07.* (Montreal and Kingston: McGill-Queen's University Press), pp.107-30.

Boadway, Robin and Neil Bruce (1984) "A General Proposition on the Design of a Neutral Business Tax," *Journal of Public Economics*, Vol. 24, pp. 231-39.

Boadway, Robin, Neil Bruce and Jack Mintz (1987) *Taxes on Capital Income in Canada: Analysis and Policy* (Toronto: Canadian Tax Foundation).

Boadway, Robin, Emma Chamberlain and Carl Emmerson (2010) "Taxation of Wealth and Wealth Transfers," in Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (eds.) *Dimensions of Tax Design* (Oxford: Oxford University Press), Ch 8.

Boadway, Robin and Katherine Cuff (2011) "The Recent Evolution of Redistribution in Canada," in Keith Banting and John Myles (eds.) *The New Politics of Redistribution in Canada* (Vancouver: UBC Press), forthcoming.

Boadway, Robin and Michael Keen (2010) "Theoretical Perspectives on Resource Tax Design," in Philip Daniel, Michael Keen and Charles McPherson (eds.) *The Taxation of Petroleum and Minerals: Principles, Problems and Practice* (London: Routledge), pp. 13-74.

Bond, Stephen and Michael P. Devereux (1995) "On the Design of a Neutral Business Tax under Uncertainty," *Journal of Public Economics*, Vol. 58, pp. 57-71.

Chen, Duanjie and Jack Mintz (2011) "Small Business Taxation: Revamping Incentives to Encourage Growth," School of Public Policy Research Paper, University of Calgary, May.

Conesa, Juan Carlos, Sagiri Kitao and Dirk Krueger (2009) "Taxing Capital? Not a Bad Idea After All," *American Economic Review*, Vol. 99, pp. 25-48.

Crawford, Ian, Michael Keen and Stephen Smith (2010) "Value Added Tax and Excises," in Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (eds.), *Dimensions of Tax Design: The Mirrlees Review* (Oxford: Oxford University Press), Ch. 4.

Department of Finance (2010) “The Response of Individuals to Changes in Marginal Income Tax Rates,” *Tax Expenditures and Evaluations 2010* (Ottawa: Department of Finance), pp. 45-65.

Economic Council of Canada (1987) *Road Map for Tax Reform: The Taxation of Savings and Investment* (Ottawa: Economic Council of Canada).

Feldstein, Martin S. (1999) “Tax Avoidance and the Deadweight Loss of the Income Tax,” *Review of Economics and Statistics*, Vol. 81, pp. 674-80.

Gruber, Jonathan and Emmanuel Saez (2002) “The Elasticity of Taxable Income: Evidence and Implications,” *Journal of Public Economics*, Vol. 84, pp. 1-32.

Milligan, Kevin (2005) “Who Uses RESPs and Why,” in Charles Beach, Robin Boadway, and Marvin McInnis (eds.), *Higher Education in Canada* (Kingston: McGill-Queen’s University Press).

Mirrlees, James, Stuart Adam, Tim Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles and James Poterba (2011) *Tax by Design: The Mirrlees Review (*Oxford: Oxford University Press).

National Welfare Council (2010) *Welfare Incomes 2009* (Ottawa: National Welfare Council).

Organisation for Economic Co-operation and Development (2008) *Growing Unequal: Income Distribution and Poverty in OECD Countries* (Paris: OECD).

Piketty, Thomas and Emmanuel Saez (2006) “The Evolution of Top Incomes: A Historical and International Perspective,” *American Economic Review Papers and Proceedings*, Vol. 96, pp. 200-5.

President’s Advisory Panel on Federal Tax Reform (2005) *Simple, Fair and Pro-Growth: Proposals to Fix America’s Tax System* (Washington).

Report of a Committee Chaired by Professor James Meade (1978) *The Structure and Reform of Direct Taxation: The Meade Report* (London: Allen and Unwin).

Royal Commission on Taxation (The Carter Commission) (1966) *Report* (Ottawa: Queen’s Printer).

Royal Commission on the Economic Union and Development Prospects for Canada (The Macdonald Commission) (1985) *Report* (Ottawa: The Commission).

Stewart, Ian A. (1986a) “Tax Reform and the Federation,” in Peter Leslie (ed.) *Canada: The State of the Federation 1986* (Kingston: Institute of Intergovernmental Relations, Queen's University), pp. 109-28.

Stewart, Ian A. (1986b) “Consensus, Flexibility and Equity,” *Canadian Public Policy*, Vol. XII, pp. 307-313.

Technical Committee on Business Taxation (The Mintz Report) (1998) *Report* (Ottawa: Department of Finance).

U.S. Treasury (1977) *Blueprints for Basic Tax Reform* (Washington: Treasury of the United States).

Reflections on the Role of Optimal Design in the Tax Policy Process

Stanley L. Winer
Carleton University

My remarks are stimulated by my reading of Robin Boadway's contribution in this volume in honour of Ian Stewart on rethinking tax/transfer policy in Canada (Boadway, 2011). His paper provides an interesting and readable overview of contemporary applied tax theory as embodied in the Mirrlees Review (2011). It begins with a concise survey of theory concerning business taxation, the individual income tax, transfers to low income people, indirect taxation and, going somewhat beyond taxation, of public policy to ensure equality of opportunity. The design in these respects that emerged from the Mirrlees Review (2011) is the center of attention.

In the main portion of the paper, Professor Boadway considers how the ideas about design that emanate from the Mirrlees Review play out when placed in the Canadian context. Five features of the country are acknowledged as being of particular importance to the application of Mirrlees to Canada: our federal structure; the role of natural resources, especially their geographical concentration as well as control by provinces; the absence of inheritance taxation; the relative (to the U.K.) unimportance of congestion; and the treatment of human capital which was not dealt with by Mirrlees for some reason that puzzles Robin. The paper then goes on to provide an erudite discussion of what a Mirrlees type tax design might look like in this Canadian context.

Since I am an observer and modeler of tax systems as they are, and not a tax designer, my comments on the paper will reflect that perspective.

The tax reform process as I observe it and have written about it with Walter Hettich (Hettich and Winer, 1999, and 2006), consists of three components: comprehensive reforms – the object of the present paper – which involve major readjustments, usually of several parts of the tax system, and which are quite rare; coordinating reforms that realign or readjust important parts of the system that have fallen out of sync – such as personal and corporate tax systems, which are intertwined and may need important changes in the face of shocks such as a decline in the cost of international transactions; and technical reforms which deal with specific features of particular taxes. Technical reforms are always ongoing, and coordinating reforms are the subject of budget speeches, in contrast to the rarely seen comprehensive reform. In recent years, perhaps only the introduction of the GST in place of the manufacturer's sales tax (MST) constitutes a comprehensive reform of the federal tax system in Canada.

All of these reform processes occur in a political context. I interpret their consequences as equilibrium outcomes of political competition that are conditional on, and evolve with knowledge about technical issues supplied by tax departments and academic and other advisers, along with information about various interests and constraints that are generated by political competition. The approach to policy design that Robin Boadway takes *explicitly* ignores this broader equilibrium context, and in the first instance engages in optimizing logic played out as if the political process did not exist. Such a choice is not a matter of being naïve. It is a choice about how to conduct normative policy design with a view to making sure that no possibly beneficial alternatives are ruled out.

The *implicit* view of the tax policy process here (I think this is a fair judgment) is that the job of actually implementing tax reform is that of the elected government, and that it will pick and choose what parts of the optimal design will actually be adopted. So expanding the set of ideas about what may be socially desirable, which hopefully will influence what governments do, is the object of the analysis. And certainly, at least, this paper does the former.

Of course, if the politician ends up picking and choosing from the designer's optimized menu, the original design is no longer relevant in a basic sense. This is an important point.

To continue, let's assume that we are not prepared to argue that any deviation from the economically optimal design is a result of politics corrupting good sense – if you believe that there are legitimate political costs, and that one cannot be sure of how to handle them or estimate them, then there should not be an implication that those who can do so and have to do so will get it wrong in the end. Then, is there another way to present a set of proposals from which political choices will be made in such a way that the analysis helps to channel those decisions in a desirable direction?

I think that, in the end, one has to make a guess about 'feasibility' while creating alternatives based on desirable general principles from which politicians may choose.[1] Boadway actually goes down this road at a few points in moving from the Mirrlees Review to the Canadian context. For example, in considering the desirable form of commodity taxation, the greater control by Quebec of the GST compared to control of the HST in other provinces is taken as a given. Federalism generally is another such constraint that is accepted, just as is section 25 of the Constitution Act that forbids the Crown from taxing the Crown, a basic source of the lack of access of the federal government to natural resource revenues (that properly concerns him) and a key source of the strain in the equalization system in Canada. These are not 'ordinary' economic constraints, and there will always be debate about what is relevant when defining them.

Once one does that sort of thing – that is, delve into feasibility – one is then in a deeper second best world where one is guessing at constraints that partly

1 There is nothing new in this view. Debate over the importance of feasibility as a necessary (but not sufficient) criterion for designing or choosing among policies has a long history. See for example, Yehezkel Dror (1968). See also Dror (1969), who warns that assessments of feasibility should sometimes be taken up as a challenge rather than accepted as an absolute constraint.

stem from places that lie outside the realm of economic theory. The end result, despite appearances, may be a set of proposals that is better than if theory were held onto regardless of where it leads. For the real choice is not between an optimal design and the world as it is. It is between alternative conceptions of what is both possible and desirable.

It is useful to recall the experience of Charles McLure who in the1980s directed a team drawing up a U.S. tax reform that came to be referred to as Treasury I. This document proposed a broad based federal income tax for the United States despite economic theory which at the time had swung heavily in favor of an expenditure tax, a tax that in a somewhat more evolved form is also part of the Mirrlees Review. The rationale for the Treasury proposal, according to the account in McLure and Zodrow (2007), was that the designers in the Treasury knew that some components of the expenditure tax system would never be accepted by the President and, as a result, the outcome would be worse than if the Treasury proposed a broad-based, Schanz-Haig-Simons type income tax.

The component they were sure would be missing was the taxation of inheritances and bequests, which is required to preserve tax equity when an expenditure tax replaces a personal income tax. That is one key issue in Boadway's application to Canada also, though it is just one of several. It is key for at least two reasons: capital income is sheltered in the Mirrlees proposal for direct taxation of individuals, so that inheritance taxes are required to restore the progressivity that comes from indirect taxation of wealth via taxation of capital and capital gains incomes. Inheritance taxes are also recommended as a way to improve equality of opportunity.[2]

The problem facing those who want to put more emphasis on inheritance taxes and wealth taxation generally is that the taxation of inheritances has been declining in most western countries for a long time, for reasons that are not well understood. (The issue deserves further study). Perhaps the decline is the result of an aging electorate that wants to pass on hard-earned wealth to their children? But whatever the reason, it is a good guess that meaningful inherit-

2 On the role of wealth taxation in fostering equality of opportunity, see Boadway *et al.*, 2010, chapter 8.

ance taxation is not likely to be part of any comprehensive Canadian tax reform. Such taxes were eliminated in Canada as a result of the Carter Commission reforms in the early 1970s when the tax was handed over to the provinces who then proceeded to compete it away.

What then? Should one take this as a ‘constraint’ to be used in tax design? If so, it would appear that the proposals in the Boadway paper would look somewhat different. Boadway in fact suggests a Nordic style dual income tax as an alternative if inheritance taxation cannot be restored, involving the separate taxation of capital income at a uniform rate much lower than that on labour income.

Another possible alternative, given this 'constraint', is to drop the inheritance tax and combine the other tax elements with proposals for investment in education – *as a package* – which is not a pure tax reform. I guess that Boadway would not be opposed to such investment in any case. But in the tax reform context, doing this would preserve desirable elements of the design at some cost in terms of government size, or in terms of changes in the structure of public expenditure if we hold to revenue neutrality.

I have little faith in the ability of the tax-transfer system to redistribute income over long periods of time. As a whole the annual incidence of the tax system appears to be proportional (Vermaeten *et al*, 1995), while explicit taxation of inheritances and bequests is absent and the taxation of capital incomes is declining in the face of globalization.[3] It is also relevant to note here that there is some evidence that suggests that the smaller rise in inequality we have had in Canada since 1970 than that experienced in the U.S. stems in part from a relatively bigger increase in the supply of university graduates in Canada, which may have prevented as large a rise in the university/high school graduate wage differential(Murphy *et al.*, 1998)

Together, these observations raise the questions of whether and to what extent education – especially perhaps access by lower income or disadvantaged

3 Calculated pre-tax Gini coefficients are always larger than post-tax ones, suggesting that the public sector does redistribute. But by how much in the long run when human capital and bequest decisions are involved? The problem is that uncovering the pre-tax Gini requires a complicated general equilibrium calculation encompassing such longer run decision making, and I think that such a calculation still remains to be made in a convincing manner.

children to early education, as well as the income contingent loan program for higher education Robin Boadway also favors – may serve as a desirable replacement for an inheritance tax in a feasible tax design?

References

Boadway, Robin (2011) "Rethinking tax-transfer policy for 21st century Canada," in Fred Gorbet and Andrew Sharpe (eds.) *New Directions for Intelligent Government in Canada: Papers in Honour of Ian Stewart* (Ottawa: Centre for the Study of Living Standards).

Boadway, Robin, Emma Chamberlain, and Carl Emmerson (2010) "Taxation of Wealth and Wealth Transfers," in Stuart Adam, Timothy Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (eds.) *Dimensions of Tax Design* (Oxford, Oxford University Press), Chapter 8.

Dror, Yehezkel (1968) *Public Policy Making Reexamined* (Chandler Publishing Co).

Dror, Yehezkel (1969) "The Prediction of Political Feasibility," *Futures*, Vol. 1, No 4, pp. 282-288.

Hettich, Walter, and Stanley L. Winer (1999)"Information, Co-ordination and Tax Policy Making,", in R. Bird and T. Wilson (eds.), *Rationality in Public Policy: Retrospect and Prospect; A Tribute to Douglas Hartle.* (Toronto: Canadian Tax Foundation), pp. 19-42.

Hettich, Walter, and Stanley L. Winer (2006) "Explaining Tax Reform," in Jim Alm and Mark Ryder (eds.) *The Challenges of Tax Reform in a Global Economy*, (Springer), pp. 347-361.

McLure, Jr., Charles E., and George Zodrow (2007) "Consumption-Based Direct Taxes: A Guided Tour of the Amusement Park," *Finanzarchiv*, Vol. 63, pp. 285-307.

Mirrlees, James, Stuart Adam, Tim Besley, Richard Blundell, Stephen Bond, Robert Chote, Malcolm Gammie, Paul Johnson, Gareth Myles, and James Poterba (The Mirrlees Review) (2011) *Tax by Design* (Oxford: Oxford University Press).

Murphy, K.M., W.C. Riddell, and P.M. Romer. (1998) "Wages, Skills, and Technology in the United States and Canada," in *General Purpose Technologies and Economic Growth*, ed. E. Helpman (Cambridge, MA: MIT Press), pp. 283-309.

Vermaeten, Arnt, W. Irwin Gillepie, and Frank Vermaeten (1995) "Who Paid Taxes in Canada 1951-1988?" *Canadian Public Policy*, Vol. 21, pp. 317-343.

Income Support in the Canadian Federation:

International and Interprovincial Comparisons and Future Directions

Pierre Fortin[1]
Université du Québec à Montréal

THIS IS A BROAD-BRUSH REVIEW OF INCOME SUPPORT in the Canadian federation, written in the spirit of Ian Stewart, whose versatility and energy far exceed mine, but whose social values and commitment to macroeconomic stabilization and social policy I fully share. There are three sections. In the first section, I place Canada's public expenditure on income support in international perspective. In the second, I highlight the significant variation in spending on income support that exists across Canadian provinces. In the third section, I single out a couple of areas where progress would seem desirable in Canada on the basis of the international and interprovincial context presented in the first two sections. The two areas are old age and family policy.

1 For comments and advice, I am greatly indebted to Keith Banting, John Richards, the two editors, and participants in the CSLS session on *New Directions for Intelligent Government in Canada* at the June 2011 annual meeting of the Canadian Economics Association at the University of Ottawa.

Income Support in International Perspective

Let me begin with the international perspective. The OECD distributes government social expenditure into nine categories: old age, survivors, incapacity, family, unemployment, social assistance and social services, health, housing, and active labour market policies. All areas include in-kind benefits (such as residential care, home help, child care, etc.) as well as cash transfers.[2] In this paper, I take "income support" to mean aggregate national spending in the first six areas. Hence, health, housing, and active labour market policies are excluded from consideration.

To illustrate with Canadian data, "old age" includes the Old Age Security pension, the Guaranteed Income Supplement (GIS), Canada Pension Plan (CPP) and Quebec Pension Plan (QPP) retirement pensions and the regular spouse allowance. "Survivors" comprises the widowed spouses allowance, the surviving spouse's pension, the orphan's benefit and the death benefit. "Incapacity" adds up the disabled contributor's child benefit, the regular disability pension, the veterans' pension, workers' compensation, and Employment Insurance (EI) sickness benefits. "Family" refers to the Canada Child Tax Benefit, EI and Quebec parental leave benefits, and in-kind childcare benefits. "Unemployment" combines regular, fishing, work sharing and older workers adjustment benefits. "Social assistance and social services" bring together the GST/HST tax credits, provincial and municipal social assistance and social services, federal social assistance and social services for registered Indians, and in-kind services for new migrants and refugees.[3]

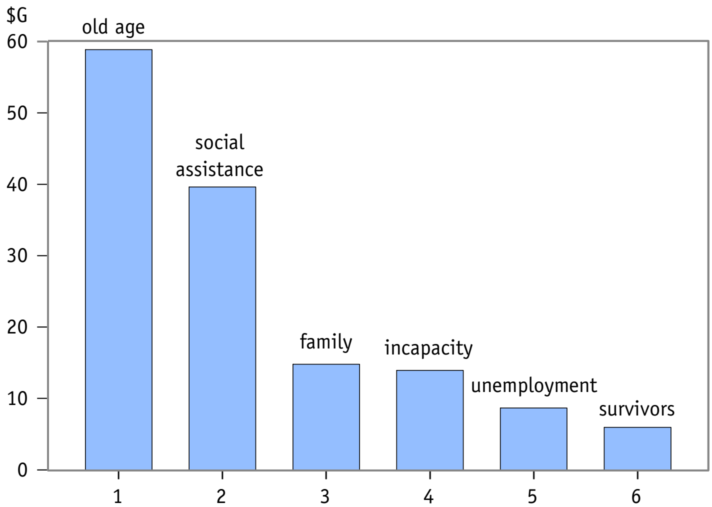
In 2007, for the 22 OECD countries that are listed in Table 1,[4] old age accounted for about 50 per cent of total spending on income support on aver-

2 Refundable tax credits are included in cash transfers, but other elements of income taxation are not.

3 In OECD taxonomy, social assistance and social services is a residual category called "other social policy areas".

4 There are 34 member countries in the OECD. The group of 22 countries in the table excludes those that are either very small (Iceland, Luxemburg), emerging (Chile, Mexico, Turkey), or in transition (Czech Republic, Estonia, Hungary, Israel, Poland, Slovakia, Slovenia). The year 2007 is the last one for which OECD data are currently available. Use of this year therefore avoids the cyclical distortion of 2008-2009. OECD averages are unweighted.

Chart 1
Breakdown of Spending on Income Support into Six Categories, Canada, 2007



Source: OECD.

age, family and incapacity 15 per cent each, unemployment and survivors 7 per cent each, and social assistance and social services 5 per cent.[5] Chart 1 breaks down Canada's expenditure on income support into these six categories. The OECD estimates that Canada spent $142 billion in income support in 2007, equivalent to 9.3 per cent of nominal GDP. Together, old age and social assistance and services accounted for 69 per cent of the total, followed in decreasing order by family, incapacity, unemployment, and survivors.

How does the Canadian income support/GDP ratio compare to those of other OECD countries? Canada is among the small spenders. As Table 1 indicates, in 2007 Canada was near the bottom of 22 OECD countries in terms of spending on income support. Canada ranked 20th out of 22 OECD countries, with only the United States and Korea lower. The United Kingdom, New

5 Canada is an outlier here, with 28 per cent of its spending on income support attributed to social assistance and social services in 2007. Most likely, the OECD found it impossible to distribute provincial and municipal social services properly across the other five areas, and so left them in this residual category.

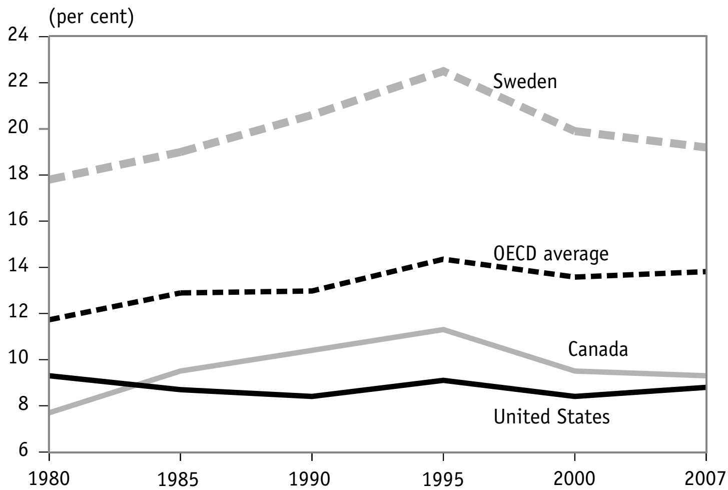
Zealand, Ireland, and Australia were ranked slightly above Canada. Sweden, France, Austria, Belgium Denmark, Finland, Italy and Germany were the top eight spenders.

Table 1
Expenditure on Income Support in 22 OECD Countries, 2007, (per cent of GDP)

Rank	Country	Exp./GDP
1	France	19.3
2	Sweden	19.2
3	Austria	18.8
4	Belgium	17.7
5	Denmark	17.6
6	Finland	17.6
7	Italy	17.6
8	Germany	16.1
9	Portugal	15.4
10	Greece	14.9
11	Spain	14.5
12	Norway	14.4
13	Netherlands	12.6
14	Japan	12.3
15	Switzerland	12.3
16	United Kingdom	11.9
17	New Zeland	10.1
18	Ireland	9.7
19	Australia	9.6
20	**Canada**	**9.3**
21	United States	8.8
22	South Korea	4.1
	Unweighted Average	*13.8*

Source: OECD.Stat databank.

Chart 2
Government Expenditure on Income Support in Sweden, Canada, United States and OECD Average, 1980-2007 (per cent of GDP)



Note: The OECD average is the unweighted average of same 22 countries as in Table 1.
Source: OECD.Stat Databank.

How has income support evolved internationally over time? Chart 2 shows that, as a group, advanced countries increased their effort in supporting incomes until the mid-1990s. Since then, the average effort has remained on a plateau around 14 per cent of GDP. The chart singles out one of the top spenders (Sweden) as well as two small spenders (Canada and the United States). In the United States, spending on income support as percentage of GDP has been low (9 per cent of GDP), but basically trendless, throughout the 1980-2007 period. The trend was upward until the mid-1990s in Sweden (up to 22 per cent of GDP) and in Canada (up to 11 per cent of GDP). Since then, it has declined somewhat in these two countries. After 1995, Canada and Sweden both recovered from long and painful recessions and introduced programmatic changes. In Canada, unemployment insurance at the federal level and social assistance in provinces were main targets of reform.

It is instructive to compare government expenditure in Sweden, Canada and the United States by income support category. The OECD estimates that in

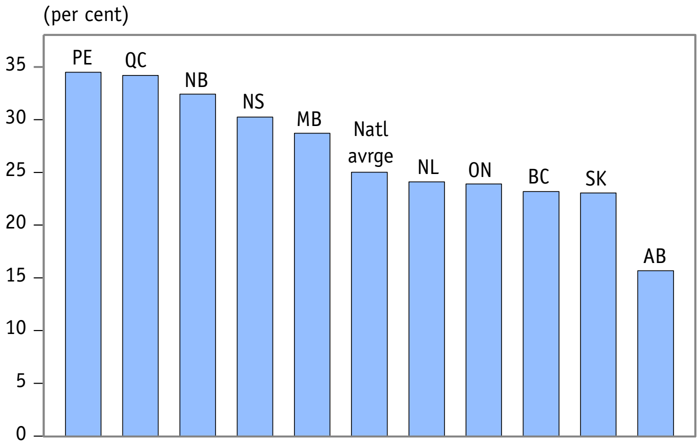
2007 the amounts spent for old age were 9 per cent of GDP in Sweden, 3.8 per cent in Canada and 3.2 per cent in the United States.[6] Sweden's greater effort is due partly to the share of its 65-and-over population being 40 per cent larger than in Canada and the United States, and partly to more generous pensions and an extensive network of residential care facilities and home-help services. Despite spending only 40 per cent as much as Sweden for old age, Canada has targeted the low-income elderly successfully, thanks mainly to the GIS. Another area where Sweden spends a much greater fraction of its GDP than the United States or Canada is incapacity-related income support. Disability pensions, paid sick leaves and in-kind residential care and home help are all more developed in Sweden. Family benefits are also larger in that country, not because family allowances are higher, but because parental leaves are more extended and generous and there is universal low-fee childcare. Access to generous unemployment insurance benefits is also easier in Sweden, but continuation of benefits beyond a certain point is generally conditional on participation in an active labour market program.

Income Support in Interprovincial Perspective

Is there a connection between the degree of income support offered by a country as a whole and its status as a federation or a unitary state? Political decentralization could affect the *average level* of the income support/GDP ratio or the *dispersion* of this ratio across component states. Simple regression analysis of the data provides no evidence of a significant positive or negative correlation between the average country-level of the income support/GDP ratio and the fact of being a federation, which I assume to be the case for 8 of the 22 countries (Australia, Belgium, Canada, Denmark, Austria, Spain, Swit-

6 The official OECD estimate for old age support in the United States is 5.3 per cent of GDP. However, this figure includes the retirement pensions federal, state and local public employees receive from their employers over and above their Social Security pensions. Removing this item from the U.S. estimate to make it comparable to the Swedish and Canadian estimates gives 3.2 per cent of GDP.

Chart 3
Total Nonfederal Government Expenditure as a Percentage of Provincial GDP, 10 Canadian Provinces, 2007



Source: Statistics Canada.

zerland and the United States).[7] More sophisticated multivariate explorations tend to conclude that political decentralization does affect income support negatively.[8]

Be that as it may, federations obviously have the theoretical potential for allowing greater dispersion of income support across their component states. The actual outcome depends on how constitutional powers are shared, how large and how differentiated federal transfers are across states, how decentralized the power of taxation is, and to what extent it is actually exploited. Charts

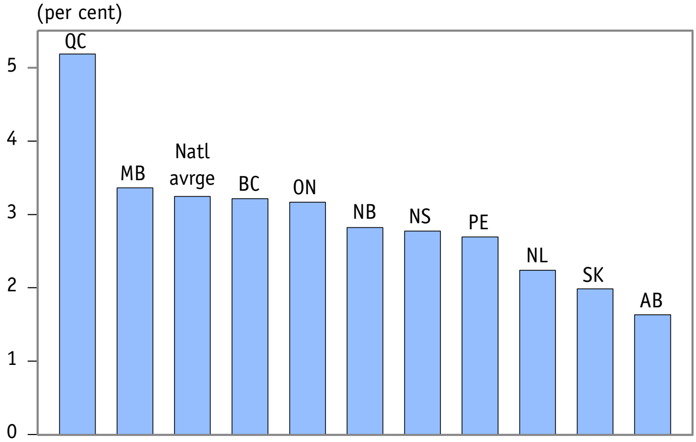
7 The result is:

$$INCSUPP/GDP_i = \underset{(1.1)}{14.1} - \underset{(1.7)}{0.7}{*}FEDERATION_i, \quad R^2 = 0.01,$$

where $INCSUPP/GDP_i$ = 2007 income support/GDP ratio in country i, $FEDERATION_i$ = 1 if country i is a federation and 0 otherwise (i = 1, 2,…, 22), R = correlation coefficient, and standard errors are in parentheses. The non-significance of the correlation holds whether Spain is considered to be a federation or not, and whether the United States is included in the sample or not.

8 See, for instance, Swank (2002). Swank further argues that globalization has not contributed to the retrenchment of developed welfare states.

Chart 4
Provincial and Local Expenditure on Social Assistance, Workers'Compensation and Other Social Services as Percentage of Provincial GDP, 10 Canadian Provinces, 2007



Source: Statistics Canada (Financial Management System)..

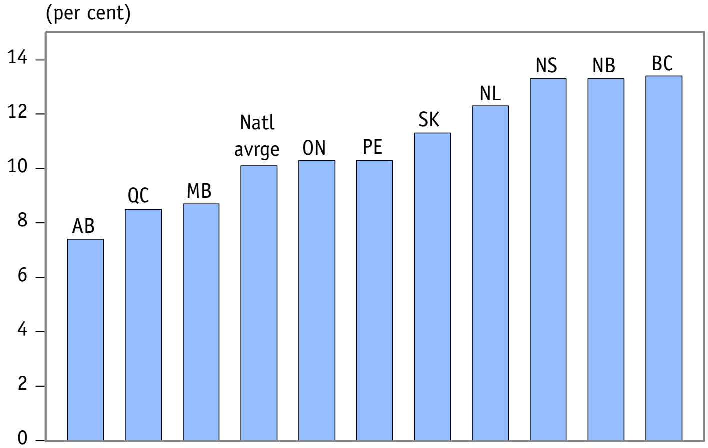
3 and 4 respectively indicate how variable total nonfederal expenditure and income support spending were across Canadian provinces in 2007.

Chart 3 first pictures interprovincial differences in total nonfederal expenditure. All current and capital expenditures of provincial and local governments and Canada and Quebec Pension Plans are included in this aggregate, not only expenditure on income support.[9] The range goes from 16 per cent of GDP in Alberta to 34 per cent in Prince Edward Island. This variance is large.[10] The chart also underlines the important fact that total nonfederal spending/GDP ratios in the three Maritime Provinces and Quebec significantly exceed the

9 For interprovincial comparisons to be valid, either CPP/QPP spending should be included in the total expenditure of every province, or it should be excluded everywhere. The first of these two options is retained here. This has an impact of the heights of the bars in Chart 3, but a negligible effect on their dispersion across provinces, which is the object of scrutiny.

10 The dispersion of government spending/GDP ratios across provinces is magnified somewhat by per capita GDP being very low in Prince Edward Island and very high in Alberta. Nevertheless, the dispersion remains large even if one takes this into account.

Chart 5
Absolute Poverty Rate, 10 provinces, 2007
(percentage of population in households whose after-tax income does not allow them to purchase a modest basket of goods and services)



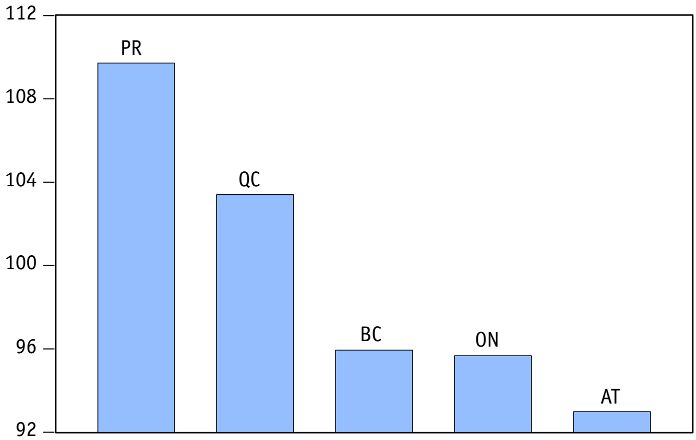
Source: Human Resources and Skills Development Canada.

national average. It is well-known that these four provinces receive federal equalization payments. These federal transfers represent a larger fraction of their provincial GDP than is the case for provinces that do not receive equalization payments. Table 2 further shows that the contribution of above-average federal transfers to above-average nonfederal spending/GDP ratios is much larger in the Maritimes than in Quebec. In 2007, 96 per cent of the high nonfederal spending/GDP ratio in the Maritimes came from above-average federal transfers. In contrast, Quebec financed its above-average nonfederal spending/GDP ratio largely through above-average own-source taxation. Only 16 per cent came from above-average federal transfers.

Chart 6

After-Tax Purchasing Power of Individuals in Economic Families with Two Persons or More Belonging to the Lowest Regional Quintile of Adjusted Family Income, 2007

(national average=100)



Source: Human Resources and Skills Development Canada.

Table 2

Contributions of Above-average Federal Transfers and Above-average Own-source Taxation to Above-average Nonfederal Spending in the Maritime Provinces and Quebec, 2007

(percentages of GDP)

Contribution from:	Maritime Provinces	Quebec
Above-average federal transfers (%)	96	16
Above-average own-source taxation (%)	4	84
Total (%)	100	100

Note: The Maritime Provinces include Prince Edward Island, Nova Scotia and New Brunswick. "Own-source taxation" includes straight tax revenue, income from government enterprises, and borrowing (which amounts to postponed future own-source taxation).

Source: Calculations based on Statistics Canada's *Provincial and Territorial Economic Accounts: Data Tables*, Cat. no. 13-018-X (CANSIM table 384-0004), November 2010.

Chart 4 turns to interprovincial differences in income support spending. It shows that the Quebec exception carries into this area. While most provinces spent about 3 per cent of their GDP on nonfederal income support in 2007, the percentage in Quebec was 5 per cent, which is $6 billion more than if it had conformed to the national average. Manitoba is also somewhat above average at almost 3.5 per cent, and Alberta is below average at 2 per cent. Do these interprovincial differences in income support lead to concrete results in terms of lower poverty rates? There is no fool-proof evidence. I only have two suggestive observations to draw from absolute poverty rates and the position of the lowest disposable income quintile across regions of Canada.

Absolute poverty should be low if the province is very rich, does not have conspicuously large pockets of deep poverty, and/or provides solid support to low incomes. It can be seen in Chart 5 that, in 2007 again, absolute poverty is low in rich Alberta, and is held down by income support spending in Quebec and Manitoba.[11] At the other end, the challenging problem of high poverty in British Columbia emerges clearly.

Chart 6 in turn shows that after-tax purchasing power of the lowest income quintile also varies significantly across Canadian regions, with the Prairies and Quebec again doing significantly better than the national average.[12] Quebec's commitment to social policy has been made concrete by a number of measures that have been adopted after 1995: the Prescription Drug Insurance Plan, the Reduced-Contribution Educational Childcare Program, the Child Assistance Measure, the Work Premium, the Parental Insurance Plan, pay equity legislation, and a policy of maintaining the minimum wage around 47 per cent of the average wage. The province's effort to step up the fight against poverty was

---

11 The absolute poverty rates reported in Chart 5 are from Human Resources and Skills Development Canada, *Low Income in Canada: 2000-2007, Using the Market Basket Measure*, Final Report, Publication SP-909-07-09E, August 2009, Tables 8a to 8j.

12 Average regional after-tax incomes of families in the first quintile (adjusted for family size) are from Statistics Canada, *Income in Canada 2009*, Cat. no. 75-202-X (CANSIM table 202-0706), June 2011. Statistics Canada calculates these from its Survey of Labour and Income Dynamics (SLID). I further adjust the numbers by the relevant inter-city indexes of consumer retail prices based on Statistics Canada, *The Consumer Price Index*, Cat. no. 62-0001-X (CANSIM table 326-0015), March 2009.

enshrined in its 2002 Act to Combat Poverty and Social Exclusion. This has helped focus political discussion and has generated obligations for government in the area of anti-poverty policy.

Two areas where progress could be made

Based on the international and interprovincial comparisons I have presented, I want to conclude by singling out two areas where intelligent government could find new directions for income support in Canada. They pertain to old age and family. I have a few remarks to offer on old age policy, and a larger set of observations on family policy.

In the old age area, there does not seem to be a need for a broad-based increase in government cash benefits. But an important challenge arises from the incipient explosion of demand for residential care and home help. The rising pressure originates from population aging. According to Statistics Canada's medium-growth scenario,[13] by 2035 the 65-and-over population will be twice as large as today, and by mid-century the 85-and-over population will be four times as large as today. In addition to putting our healthcare system to severe test, this will lead to a sharp increase in older Canadians' needs for residential care and home help services.

In this respect, two key developments are, first, that the boomers have two to three times fewer children than current and past older Canadians to take care of them when their physical and mental condition deteriorates; and second, that 85 years old is an age beyond which more than half of persons suffer from severe chronic ailments such as Alzheimer's disease. These two trends will likely lead to an explosion of demand for long-term residential and home care. Access to this kind of continuing care will be beyond the financial means of a large fraction of the elderly, and they will naturally turn to government as the last-resort provider. It is with this explosion of demand in mind that the Canadian Medical Association recently came to emphasize the need for expanding the number of long-term care facilities (CMA, 2010). This may or may not be the best or the only solution, but

13 According to Statistics Canada's "M4 medium-growth projection scenario", the 65-and-over population will increase from 5.0 million in 2011 to 10.2 million in 2035, and the 85-and-over population from 675,000 in 2011 to 2,850,000 in 2050 (CANSIM Table 052-0005).

there is clearly an urgent need to recognize the problem and to discuss intelligent policy alternatives.

On family, the most important finding of recent decades is that early childhood plays a fundamental role in the building of human capital for the life cycle. Neurology emphasizes three brain phenomena in the first few years of life: the interconnection of neurons or synaptogenesis; the development of myelin; and the expansion of glial cells. Psychology has found that brain development responds to the kinds of environment to which young children are subjected, and that traumas in early childhood can cause damage that is often difficult to repair afterwards. As for economists, they have calculated that returns from investment in early childhood are very large (Cunha *et al.*, 2011, and Almond and Currie, 2011). The benefit-cost ratio for this type of investment has been estimated to be many times as large as the corresponding ratios for investment in primary, secondary and college education.

In the past 15 years, Quebec has adopted a Scandinavian-type family policy that has been explicitly motivated by these pieces of evidence from neurology, psychology and economics. The Quebec package includes three programs. First, since 1997 full-day kindergarten (the *école maternelle*) has been offered to all 5-year-olds. Second, since 2000 an Educational Childcare (EC) program has been offered to all children aged 0 to 4, initially at a reduced fee of $5 a day and then at $7 since 2004, mainly through regulated early childhood centres (*centres de la petite enfance*) and family-based child care. Before- and after-school programs have also been made available at $7 a day to all primary-school children. Third, since 2006 the province's Parental Insurance Plan has taken over administration of Employment Insurance parental leave benefits and has significantly enhanced their level and duration. The three stated goals of Quebec's Educational Childcare Act are to "foster the development and well-being of children, provide them with equality of opportunity, and help parents reconcile their parental and professional responsibilities." Access to these programs is universal.

Quebec's $7-a-day EC program currently covers 50 per cent of all pre-school children at an annual cost to the provincial government of $10,000 per subsidized place.[14] However, the favourable tax revenue feedback to provincial and federal treasuries is so large that the reduced-fee program has been estimated to more than pay for itself. The reason that the tax feedback is so large is that the EC program has been hugely popular.[15] Three recent micro-econometric studies have suggested that it has had a major impact on mothers' employment rates.[16] Based on these studies, Luc Godbout, Suzie St-Cerny and I have calculated that by 2008 Quebec's EC program was responsible for increases of 3.8 per cent in women's aggregate employment and 1.7 per cent in provincial GDP. A corollary of this finding is that every $1 of provincial spending on EC generated $1.50 of additional tax revenue, including $1.05 for the provincial government and $0.45 for the federal government (Fortin *et al.*, 2011).

Now, purely economic benefits are neither necessary nor sufficient for any government program to be a good program. Quebec's EC program clearly helps parents "reconcile their parental and professional responsibilities", but it no doubt can still be improved in "fostering the development and well-being of children and providing them with equality of opportunity". Recent studies of resources, organization and outcomes in early childhood centres suggest that future efforts in Quebec should focus on enhancing the general quality of EC services, particularly through improved training of personnel (see Japel *et al.*, 2005). In general, it is to be expected that disadvantaged children would on average benefit more from EC programs than children from more advantaged backgrounds.[17] Fortunately, so far low-income working families participate in Quebec's EC program nearly as much as middle- and high-income working families (66 per cent vs. 74 per cent) (Institut de la Statistique du Québec,

14 In the rest of Canada, the percentage of pre-school children in regulated care was 21 per cent in 2008. See Beach *et al.* (2009), Section 3, Table 9.

15 In 2009, 92 per cent of users of centre- and family-based regulated childcare said that the EC program fully matched their preferences. See Institut de la statistique du Québec (2011), Table 6.8.

16 They are: Baker *et al.* (2008), Lefebvre *et al.* (2009), ; Lefebvre *et al.* (2011).

17 Evidence for this proposition abounds. For Canada, see Baker (2011).

2011, Table 6.1). In addition, Quebec offers special programs that target the needs of children whose families are on social assistance.

An important question for Canada is therefore whether other parts of the country should follow the universal, Scandinavian-type family policy Quebec has adopted, or whether they should stick to EC programs that are purely targeted at the at-risk children. My view is that Canada does not need to choose between universality and targeting, but that it can have both at a bargain price. If universality generates more tax revenue than expenditure, then with federal-provincial cooperation the difference can be used to finance the high-quality targeted interventions that are deemed most useful.

Furthermore, I see a number of reasons why a universal EC program is desirable per se. First, the Quebec experience indicates that families strongly prefer the current reduced-fee, regulated universal EC system over the traditional system, even with equivalent income tax deductions or credits.[18] Second, a universal EC program allows greater interaction between children from middle- to high-income families and those from lower-income families. This contributes to class rapprochement in the long run. Third, the message a universal EC program *cum* a parental leave program gives to young middle-class families is that they do obtain something tangible in return for the taxes they pay. This could help stabilize political support for social policy in general.

References

Almond, D., and J. Currie (2011) "Human capital development before age five," Chapter 15 in *Handbook of labor economics*, Vol. 4, Part 2 (Amsterdam: North-Holland).

Baker, M., J. Gruber, and K. Milligan (2008) "Universal childcare, maternal labor supply, and family well-being," *Journal of Political Economy*, Vol. 116, No. 4, pp. 709-745.

Baker, M. (2011) "Innis Lecture: Universal Early Childhood Interventions: What Is the Evidence Base?" *Canadian Journal of Economics*, Vol. 44, No. 4, November.

18 Quebec parents can always choose to send their children to an unsubsidized private provider of childcare services outside of the universal EC program. Finances Quebec indicates that, for family incomes up to $125,000, the net after-tax daily cost is about the same in an unsubsidized space in private daycare as a subsidized facility (source: www.budget.finances.gouv.qc.ca/Budget/outils/garde_fr.asp). However, only 5 per cent of families with children in daycare choose the unsubsidized option.

Beach, J., M. Friendly, C. Ferns, N. Prabhu, and B. Forer (2009) *Early childhood education and care in Canada 2008* (Toronto: Childcare Resource and Research Unit).

Canadian Medical Association (CMA) (2010) *Health care transformation in Canada: change that works, care that lasts*, CMA Report, August.

Cunha, F., J. Heckman., and L. Lochner (2006) "Interpreting the evidence on life cycle skill formation," Chapter 12 in Hanushek, E., and F. Welch (eds.) *Handbook of the economics of education* (Amsterdam: North-Holland).

Fortin, P., L. Godbout, and S. St-Cerny (2011) "Economic consequences of Quebec's educational childcare policy," Paper presented at the Meetings of the Association Francophone pour le Savoir (ACFAS), University of Sherbrooke.

Institut de la Statistique du Québec (2011). *Enquête sur l'utilisation, les besoins et les préférences des familles en matière de services de garde, 2009*. Government of Quebec.

Japel, C., R. Tremblay, S. Côté (2005) "Quality counts!" *Choices*, Vol. 12, No. 4 (Montreal: Institute for Research on Public Policy).

Lefebvre, P., P. Merrigan, and M. Verstraete (2009) "Dynamic labour supply effects of childcare subsidies: evidence from a Canadian natural experiment on low-fee universal child care," *Labour Economics*, Vol. 16, No. 5, pp. 490-502.

Lefebvre, P., P. Merrigan, and F. Roy-Desrosiers (2011) "Quebec's childcare universal low fees policy 10 years after : effects, costs and benefits," CIRPÉE-UQAM Working paper No. 1101.

Swank, D. (2002) *Global capital, political institutions, and policy change in developed welfare states* (New York: Cambridge University Press).

Idle Speculation: Prefunding the Boomers' 'Frail Elderly' Care and Legitimizing a Carbon Tax

John Richards[1]
Simon Fraser University

THE COHORT BORN IN THE TWO DECADES following WWII now straddles the traditional age 65 threshold between work and retirement. By 2030 all "boomers" will be over age 65; some will have died but, given present life expectancy, the majority will be alive, at an average age of about 75. This age is often used to mark entry into the "frail elderly" stage of life, at which average per capita health costs rise precipitously. Some fraction of their frail elderly health costs will be borne privately and that fraction may become the subject of an intergenerational political debate. Given a high level of public commitment to public health insurance across most OECD countries – including Canada – it seems reasonable to conclude that most costs will be assumed publicly. Contending with a looming rise in health care costs is one

1 I thank Greg Marchildon, Fred Gorbet and Russ Robinson for comments on earlier drafts, and Nancy Olewiler for educating me on aspects of carbon pricing. Remaining errors, of fact or speculation, are the author's.

of the major fiscal dilemmas facing OECD member states.

Among the necessary – if far from sufficient – responses to global warming is to price greenhouse gas (GHG) emissions. According to the National Round Table on the Environment and the Economy, the price in Canada should ramp up over the coming decade to \$100/tonne of CO_2 equivalent by 2020, and to \$200/tonne by 2025 (NRTEE 2009). International experience with emissions markets as tactic to price emissions has been disappointing. Increasingly, attention is turning to the administratively simpler option of carbon taxes. That implies an ambitious and controversial reorganization of the tax system.

Beyond the fact that boomers' frail elderly health status and global warming are future events whose costs will emerge incrementally and that effective policy entails short-term political controversy that politicians are loath to incur, these appear to be entirely separable policy concerns. Is there a policy link to be made between them? Maybe ...

The chapter proceeds as follows. First is a section making the case that, given the magnitude of projected frail elderly health costs for the boomer cohort in Canada, prefunding a portion of the cost is desirable. There follows a discussion of the extent of popular opposition to increased taxing effort. It is profound. The final section suggests linking a campaign for prefunding to a campaign for a carbon tax.

The Case for Prefunding Frail Elderly Care of Baby Boomers

Voter attitudes act as an ill-defined constraint on size of government. More on that theme later. A more explicitly defined constraint is financial market interpretation of voters' willingness to pay the taxes required to finance existing programs and redeem outstanding sovereign debt. In the 1990s, market scepticism played a powerful role in persuading Canadian politicians to undertake fiscal redress, and persuading voters to accept it.

There are long lags in the dynamics whereby fiscal credibility of governments is either created or lost. The roots of the loss of fiscal credibility in Canada in the 1990s lay in political decisions taken in the 1960s and 1970s, when Canadians opted for social programs of European generosity without adequately revising their willingness to pay taxes. Distracted by recessions in the early 1980s and early 1990s and by two prolonged and complex constitutional conflicts – which order of government has the better claim to resource rents, whether Quebec would stay within the federation – both orders of government long resisted redesign of their respective social programs and the increased taxing effort required to accord them fiscal credibility. Instead, Ottawa accused the provinces of moral hazard in designing inefficient social programs whose basic goal was to maximize federal spending under cost-sharing agreements. Such programs, Ottawa argued, obeyed the letter but not the spirit of the agreements. In turn, the provinces accused Ottawa of addressing its deficit by unilateral changes to regulations governing intergovernmental transfers and federal social programs, the effect of which was to oblige the provinces to increase spending in social policy ministries and incur larger deficits.

Applying the C/QPP precedent

In the mid-1990s, finally, both orders of government did redesign many of their respective programs and increase taxing effort. Among the major federal initiatives was a restoration of actuarial credibility to the funding strategy for the Canada/Quebec Pension Plan (C/QPP). It required a near doubling of the earmarked payroll tax. The actuarial modeling undertaken prior to the program's launch in mid-1960s extrapolated post-WWII fertility rates, contemporary life expectancy after age 60 and then-prevailing labour productivity increases. Hence, the program did not incorporate the post-1960s fertility decline, productivity growth decline, increases in life expectancy and age-related medical expenses. Nor did it adequately incorporate the decline in average retirement age. Extrapolation of pre-reform tax rates implied exhaustion of the reserve fund within two decades and, thereafter complete reliance on a rising pay-as-you-go payroll tax (Department of Finance, 2007). The present partially pre-funded C/QPP design entails two central features: a payroll tax rate sufficiently high that it is expected to be constant over the next 75 years, and a reserve fund target. The payroll tax rate has been set (at 9.9 per cent) so as to permit the reserve fund to stabilize at approximately five times annual expenditures over the next 75 years.[2]

The reform improved intergenerational equity: it required those in the labour force to pay a higher share of their expected future benefits. It also improved long-term efficiency of the tax system by lowering what would otherwise be required marginal tax rates on labour income in future decades.

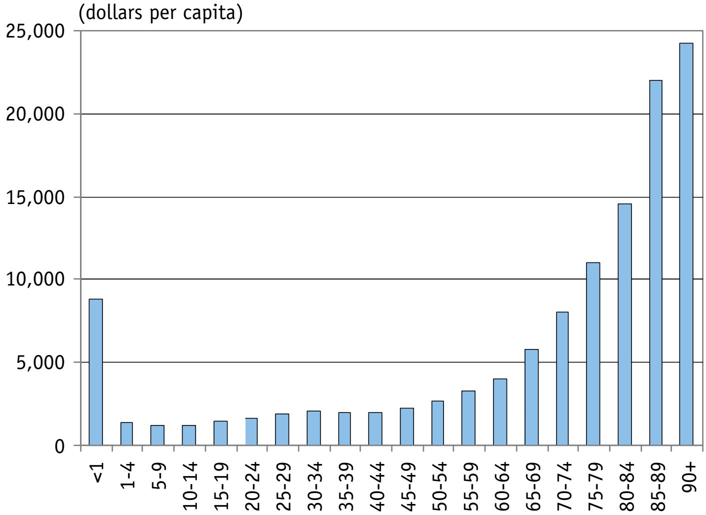
Based on this precedent, Bill Robson (2010) undertook an exercise in analyzing the levelized incremental taxing effort required over the next half century to accommodate publicly assumed frail elderly health costs for the boomer cohort. He projected core social program costs (health, education, elderly transfers and child/family benefits) over the next half century, using "middle-of-the-road" assumptions: a constant fertility rate, employment rate at pre-recession levels, an annual increase in labour productivity of 1.75 per cent, life expectancy rising according to Statistics Canada's "medium" case, and extrapolation of present per student labour inputs for education costs and of present per capita labour inputs for eight age- and sex-specific groups in the case of provincial health costs. Under these assumptions, the total cost of these four services rises from under 16.5 per cent of 2011 GDP to 20.9 per cent of 2031 GDP, and 23.5 per cent of 2051 GDP.

Virtually all of this increase is due to projected increases in the age 60 and over share of the population and the consequent rise in public health care costs. Charts 1 and 2 help explain why the projected increase is so large. Chart 1 illustrates average per capita provincial expenditures. The overall 2008 average was $3,350; for those age 75 and over they exceed $10,000. Chart 2 illustrates the 2008 distributions by age cohorts of the Canadian population and of provincial health expenditures. Cohort-specific average expenditures are below the overall average for cohorts over age 1 and below age 60; they rise above it for older cohorts.[3] Cumulative statistics indicate the extent to which health expenditures are skewed to older cohorts. In 2008, the 81 per cent of the population below age 60 and the 19 per cent of the population age 60 and

2 See Department of Finance (2007) for a summary of the actuarial exercise underlying mid-1990s CPP reform.

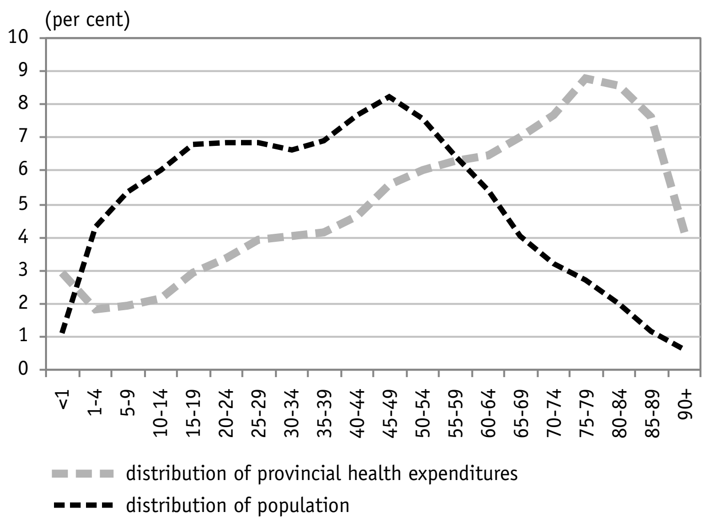
3 The two distributions cross at the age 55-59 cohort. Members of that cohort incur average per capita health costs very close to the overall average.

Chart 1
Per Capita Provincial Health Expenditures, by Age Cohorts, 2008



Source: CIHI (2010).

Chart 2
Distributions of Canadian Population and Provincial Health Expenditure, by Age Cohorts, 2008



Source: CIHI (2010).

over each accounted for 50 per cent of health expenditures; the 6 per cent age 75 and over accounted for 29 per cent of expenditures.

Applying the C/QPP partial pre-funding precedent, Robson estimated the increase in taxing effort required to honour the implicit social contract of present age-specific health care intensity levels over the next half-century. The once-and-for-all increase in taxing effort amounts to 4.5 per cent of GDP. This estimate is sensitive to parameter choices but, even if alternate specifications generate a smaller required increase in taxing effort, the increase remains substantial.

Pierre Fortin (2011) has recently conducted a similarly motivated exercise to estimate the fiscal implications for Quebec of a shift in the age distribution of the provincial population combined with the cohort-specific distribution of provincial health expenditures. The impact by 2020 amounts to 1.7 per cent of 2010 provincial GDP. In addition, he estimates the decline by 2020 in own-source Quebec tax revenue due to a smaller adult population ages 15-64 cohort at 1.6 per cent of 2010 GDP.[4]

Preserving the efficiency of a single-payer insurance system

As with the C/QPP, to rely on future pay-as-you-go increases in taxing effort would simultaneously lower intergenerational equity and increase long-term economic inefficiency. It would require an increase in pay-as-you-go taxing effort during the peak decades of boomers' frail elderly care well above the levelized rate. It would also raise questions of fiscal credibility: will the working-age population agree in the decades of maximum boomer-cohort health care to the pay-as-you go taxing effort consistent with the health benefits presently on offer?

One policy option is to relax the constraint on private health markets legislated in the Canada Health Act and related provincial laws. The Supreme Court's *Chaoulli* decision defined a right to buy private health insurance based

4 Fortin estimates the age-induced increase in health care spending, by 2020 relative to 2010, at $5.1 billion, 1.7 per cent of 2010 GDP of $303.7 billion. He estimates lost own-source revenue by 2020 relative to a counterfactual in which the age 15-64 cohort increased from 2010 – 2020 at the same rate as over the decade 2000 – 2010. The lost revenue estimate is $4.9 billion, 1.6 per cent of 2010 GDP.

on the "security of the person" provision of the Charter. This decision may turn out to be precursor to a widespread choice of this option.[5]

Expansion of private health insurance can play a role in financing boomer cohort frail elderly care, but is not a panacea. It is worth stating briefly the equity and efficiency arguments for a single-payer insurance system continuing to dominate the health market. The equity argument for funding health care via a moderately progressive tax system is obvious. The efficiency argument depends on two effects. The first: maintaining a high level of population health without the impediment to mobility and employment implicit in employment-related insurance or needs-related conditional public subsidy improves labour force productivity. The second effect is that single payer systems potentially avoid significant costs arising from information asymmetry and other agency problems. Realizing the second effect rests ultimately on the quality of public management: applying cost/utility criteria in making major decisions (such as a list of drugs to include in a formulary of insured drugs) and in designing "internal markets" (such as regulations defining the market for ambulatory medical care). Most OECD countries have reasonable quality of public management, and have realized substantial efficiency and equity gains relative to the US history of relying primarily on voluntary private insurance plus public funding for the old and indigent.

"Don't let the health minister eat everyone else's lunch"

A senior administrator – he would probably prefer not to be cited – has summarized his observations of the past decade's cabinet budget deliberations at the provincial level: "when ministers gather to allocate revenues for new programs, the health minister eats everyone else's lunch." An example is the 2011-12 budget of British Columbia (British Columbia Ministry of Finance, 2011, p. 17). It estimated an increase in consolidated revenue fund spending of nearly $1.1 billion between 2010-11 and 2011-12. The estimated increase in health spending exceeds $900 million, leaving approximately $150 million for

5 For a discussion of the implications of *Chaoulli*, see the interviews with Allan Blakeney and Patrick Monahan (Morley, 2006; Poschmann, 2006).

all other agencies. This is a typical outcome of provincial cabinet deliberations, repeated across the country since the end of the fiscal crisis of the 1990s.

That health care is absorbing the great majority of incremental provincial spending does not prove that other spending envelopes should be funded more generously. It is evidence of politicians' acute sensitivity to spending priorities of the baby boom cohort – and of a limited response to the case for incremental public spending elsewhere.[6] Given their age, members of the cohort born between 1945 and 1965 have an intense concern with relaxing the administrative constraints that define public health expenditures: use of waiting lists for elective surgery and access to expensive diagnostic services; imposition of co-payments on pharmaceutical drug insurance, and so on. Their above-average propensity to vote, relative to younger cohorts, augments the political salience of their priorities.

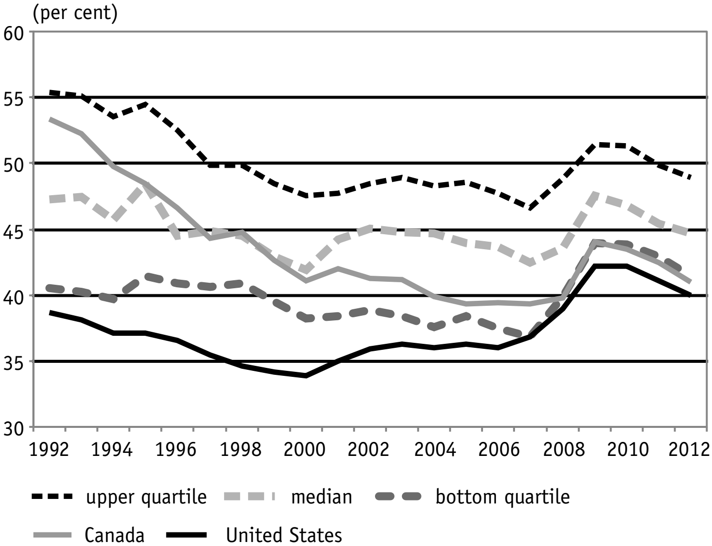
Prodding the Hornet's Nest

Shortly after the 2010 US midterm elections restored Republican control of the House of Representatives, David Brooks (2011) forecast an aggressive House-led campaign to maintain taxing effort prevailing in 2008 and to lower spending to conform. He was right. The May 2011 general election generated a somewhat similar result in Canada. A plurality of voters afforded a parliamentary majority to the Conservatives who campaigned on maintaining Canada's "low tax advantage" and a promise to balance the federal budget by 2015 subject to current taxing effort. The implicit reference point for the "high tax disadvantage" was Canadian taxing effort in the 1990s.

Public scepticism to claims for higher taxes is a healthy feature of any democracy but, in both Canada and United States, political polarization has elevated scepticism in the last decade – despite the fact that taxing effort

6 After health, the second largest spending envelope at the provincial level is education. The OECD (2010b) undertook an exercise to estimate productivity gains from reducing the high school dropout rate in member states. The exercise measured the public and private returns to completion of upper level secondary studies (relative to not doing so). For Canada, the estimated private rate of return to a student from completion is about 13 per cent, and the public return about 7 per cent. Admittedly, the private and public returns on further lowering of the high school dropout rate are no doubt lower than the OECD estimate of average returns.

Chart 3
Government Outlays as Share of GDP, Quartiles for OECD Member States, Canada and United States, 1992 - 2012

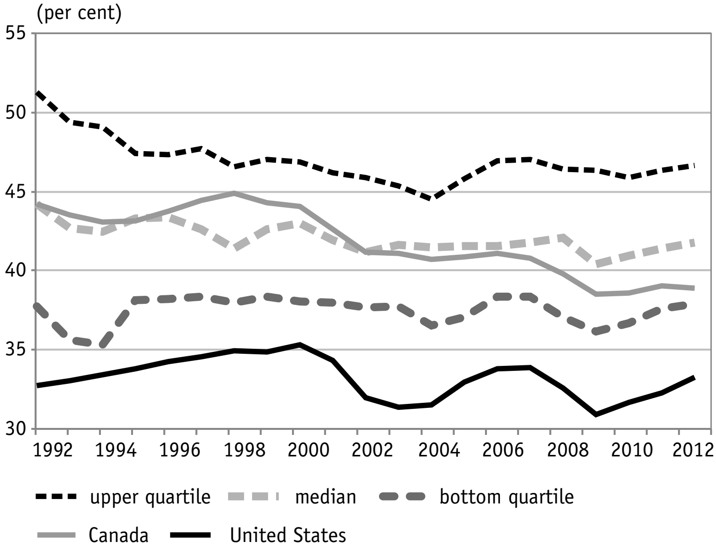


Source: OECD (2010a).

declined in both countries. In Canada, taxing effort declined from a level close to the top quartile for OECD countries in late 1990s to a level close to the bottom quartile in 2011. Similarly, government outlays in Canada declined from a level close to the top quartile two decades ago; since 2008, they have closely tracked the bottom quartile. As elsewhere in the OECD, Canadian outlays rose as a share of GDP during the post-2008 recession but remained at the bottom quartile. (See Charts 3 and 4.)

If we accept Robson's parameters and modeling rationale and we assume no cuts in share of GDP devoted to other programs, levelized prefunding of boomers' frail elderly care requires raising the Canadian taxing effort from its 39 per cent average since 2009 to about 43 per cent of GDP. This would return Canada to levels prevailing in early years of the previous decade and close to the projected OECD median for 2012. (See Chart 4.)

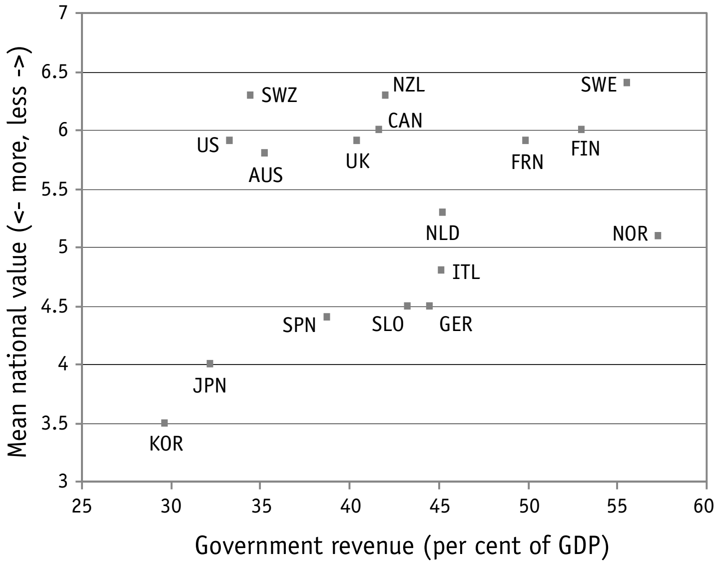
Chart 4
Government Tax plus Non-Tax Revenues as Share of GDP, Quartiles for OECD Member States, Canada and United States, 1992 - 2012



Source: OECD (2010a).

Beyond recent election outcomes, the World Values Survey (2011) affords evidence to the effect that both Americans and Canadians have in the previous decade been among the more adamant of citizens in OECD member states in not wanting government to "do more" than at present. In its 2005-08 round, respondents were asked to indicate the extent of their agreement or disagreement with the following propositions: "People should take more responsibility to provide for themselves" and "the government should take more responsibility to ensure that everyone is provided for." Respondents could express complete agreement with the first statement (scored at 10), compete agreement with the contrary position (scored at 1), or degrees of (dis)agreement with each by choosing a number between 1 and 10. Chart 5 plots the average national scores among 17 OECD member countries against the average taxing effort in the country over the decade 1999-2008.

Chart 5
National Public Expectations that Government Should Do Less or More, by Average Annual Ratio of Government Revenues/GDP, 1999-2008



Source: author's calculations from OECD (2010a) and World Values Survey (2011).

The 17 country scores range from 3.5 to 6.4. As to be expected, scores shift toward "people taking more responsibility" at higher rates of taxing effort and, mutatis mutandis, shift toward the opposite proposition at lower rates of taxing effort. The Anglo-Saxon countries (US, Britain, Australia, New Zealand, Canada) – and Switzerland – are outliers. At any given taxing effort, these countries are significantly more inclined to conclude that people should be taking more personal responsibility.

Arguably, the direction of causation should be inverted in the medium term (extending over more than a decade): public opinion imposes a floor and ceiling on the ability of democratically elected governments either to tax and spend or not tax and not spend. Based on a crude regression across the 17 countries, a 4 percentage point increase in taxing effort might increase Canada's average score in a future survey from its present value of 6.0 to a value between 6.2 and 6.3, placing it close to the apparent ceiling of public tolerance for government "taking more responsibility."[7]

Provincial and federal cabinet ministers are broadly aware of the implications of pay-as-you-go funding of the boomers' frail elderly health care costs. Nonetheless, based on the budgetary evidence, it is fair to conclude that most subscribe to the conclusion that the preferred policy is to let health ministers eat everyone else's lunch. Prefunding amounts to an increase in taxing effort and they are not prepared to prod the hornet's nest of those opposed to higher taxes. In lieu of prefunding, a sizeable minority of cabinet ministers at both orders of government might well prefer to relax constraints limiting private health insurance.

In the 2008 general election, the Liberals campaigned for a national carbon tax. The result was their lowest-ever share of popular vote – until 2011. The Liberals' 2008 performance has generated a consensus across national political parties on climate change policy equivalent to that surrounding boomers' health care: to propose a carbon tax is to prod the hornet's nest of public scepticism toward tax change, and assure electoral defeat; safer to advocate emissions trading at some time in the future, preferably sufficiently far in the future that it not impinge on any forthcoming election campaign. In addition to the precedent established by the Liberals' 2008 election campaign, a combination of events has lowered political pressure to act: international diplomatic stalemate, symbolized by the failure of the Copenhagen meeting in 2009; a few ill-advised emails among climate scientists; and the public success of a handful of climate-change sceptics.

The Politics of a Carbon Tax

The government of Canada's stated target for greenhouse gas (GHG) emissions reduction is that they fall 20 per cent below 2006 levels by 2020, and 65 per cent below 2006 levels by 2050. To realize these targets, modeling for the

7 The OLS results are as follows: $y = 2.38 + 1.26x_1 + 0.06x_2$, where y is the predicted national score, x_1 is a dummy taking the value 1 for Anglo-Saxon countries (United States, Britain, Australia, New Zealand, Canada) and 0 elsewhere; x_2 is average revenue / GDP over the decade 1999-2008. The adjusted R^2 is 0.44; both regressors are significant at 0.025.

latest report of the National Roundtable on the Environment and the Economy (NRTEE, 2009) envisions a carbon price of $100/tonne of CO_2 equivalent by 2020, rising to $200/tonne by 2025, combined with some international purchase of carbon offsets. To realize the targets domestically, without international trading, would require a $300/tonne price. Maybe it should be treated as no more than coincidence but, based on 2008 Canadian GHG emissions and a carbon tax levied on major emitters responsible for 50 per cent of total emissions, a tax of $200/tonne would raise 4.3 per cent of GDP, roughly Robson's prefunding target.[8]

While the odds are not – in the short run – good, there are two pragmatic arguments that suggest grappling simultaneously with the case for prefunding boomers' health care and implementing a carbon tax may improve the chances of success with both. First however is the Pigovian argument.

The Pigovian argument

A valid concern with any increase in taxing effort is the impact on marginal effective tax rates (METRs). As opposed to prefunding via some other tax, introducing a carbon tax improves the social efficiency of the tax system. As a Pigovian tax, it addresses the divergence between private and social costs. Imposition of a significant carbon tax obviously increases dramatically the private METR of hydrocarbon-intensive activities, but do we want firms to invest in projects based on a private METR, or consumers to make consumption decisions based on prices that do not reflect GHG emissions?

A necessary condition for making the above argument is that we take into consideration abatement benefits accruing to the 99.5 per cent of the world population who are not Canadian. Is this simply altruism? No. Distributional considerations figure prominently in the post-2009 stalemate in climate change diplomacy. Developing countries, China and India in the lead, argue that, because the already industrialized countries account for the great majority of increase in atmospheric CO_2 over the last two centuries, they should

8 While $200/tonne is roughly the carbon tax rate required to prefinance health care given Robson's parameter choice, there is no guarantee this remains true in the future. If Canada does reduce GHG emissions, the rate would have to be higher than $200 to meet the revenue target.

bear the brunt of the costs of reducing GHG emissions. Until they do so, developing economies should continue with "business as usual." Per capita GHG emissions in Canada are the second highest among major industrial countries, close behind the United States. They are three times that of China, and ten times the comparable Indian statistic. Unblocking the stalemate in international climate change diplomacy will inevitably require United States and Canada to undertake far more ambitious climate change policy than either country has displayed to date.[9]

Public opinion in British Columbia

The one major jurisdiction in North America to have introduced a significant carbon tax on major emitters is British Columbia. Introduced in 2008, the province's carbon tax was subject to much partisan controversy. The NDP, Official Opposition to the governing Liberals, opposed it – advocating instead an emissions trading system to be implemented some time in the following decade. In the 2009 provincial election, the NDP promised to repeal the tax. The Liberals won re-election based, in part, on high-profile defections to the Liberals from the Green Party. In a closely fought electoral contest, the move toward the Liberals among many supporters of the Green Party probably provided the margin necessary for a Liberal plurality in the popular vote.[10] In April 2011, the Pembina Institute conducted a random opinion survey on current attitudes in BC toward the carbon tax three years after implementation. Several results are worth noting:

- *"BC has taken several steps to address global warming (also known as 'climate change'). Do you think the current BC government's approach is too tough*, *is not*

9 For international GHG emission estimates see IEA (2010). In 2008, the top two emitters, China and United States, jointly accounted for 40 per cent of total emissions. The third through tenth – India ranks fourth and Canada seventh – accounted for 25 per cent. The remaining countries accounted for the final 35 per cent.

10 The final vote distribution changed little between the 2005 and 2009 elections. The Liberal vote share remained unchanged at 45.8 per cent; the NDP vote rose from 41.5 per cent to 42.2 per cent; the Green Party vote declined from 9.2 per cent to 8.2 per cent. However, the Green Party support was consistently at 13 per cent during the campaign, until the final week. Most of the five-point decline in Green Party support probably benefited the Liberals.

Table 1
"What are the Best Ways for Government to Collect Taxes?"

rank	**1st**	**2nd**	**3rd**	**4th/5th**	**score**
weight	3	2	1	0	(min=0,
	(per cent)				max=3)
corporate income tax	66.4	18.9	6.7	8.0	2.437
carbon tax	13.3	40.7	16.6	29.4	1.378
sales tax	11.9	14.1	32.2	41.8	0.961
property tax	3.6	12.9	24.6	58.9	0.612
personal income tax	4.8	13.3	19.6	62.3	0.606

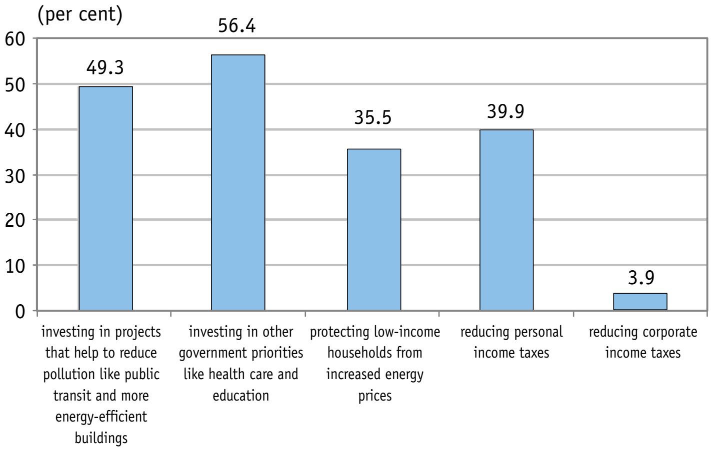
Source: author's calculation from data in survey undertaken by Pembina Institute (Horne 2011).

Note: Respondents ranked each of five taxes in response to the following question: *"The provincial government needs to raise revenue to provide various services to British Columbians, such as health care and education. Much of that revenue comes from taxes. In your view, what are the best ways for government to collect taxes."* The rows indicate distribution of ranks of each tax. The taxes are ranked based on a linear weighting.

tough enough, or about right?" Fifty-two per cent responded "not tough enough", as opposed to 36 per cent who responded "about right", and 13 per cent "too tough."

- *"The carbon tax is applied to all fossil fuel combustion, but isn't applied to other sources of pollution that causes global warming like methane decomposing from landfills or carbon dioxide being stripped from raw natural gas. Do you agree or disagree that the carbon tax should be applied equally to all sources of pollution that cause global warming?"* Sixty-nine per cent "strongly" or "somewhat agree"; 21 per cent neither agree nor disagree; 10 per cent "somewhat" or "strongly disagree."
- *"Every year, the carbon tax has been increasing by \$5/tonne, and the schedule currently stops in 2012 when the tax will be \$30/tonne. Do you think the carbon tax should continue to increase after 2012 as part of BC's efforts to reduce pollution?"* A minority, 29 per cent, want the rate to continue to ramp up, as opposed to 51 per cent opposed, and 21 per cent "don't know."

Chart 6
"Appropriate Uses" for Incremental Carbon Tax Revenue



Source: Horne (2011).

Note: The survey posed the following question: *"In the future BC's carbon tax could generate more revenue than the $1.1 billion currently forecast for 2012. For you, what would be the appropriate uses for any new revenue from BC's carbon tax?"* Respondents chose as many uses as they thought "appropriate" among the five options.

- *"The provincial government needs to raise revenue to provide various services to British Columbians, such as health care and education. Much of that revenue comes from taxes. In your view, what are the best ways for government to collect taxes."* Respondents were invited to rank three of five tax options. Scoring the choices on a linear scale, carbon taxes emerged as the second most desirable, admittedly far below corporate income taxes in popularity. (See Table 1).
- *"In the future BC's carbon tax could generate more revenue than the $1.1 billion currently forecast for 2012. For you, what would be the appropriate uses for any new revenue from BC's carbon tax?"* Respondents were invited to check any of five uses they thought "appropriate." (See Chart 6.)

After three years, the tax has achieved widespread acceptance, ranking second among preffered tax sources from which the government should obtain revenue. However, ramping up the tax to a level consistent with prefunding health care requirements or NRTEE recommendations clearly does not enjoy majority support.

It may be relevant that, of the options in Chart 6, spending on health care and education ranked highest, above options reflecting a desire for revenue neutrality. This suggests another parallel with C/QPP reform in the 1990s. Canadians accepted a large increase in a payroll tax conditional on revenue being earmarked for a consensual goal. No major political party has subsequently proposed rolling back the increase and resorting to pay-as-you-go financing. Some of the opposition to the Liberals' 2008 carbon tax proposals can probably be explained by voter mistrust that the incremental revenue would be dissipated in special interest projects, and that any promise of revenue neutrality was not credible.

"Black-green" realpolitik

Many spokesmen for the oil and gas industry concede that international public anxiety with respect to climate change is sufficient to derail or interminably delay large-scale Canadian hydrocarbon projects – including tar sands expansion – unless there exists a substantial national emissions pricing policy. A recent report published under the auspices of the Calgary Chamber of Commerce and the Canada West Foundation (Brunnen *et al.*, 2011, p. 25) discusses emissions pricing favourably. The report advocates "a national level carbon strategy. This could take different forms such as a carbon tax, which would be the most simple to implement." The authors qualify endorsement of a carbon tax by reference to "other options such as a regulatory approach with a performance standard and multiple compliance options." And industry leaders would lobby that much of the revenue raised by a carbon tax be returned to the sector in the form of R&D subsidy.

Among the executives acknowledging the case for pricing GHGs and accepting a carbon tax as instrument is Michael Cleland, former head of the Canadian Gas Association:

> [Energy] prices should include environmental costs, including whatever cost society chooses to attribute to carbon. Carbon policy needs to come to grips with the politically fraught fact that the worst thing that can be done with carbon costs is to impose them and then try to hide them … [to] argue for cap and trade as a way of disguising the fact that it is a tax. Consumers are smarter

> than policy elites give them credit for. They will find out and they will punish deceivers. Just possibly, if we avoid trying to fool consumers and instead engage them we may be able to find ways forward that they will trust even if they don't relish them. (Cleland , 2011)

The emergence of qualified support for a national carbon tax among oil and gas executives affords an opening for environmental activists and governments (NRTEE, 2009). A carbon tax is, as stated, "simple to implement" relative to the alternative, emissions trading. From the perspective of firms calculating net present value of hydrocarbon investments, an advantage of a carbon tax over the "cap and trade" alternative is greater certainty of future costs. Trading in emissions permits has generated volatile prices. From the public perspective, a tax assures that revenue from addressing the GHG externality accrue to the public, as opposed to private agents with market or political advantage.[11] In addition, collapse of many derivatives markets in 2008 has dampened enthusiasm for trading complex contracts governing hypothetical changes in hydrocarbon use.[12]

Implementation

Implementation of a prepayment scheme via an earmarked carbon tax is certainly feasible given our history of complex federal-provincial fiscal arrangements. All revenues from a federal carbon tax should be credited to a medicare "prepayment account", to be managed at arm's length from Parliament. The account managers would become responsible for annual disbursements to

11 Launched in 2005, the largest functioning "cap and trade" market is the European Union Emission Trading System. Initially, EU governments issued too many permits and the permit price collapsed. Control of the supply of permits has tightened in recent years, but the market price remains subject to much uncertainty over the range of emitters to which the system will apply and schedule of permit supply in future years. At time of writing in July 2011, the emissions permit price/tonne of CO_2 is C$18 (Point Carbon, 2011), less than the rate imposed by BC's carbon tax. For a dispassionate assessment of implementing a carbon tax vs emissions trading, see Price Waterhouse Coopers (2009). An important advocacy group engaged in this debate is the Carbon Tax Center (2011).

12 To appreciate the complexity of carbon trades, see the glossary of terms prepared by Point Carbon (2011).

provinces based on deviations from a population distribution that serves as benchmark. A census, say that for 2011, could provide the data on provincial population by age cohorts; subsequent censuses would provide data on provincial cohort deviations from the benchmark distribution. The Canadian Institute for Health Information (CIHI) already estimates cohort-specific provincial health expenditures. The managers of the account would accordingly have available the data necessary to calculate provincial claims on the account. Account managers would also be responsible for investing surpluses generated in early years in the capital market.

It is an understatement to acknowledge that implementation presents many problems that the above sketch ignores. I conclude with brief mention of three.

Benefit creep

While politicians may precipitate a new C/QPP crisis by enlarging benefits without equivalent tax adjustments, well defined benefit regulations provide credibility to the program's financial viability. No such administratively well defined regulations exist to constrain health care benefits.

At present, the financial credibility of public health insurance programs rests on public willingness to pay the required pay-as-you-go taxes, as interpreted by provincial and – to the extent Ottawa is prepared to share costs – federal politicians. As medical technology improves and the age 65 and over population share rises, there will be intense pressure to increase age-related health benefits. If the age 65 and over cohort-specific health costs rise beyond the provisions of the prefunding formula, then prefunding will not preempt the need for future increases in pay-as-you-go taxes and/or abandonment of a single-payer system.

The value of equalization

Provincial governments are the locus of most major policy decisions with respect to health care. If a prefunding arrangement is to have any chance of gaining credibility, the provinces must retain and strengthen a political/administrative culture able to internalize both the costs and benefits of incremental public spending. Equalization is crucial to that end. At various times in the 2000s equalization was in danger of degenerating into a predetermined entitlement for traditional "have not" provinces.[13]

In the words of the Constitution Act (s.36 (2)), "Parliament and the government of Canada are committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation." Equalization is a valuable institution inasmuch as it enables reconciliation of Canadians' expectations of comparable services across the country with tax-spending coincidence at the margin, and a form of interregional insurance against regional economic shocks. It provides appropriate incentives for provincial politicians to internalize both the costs and benefits of incremental public spending. In the context of health budgeting, this entails health decisions based on pragmatic cost/utility considerations.

Pharmaceuticals

Ottawa has provided statements of principle (viz. the national standards of the Canada Health Act) with respect to health insurance, and assumed roughly a quarter of provincial expenditures via intergovernmental cash transfers. Arguably, prefunding would be easier to implement and the quality of Canadian public health management would improve, if federal officials became more familiar with the complexities of health care management by themselves assuming responsibility for elements of the system. The ideal candidate is pharmaceutical policy. Already Ottawa plays a role: in undertaking clinical trials on drugs and in legislating the extent of patent protection. Pharmaceuticals are the most rapidly growing major component of health spending; they now comprise about a sixth of provincial health costs, about 1.5 per cent of GDP. As with other major health care envelopes, pharmaceutical use is skewed toward older age cohorts.

13 Paul Martin's ad hoc 2004 deal to allow Newfoundland to keep its equalization allocations intact despite rising offshore oil royalties severely damaged the program's credibility. Al O'Brien's report (Department of Finance, 2006) provided the basis for restoring credibility in the short run. However, equalization continues to be subject to ad hoc federal amendments, and public understanding of the program's rationale is limited.

The present agreement governing Ottawa's share of provincial health care budgets was negotiated in 2004 for a period of ten years. At the time of negotiation in 2004, the provinces proposed that Ottawa assume responsibility for pharmacare, with the hope that Ottawa organize a national formulary, undertake bulk purchasing of generic drugs, and standardize pharmaceutical insurance on a national basis (Marchildon 2006). Ottawa refused the provincial offer, preferring to transfer cash instead.

The provincial offer of 2004 still makes sense. Of all major health care components, pharmaceuticals are the most likely to demonstrate scale economies – in cost/utility evaluations necessary for formulary design, potential to exercise market power in bulk purchasing, and so on. If Ottawa managed pharmaceutical policy, it should be eligible to draw from the prefunding account in the same manner as the provinces.

Conclusion

In the current environment of public scepticism toward increased tax effort, the above exercise is open to the charge of idle speculation. Writing in another context (preserving the credibility of the euro), Larry Summers (2011) has summarized the "art of economic policy making [as] reconciling the political and the technical or arithmetic imperatives. You cannot move forward in democratic nations without sufficient political support … But we ask our political leaders not simply to take the preferences of their citizenry as a given." Idle speculation has its place. At a minimum, it invites advocates of particular agendas to address the politics of taxing, and to assess seriously the need for alliances if they are to achieve goals that they are unlikely to realize alone.

References

British Columbia Ministry of Finance (2008) *Budget and Fiscal Plan – 2008/09 to 2010/11* (Victoria: Ministry of Finance).

British Columbia Ministry of Finance (2011) *Budget and Fiscal Plan – 2011/12 to 2013/14* (Victoria: Ministry of Finance).

Brunnen, Ben, William Kimber, Jacques Marcil, and Thomas Palak (2011) *Changing the Climate: A Policy Framework for Canada's New Energy Environment* (Calgary: Chamber of Commerce and Canada West Foundation).

Canadian Institute for Health Information (2010) *National Health Expenditure Trends 1975–2010* (Ottawa: CIHI).

Carbon Tax Center (2011) *Introduction*, Accessed 26 July 2011: http://www.carbontax.org/introduction/.

Cleland, M. (2011) "Strategy should rest principally on competitive markets, private investment and prices," *Let's Talk Energy*, Article No. 5 (Calgary: Canada West Foundation).

Department of Finance (2006) *Achieving a National Purpose: Putting Equalization Back on Track* (Ottawa: Department of Finance).

Department of Finance (2007) *Optimal Funding of the Canada Pension Plan* (Ottawa: Office of the Superintendent of Financial Institutions), Accessed 30 March 2011: http://www.osfi-bsif.gc.ca/osfi/index_e.aspx?ArticleID=1777

Fortin, P. (2011) "Staying the Course: Quebec's Fiscal Balance Challenge," *Commentary* 325 (Toronto: C.D. Howe Institute).

Horne, M. (2011) "Measuring the Appetite for Climate Action in B.C.: British Columbians' perspectives on climate change and carbon taxes" (Calgary: Pembina Institute).

International Energy Agency (IEA) (2010) *CO_2 Emissions from Fuel Consumption – Highlights* (Paris: IEA).

Marchildon, G. (2006) "Federal Pharmacare: Prescription for an Ailing Federation?" *Inroads*, Vol. 18, pp. 94-108.

Morley, G. (2006) "Judges: The New Aristocracy, An Interview with Allan Blakeney." *Inroads*, Vol. 18, pp. 30-47.

National Round Table on the Environment and the Economy (2009) *Achieving 2050: A Carbon Pricing Policy for Canada*.

Organisation for Economic Cooperation and Development (2010a) *Economic Outlook*, Database for No. 88.

Organisation for Economic Cooperation and Development (2010b) *Education at a Glance, 2010: OECD Indicators*.

Point Carbon (2011) Accessed 24 July 2011: http://www.pointcarbon.com/news/1.1561884.

Poschmann, F. (2006) "The Courts are Doing their Job: A Discussion with Patrick Monahan," *Inroads*, Vol. 18, pp. 48-55.

Price Waterhouse Coopers (2009) *Carbon Taxes vs Carbon Trading: Pros, cons and the case for a hybrid*, Accessed 26 July 2011: http://www.ukmediacentre.pwc.com/content/detail.aspx?releaseid=3133

Robson, W. (2010) "The Glacier Grinds Closer: How Demographics Will Change Canada's Fiscal Landscape," *e-brief* 106 (Toronto: C.D. Howe Institute).

Summers, L. (2011) "Lawrence Summers on the Euro Crisis." *Der Spiegel*, July 26.

World Values Survey (2011) *WVS 2005-2008: Fifth wave*, Accessed 10 April 2011: http://www.wvsevsdb.com/wvs/WVSAnalizeStudy.jsp.

Health Care is a Knowledge Industry, and Should Be More So

Michael Wolfson[1]
University of Ottawa

Introduction

WHEN WE THINK OF HEALTH CARE IN CANADA, we likely think of surgery, pills, and visiting the doctor. While the pills and surgical procedures are tangible and physical, a very large portion of activity in health care involves knowledge, not primarily goods and tangible services.[2] The knowledge processes start with the doctor asking about a patient's health history, symptoms and problems, then offering a diagnosis and proposing a course of action to

1 I would like to acknowledge the very helpful comments of John Wright, Jennifer Zelmer and the editors. I of course remain responsible for any errors or infelicities.

2 While the hoopla seems to have died down, economists have noted the transitions underway, usually associated with the revolution in information and communications technologies, from primarily a goods and tangible services economy to a "knowledge economy." Discussion of this transition was apparently first popularized by Peter Drucker in 1959 who emphasized the distinction between manual workers and knowledge workers. Health care is quintessentially a knowledge industry in this sense.

cure, or at least ameliorate, any problems. In the direct experiences of patients, a great deal of their interactions with health care providers is knowledge flows. As a society, we train and value health care professionals at least as much for their knowledge and information processing capabilities – observing, assessing, recalling, recognizing patterns, accessing accumulated knowledge, judging, and deciding – as for their tangible skills such as operating a diagnostic imaging device, inserting a breathing tube, and performing surgery.

Similarly, at the level of health care provider organizations, a great deal of activity involves the creation, collection, and application of knowledge – though as argued below, nowhere near enough. Of course, at the organization level, there are familiar tangible activities such as hospitals providing beds and clean laundry, housing and maintaining diagnostic imaging devices, and food preparation. But we also see sequences of physicians consulting patient charts, conferring with colleagues on the most appropriate diagnosis, ordering meds, and spending hours per week keeping up to date on the latest research results published in the academic literature. Even in hospital nursing, which would appear to be an entirely physical and social interaction with patients, up to two hours in every eight hour shift may be spent in writing and consulting (still most often paper) patient charts.

Furthermore, there is growing concern, given increasing specialization and division of labour, with the "continuity of care," as patients' trajectories of care, especially those with complex comorbidities, involve a sequence of health care encounters often with a diversity of providers. There should be major transfers of knowledge between and among these providers and with the patient when they move from a specialist visit, to hospital, to home, with GP (general practitioner) follow-up or home care, to nursing home. As the patient is "handed off" from one provider to the next, it is fundamental that each provider should have all the necessary and cumulative knowledge about the patient's diagnoses, treatments received, and current functional status. Patients as well need to know about what is happening and the course of care as it is planned for them – indeed they should have a real say in their treatments.

However, Canada's health system continues its failure to accord sufficient priority and systematic thinking to these knowledge aspects, not only at the individual physician level, but even more importantly at various levels of organization, from hospital to health region to province. As a result, no one really knows how effective most activity in health care is, what the many components of health care service provision actually cost, and where the system can be modified both to reduce costs, improve quality of care, and ultimately improve population health. In case this last sentence slipped by the reader too smoothly, let me repeat: no one really knows how effective most activity in health care is.

While investments in more coherent information and knowledge creation systems have recently accelerated, Canada's health care (non)system remains decades behind best practice in other sectors, like banking and airlines, and other healthcare systems, such as the Veterans Administration in the United States. Your car dealer often knows more about the repair and maintenance history of your car than your doctor does about your medical history, and certainly more than the healthcare system more generally (e.g. hospitals, specialists, ERs) knows – as evidenced by the almost continual need for an attending physician to ask about your medical history.

In this chapter, we document a number of areas where these lacunae are especially troublesome. Drawing on the limited data available we first consider the implications of "post code medicine," where your location has a strong but seemingly random and certainly unexplained impact on your health care, and then data on what is driving health care costs. We then turn to suggestions on how best to improve this situation and close with a vision for a proper health information system – indeed one which was articulated almost a decade ago.

Consider Geographic Variations and Heart Attacks

One of the scariest events in one's own life or that of a loved one is to have a heart attack (acute myocardial infarction, or AMI). Provincial health care systems across Canada devote significant resources to the treatment of AMIs. The practice of cardiology is one of the highest profile activities in health care, and open heart surgery has, for years, been broadly considered one of the miracles of modern medicine. The *Economic Burden of Disease in Canada* (PHAC, 2002) indicates that cardiovascular disease (of which AMI is a major part) had direct costs amounting to 8.1 per cent of total health care costs in Canada, and 15.1 per cent of total hospital costs in 1998.[3] So an obvious question is whether Canadians are getting value for the money spent on these treatments – in other words, are the expenditures and use of highly skilled resources devoted to treating AMI patients producing improvements in their health that are at least commensurate?[4]

The short answer is that nobody knows. But there is considerable evidence, one key element of which is discussed below, that there are major inefficiencies in this area of health care. This evidence is limited precisely because the required kinds of information are not being routinely collected, nor even being collected on a sample basis, so the requisite knowledge cannot even be generated.

In the current fiscal climate, inefficiency in the provision in health care services means scarce resources are being spent on activities with at most marginal health benefits, and at worst harmful effects – in Ivan Illich's term, iatrogenic (Illich, 1976; see also Baker *et al.*, 2004). Hence the resources could be devoted to other activities that produce higher benefits – either within health care, in which case inefficiency is equivalent to a failure to improve Canadians' health as much as possible, or in other sectors, like education and housing, whose budgets are being squeezed by the disproportionate growth in health care spending.

The evidence we do have, and one of the most powerful indicators that something might be amiss in the way health care is managed, is variations in health care provision across small geographic areas. The main reason for the widespread attention to these kinds of indicators, which are intrinsically rather

3 The fact that, in 2011, the most recent data of this sort is for 1998 is itself an indication of the deplorable priority attached to the production of important kinds of health information.

4 There is extensive discussion in the cost-effectiveness literature of what it means for expenditure to be "commensurate" with the associated health gain. For our purposes here, "commensurate" can be taken to mean that the dollar costs per QALY (quality-adjusted life year) gained is not excessive. See Laupacis *et al.* (1992); Gold *et al.* (1996).

weak for this purpose, is that they are relatively easy to construct with routinely collected data – indeed using data that are primarily collected for other purposes (e.g. monitoring hospital budgets, paying physicians). But they have been essentially the only data available for this purpose.

It has been widely observed in many jurisdictions that the fraction of the population being treated can vary substantially from one small geographic area to another. But if the rates of illness, for example AMIs, are roughly the same across these same small regions, then "medical necessity" cannot explain wide variations in treatment rates. Some other factors, possibly ones that indicate *inappropriate* provision of health care, might be the cause. This possibility led, decades ago, to major efforts in the development of "appropriateness guidelines." However, development of such guidelines has been slow – in part because of the difficulties in assembling the required information, and their adoption has also been slow, in part as doctors have resisted the idea of "cookbook medicine" being forced upon them.

Of course, the situation is more complex than this. In the case of AMI, it is well known that smoking, obesity, physical inactivity, hypertension, cholesterol, age, and diabetes among others are major risk factors for AMI, and the prevalence of these risk factors also varies across small geographic areas (CCORT, 2006, p.35). The CCORT (Canadian Cardiovascular Outcomes Research Team) researchers concluded:

> There is a moderate to high degree of variation in hospitalization rates (for AMI) across the regions of Canada... Variations in hospitalization rates for these four cardiovascular diagnoses (AMI, CHF = congestive heart failure, angina, chest pain) could in part be a result of differences in coding practices for these conditions, although we believe that is unlikely to be the major explanation. A more plausible suggestion is that regional differences in hospitalization rates are related to factors such as physician supply and practice styles, access to ambulatory care, community and institutional resources, the prevalence of effective primary and secondary prevention programs, and the socioeconomic status of various health regions. (CCORT, 2006, p. 55)

Some of the potential explanations for these variations in hospitalization rates as just enumerated by the CCORT atlas point toward issues of primary prevention. For example, why are smoking rates higher in one region than another. But other explanations such as "physician supply and practice styles" point to questions of where doctors choose to practice, and the ways medical school enrolments and hospitals are managed. The fact that one of the best research groups in Canada, with some of the best data available, is unable to determine which of these major and very different potential explanations is dominant is troubling, especially now - after decades of evidence of such small area variations, the attendant push to develop appropriateness guidelines, and efforts to apply "evidence-based decision-making" across the spectrum of health care activities.

Unexplained small area variations in health care indicate possible inefficiencies and/or significant pockets of sub-optimal care. In a phrase, we see some smoke, but we are not sure where the fire is, nor how large it is.

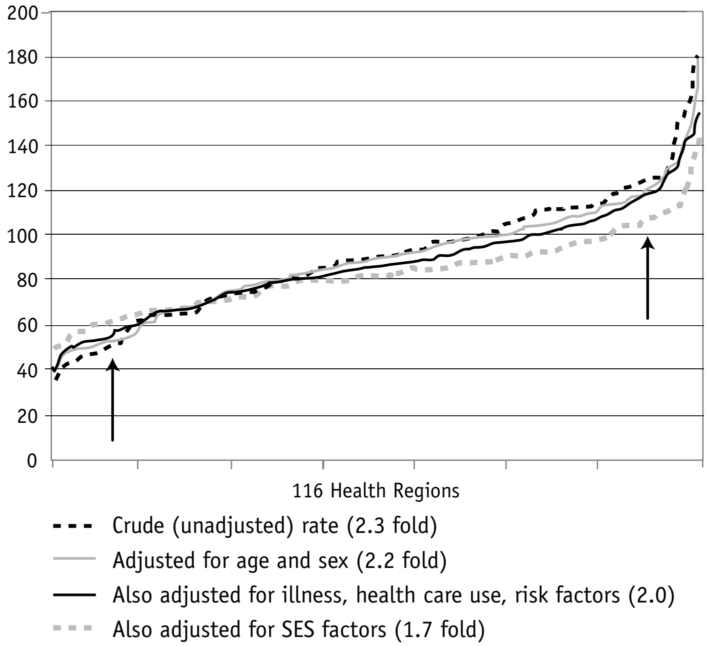
As an overall indication of the magnitude of these small area variations, Chart 1 shows the rates of hospitalization across Canada's larger health regions.[5] The crude hospitalization rates (the steepest line) vary dramatically from a low of less than 40 visits per thousand population to over 180 – more than a four-fold difference. With hospital costs at about 4 per cent of GDP, the resource implications of understanding these variations should be evident.

To be conservative, and to ensure the results are robust, the arrows in this chart point to the 10th and the 90th percentiles of the health regions ranked by their rates of hospitalization. The 90th percentile region had a crude rate (steepest line) of 2.3 times as many hospitalizations as the 10th percentile.

Of course, experienced health services analysts will immediately point out that some of the high rate regions likely had an older or more female population, where both of these factors could account for a higher hospitalization rate. So the results adjusted for age and sex are shown by the next steepest line. The 90 -10 ratio of these age/sex-adjusted hospitalization rates drops marginally to 2.2.

5 At the time of the analysis, there were just over 130 health regions in Canada.

Chart 1
Hospitalizations per 1,000 Population Across 116 Canadian Health Regions



Still, some of these regions might have more individuals suffering from chronic disease, or they might have more smokers and obese individuals. Indeed, one might conjecture that some of these regions have physicians who are more inclined to admit their patients to hospitals. Unfortunately, the routinely collected data have none of these obviously important covariates. The "culture" of medicine, at least as still incorporated (encrusted?) in contemporary health information systems, is dominated by a narrow bio-medical perspective, notwithstanding research and analysis going back at least to the Lalonde Report (1974) that "there is more to health than health care."

Fortunately, Statistics Canada's Canadian Community Health Survey (CCHS) does have these data, and the overwhelming majority of survey respondents consented to having their data linked to their health care records. This has been done in the case of hospital visits. The result of linking the CCHS data at the individual record level to the hospitalization (discharge abstract) data described so far, and then adjusting for the mixture of factors just mentioned – including chronic disease prevalence, and risk factors including smoking and obesity, is shown by the next steepest line. These statistical adjustments reduce the 90th to 10th percentile regional hospitalization ratio a bit more, down to 2.0.

Finally, there are further, albeit more distal, socio-economic health determinants which might also account for some of these large differences in hospitalization rates across health regions in Canada. To account for this, the least steep line incorporates further statistical adjustments for these socioeconomic status (SES) factors – including income, education, race, and immigration status. The 90 – 10 hospitalization ratio now declines further from 2.0 to 1.7.

Interestingly, this last adjustment has about the same impact as the first two sets of adjustments combined – age and sex, and illness, risk factors and other health care use. Compared to the early 1990s when the idea of the social determinants of health having a major role in understanding why some people are healthy and others not[6] was still a contested academic curiosum, it is now widely accepted. The results in this graph clearly reinforce this substantive point. But after almost two decades of discussion and effort, it still has not penetrated to the structure of Canada's health information to any substantial degree. Chart 1 required major, special efforts, and these kinds of data are not routinely produced.

Moreover, these statistical adjustments do not make the wide variations in hospitalization rates go away. Indeed, we may have over-adjusted. So there must be an important range of other factors – presently unknown – driving such large variations in utilization of one of the most expensive parts of Canada's health care sector. Similar analysis in the United States using their national Medicare data clearly indicated that the observed 3:1 small area variations indicated major inefficiencies, and these results have been central to their recent health care reforms (Fisher *et al.*, 2003; Gawande, 2009; Gawande *et al.*, 2009).

6 This is the title of the award-winning book (Evans, Barer and Marmor, 1994) which was a milestone in broadening the appreciation of the importance of social determinants of health.

A recent analysis at Statistics Canada has been able to push the CCORT (2006) and McGrail *et al.* (2011) type small area analyses considerably further, albeit with major effort, and not for all provinces (Johansen *et al.*, 2009). It is one thing, as in the CCORT atlas, to show the small area variations in risk factors on one map, the rates of AMI on another, and AMI mortality on yet another. However, there are many factors interacting in a more complicated way, so that ideally a much more sophisticated analysis is required. In particular, the analysis ideally occurs at the level of individual patients rather than small geographic areas, and the data should be longitudinal, so the patient can be tracked from risk factors to AMI to hospitalization and treatment to subsequent health status and longevity.

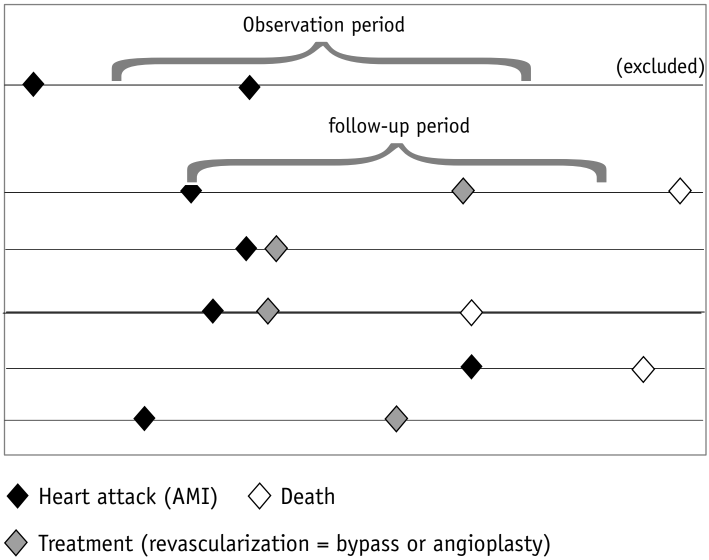
In other words, the ideal information base to disentangle the complex factors that could account for otherwise unexplained small area variations in health care would be a large set of actual patient trajectories covering not only their treatments but also their health status both before and after the treatment. Again, ideally, the health care sector should only be providing treatments where health status after the treatment is most likely to be better than before – though of course the analysis is more complex than this with chronic diseases where health care is needed over an extended period of time.

Unfortunately, the data just described do not exist. But a partial data set of this sort has been assembled (again with considerable effort) and used to examine, at the level of individual patients, the relationships among the major kind of treatment for AMIs, namely revascularization (coronary artery bypass graft (CABG) and percutaneous trans-luminal coronary angiography (PTCA)), and mortality. Specifically, only hospitalization data have been used, but for each in-patient who was diagnosed on admission with an AMI, their hospitalizations have been linked longitudinally.

Chart 2 provides a quick sketch of how the results are put together. Each horizontal line represents a highly stylized view of one patient's trajectory of hospitalizations, showing three kinds of events – black for an AMI, grey for a revascularization, and white for death.

In order to focus on the subset of individuals for whom the hospital admission was a first AMI, the linked data were examined for 12 months prior to the index AMI to see if they had been previously admitted with another earlier

Chart 2
Hypothetical Event History Data for AMI and Revascularization

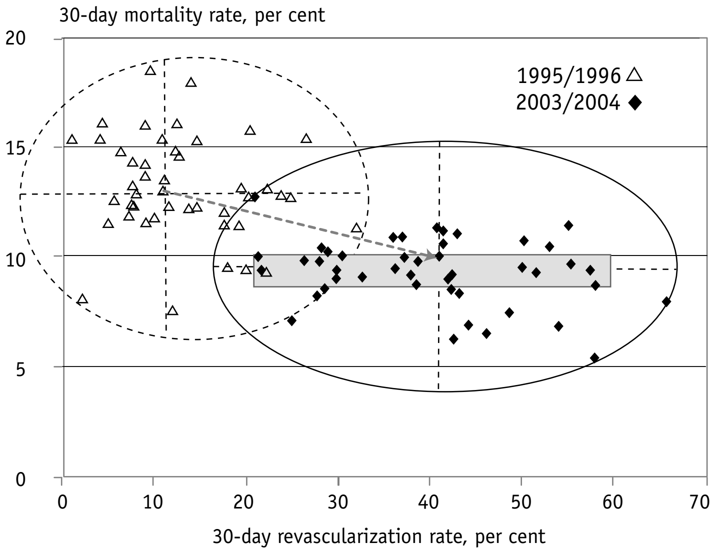


AMI. The top line in Chart 2 illustrates the trajectory of an individual who was rejected from the analysis for just this reason.[7] The second line represents an individual who was revascularized, and survived for the length of the follow-up period, but not much longer. The other lines give examples of other patterns.

With these kinds of longitudinally-linked patient-level trajectories of hospitalizations, it is possible to begin examining small area treatment variations in Canada in a far more sophisticated manner. What the Johansen *et al.* (2009) analysis did was first assemble all of the patient trajectories into groups by sub-provincial health region, and then extract two basic statistics. The first was the proportion of all the health regions' incoming AMI patients who were treated by revascularization. The second statistic was the proportion who died in hos-

7 Of course, one year as a "wash out" period to ensure that the index AMI was indeed a first AMI is too short in reality. But the ability to assemble linked hospitalization data in this way remains severely constrained, and this was the best that was feasible.

Chart 3
30-day revascularization and 30-day mortality rates of acute myocardial infraction patients, health regions with at least 100,000 population, seven provinces, 1995/1996 and 2003/2004



Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta.
Note: Lines cross at median values of mortality and revascularization within each year.
Source: 1995/1996 and 2003/2004 Health Person-Oriented Information Database, Statistics Canada.

pital within 30 days of the AMI, including cases who were discharged and then re-admitted.

Chart 3 "simply" shows a scatter plot of the results. Each dot in this graph represents one large health region. (Only health regions with populations over 100,000 were included to ensure sufficient numbers for statistical analysis). Each region's revascularization rate for AMI cases is plotted along the horizontal axis, and its 30 day mortality rate along the vertical axis. (Note that the vertical axis scale is over twice as large as horizontal axis scale, to make variations in mortality rates clearer visually.) The hollow triangles show the situation in 1995/6, while the black diamonds are 8 years later.

Overall, during this eight year period, there has been a dramatic increase in treatment rates – more than a tripling from an average of 12.8 per cent in

1995/96 to 39.8 per cent in 2003/4, an increase of 27 percentage points. The reasons for this dramatic growth are not entirely clear, but are likely due in part to pressure from cardiologists who argued that increased budgets for the less invasive PTCA would substitute for open heart surgery (CABGs) and thereby reduce costs (which did not happen). There was also evidence of efficacy of PTCA from clinical trials, though ignoring powerful evidence of overuse of this procedure in the United States.[8] And there was broad public support for increased capacity for this "miracle of modern medicine." We might therefore expect a similarly dramatic improvement in outcomes. And we do see *some* improvement in survival. But compared to the increase in treatments, the reduction in mortality is more modest, about a 3.6 percentage point drop – from 13.2 to 9.4 per cent.

Even more importantly, the scatter of dots shows a very wide variation among health regions. In 2003/4, a number of health regions had 30 day mortality rates in the 8-10 per cent range, yet treatment rates varied about *threefold*, from around 20 per cent to about 60 per cent (highlighted by the shaded rectangle).

If these health regions were manufacturing firms, and their input costs varied by a factor of three for what appears to be the same quality of output, almost all would be bankrupt and out of business in short order.

At least as importantly, the impression given by the scatter of points in Chart 3 is that health care practice – i.e. the treatment decisions of cardiologists, and/or the guidance offered by hospital or health region managers – is all over the place. If revascularization were really an effective treatment, as practiced across most of Canada, then within each oval, the points would cluster tightly around a line sloping down and to the right. Instead, there is no obvious trend within each oval for higher treatment rates to be associated with lower mortality rates. To put it starkly (and notwithstanding various clinical trials arguing for the efficacy of rapid revascularization for AMI cases), why should one health region do three times as many cardiac procedures than another if there is no observable difference in mortality outcomes?

8 See Boden *et al.* (2007) for evidence that the United States had been conducting 800,000 unnecessary PTCAs per year.

Of course, there are some important caveats, and herein lie many challenges. No account has been taken of other clinical factors – for example the extent and speed of thrombolysis (clot-busting drugs), or variations in the prevalence of conventional AMI risk factors like hypertension, obesity and smoking status. Nor has any account been taken of the broader determinants of health – the possibility that the higher AMI mortality rate regions are poorer, and thus subject to higher mortality rates more generally.

Also, the intended benefits of revascularization are much more than a reduction in 30 day mortality. Revascularization after AMI is intended not only to prevent immediate death, but also to improve longer term survival and quality of life, especially reduction of anginal pain. It has been possible for a smaller sub-set of provinces to link the hospitalization records to death certificates, so that for AMI cases in these provinces, a one year rather than only a 30-day mortality follow-up was also examined, as were adjustments for co-morbidity. For this smaller group of provinces, the results were essentially the same.

But the fundamental issue remains that the data are just not generally available – even something as elementary as being able to link death certificates, with cause of death information, to hospitalization records. It should be obvious that one of the most straightforward indicators of health care performance is whether or not the patient was alive 6 or 12 months after a surgical procedure. But Canadian health care is substantially driven by specialists who treat body parts rather than whole people, and by organizations which typically lose track of their clients once they go out the door (both vertical and horizontal). While there are obvious benefits from such specialization, there are also disadvantages. In particular, a "whole patient" or whole person view is lost. The health care non-system is blind to patients' care trajectories – it pays no attention to the sequence of health care encounters, how they interact, and their cumulative impact on the health of Canadians. There is no choice: these data are not routinely available to health care providers.[9]

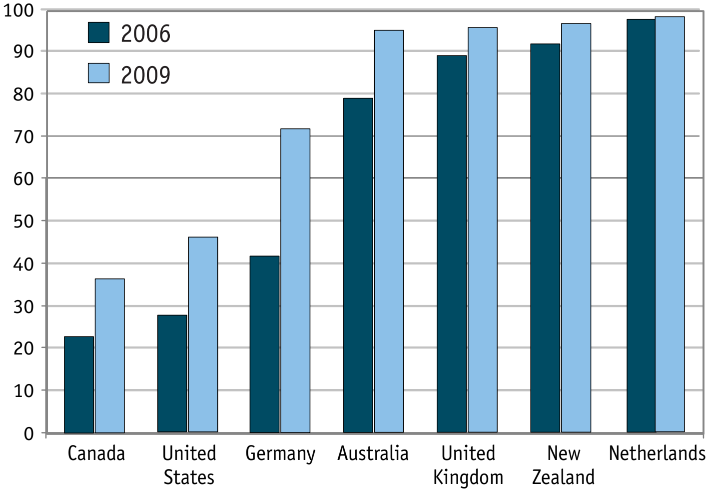
9 Of course, there are important exceptions. For example, some local cancer care systems do track their patients through a range of different cancer treatment and related encounters. And your personal physician has a record of his or her encounters with you. But they do not generally have records of all your hospitalizations, your visits to other doctors, nor all your prescriptions.

Figure 1
The "Wall of Ignorance"

Ideally, health care is managed with the basic principle of allocating resources to those activities which are most cost-effective, those which give the largest improvements in population health per dollar. Unfortunately, in this $200 billion sector of Canada's economy (CIHI, 2010), the information needed to tell whether or not this is happening is absent. The photo in Figure 1 was taken a few years ago in a neighbouring GP's office. While this "paper" method of storing patient data is adequate (in some ways only barely) for one-on-one patient care, it is a "wall of ignorance"[10] from the perspective of any kind of basic, let alone sophisticated, patient care (e.g. following up on screening tests, including charts from hospitalizations, complete listings of drugs especially prescriptions from other doctors) and for health system manage-

10 I am indebted to Dennis Psutka, former ADM in the Ontario Ministry of Health, for this phrase.

Chart 4
Physicians Using Electronic Medical Records
(per cent)



ment more generally. Chart 4[11] shows how far behind Canada is compared to other advanced economies with regard to electronic medical records (EMR).

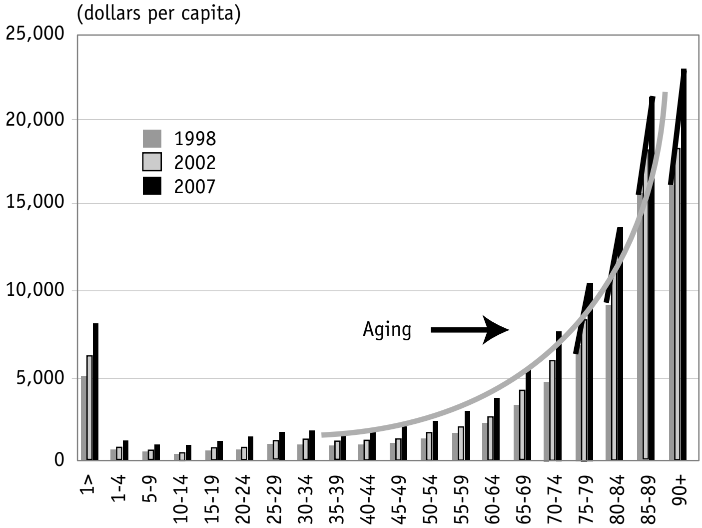
In sum, with Chart 3 we see a very large amount of noxious smoke, but we still have no idea where the fire is. And the state of Canada's health information shown in Figure 1 and Chart 4 indicates the seriousness of our lack of the information base needed to understand the location of the fire.

Why Do Health Care Costs Increase

Health care has been almost continually at or near the top of the agenda in public opinion polling for decades. This is evidenced most recently by the election platforms of all major federal political parties in the 2011 federal election, where as soon as the question was mentioned, they all almost immediately undertook to continue increasing federal fiscal transfers to the provinces at an annual rate of 6 per cent after the Canada Health Transfer expires in 2014

11 This chart was taken from Rozenblum *et al.* (2011); the original Commonwealth Fund results can be accessed at http://www.commonwealthfund.org/Topics/International-Health-Policy.aspx.

Chart 5
Provincial-Territorial Government Health Expenditures by Age Group



(though the duration of this commitment remains unclear). The basic reason, not unreasonably, is that Canadians treasure our universal health care system, and want strongly to protect it and free access to medically necessary care. Correspondingly, politicians of all stripes want to avoid being seen as limiting access by reigning in health care costs.

At the same time, governments are increasingly concerned about the so-called "gray tsunami" – the specter of even more rapidly rising health care costs as aging baby boomers move into the age ranges where their health care costs begin escalating dramatically. This specter was recently amply illustrated in the federal Parliamentary Budget Office's (PBO) 2010 Fiscal Sustainability Report (Askari *et al.*, 2010). Chart 5 is taken directly from their report.

Interestingly, this graph from the PBO shows not only provincial and territorial health care expenditures by 5 year age group (produced originally by CIHI), but also changes over the period from 1998 to 2007. The public discussion, as well as the commentary in the PBO report itself, focuses on the trend highlighted by the added curved line. In the light of the aging baby boomers, this pattern of increasing health care costs with age is indeed very scary. But the PBO report spent virtually no time discussing the much more steeply sloping added straight lines.[12] These lines show the growth in per capita health care costs *within* each of the 5 year age groups over the 1998 to 2007 period.[13]

It is important to emphasize that the increases highlighted by the short straight added lines are over only a 9 year period, not the decades involved in the very slow tsunami of population aging.[14] This is about the same time interval as that covered in Chart 3 above, which showed a dramatic increase in the rate of revascularization after AMI (a tripling). But in that case, the data suggested that a high proportion of the additional expenditures devoted to treating heart attacks might not be of any value in terms of improving the population's health. Could this be a much more general phenomenon? Could it be that the broader per capita cost increases shown by the PBO/CIHI graph, while providing more revenue to hospitals and more income to doctors and nurses, may have had much more limited benefits in terms of health outcomes?[15] The sad fact is that there is absolutely no way to tell whether these dramatic increases in health care spending are actually buying better health outcomes. There is no broad-based concerted effort across Canada to push the health care sector to "work smarter" rather than to "work harder."

What Should Be Done?

The results on the treatment of AMIs shown in Chart 3 are stark evidence of a health care *non*-system at work. These data were very hard to assemble in the

12 PBO in their projections referred to these age-specific expenditure trends as the "enrichment factor," and took them as given, without investing any effort to discuss or understand them.

13 In John Richards' chapter of this volume (Richards, 2011), he shows a similar graph. Unfortunately, he fails to probe the fact as just noted that most of the recent cost increases have virtually nothing to do with population aging.

14 Examination of the original CIHI data that were the source of the PBO graph indicates that the PBO failed to deflate the cost numbers. After deflation, the per capita cost increases from 1998 to 2008 (the most recent year available now) within each 5 year age group are not as large, but they are still substantial.

15 One hypothesis could be related to the fact that most health care spending occurs in the last months of life. In turn, with increasing life expectancy, more people will spend their last year of life in a higher age group. However, the rate of increase in life expectancy has been on the order of one year every five. This rate is too slow to account for the pattern shown in the chart.

first place; and they are seriously incomplete. As things stand, there is limited prospects that, in coming years, Canada's health information and knowledge generation systems will improve sufficiently so that the sources of these dramatic variations can be understood. Nor is there reason for optimism that the evidentiary base to understand the trends highlighted by the short steep lines in Chart 5 will improve significantly.

Notwithstanding the continuing escalation of health care costs, there is no concerted effort amongst the managers of health care in Canada, up to and including Ministers and Deputy Ministers of Health, or their colleagues in Ministries of Finance, to try to understand the extent to which these results indicate major system inefficiency.[16] There are similar lacunae in the efforts being devoted to understanding which interventions are most likely to be cost-effective in improving the health of Canadians.[17]

Canada's health care industry, in this regard, stands in stark contrast to other sectors of the economy. Leading firms in forestry, mining and automobile manufacturing, for example, know their "cost functions" – they know their total spending on labour, materials, energy and other inputs. They also have an engineering level of detailed understanding of the prices and quantities required of their many inputs, and their benefits when used in various combinations – their techniques of production in economic jargon. This knowledge is, of course, not free; substantial investments are required, for example, to know the incremental costs of different kinds of mineral extraction, and further and equally importantly, their potential contributions to bottom line profitability. In many cases, this knowledge is purchased from specialized consulting engineering firms, the very existence of which emphasizes the importance of this kind of knowledge in these other sectors.

16 Of course, all senior managers of Canada's health care sector would like such information. The key point here is that efforts to do so, on the scale needed, are not apparent.

17 There are some notable exceptions, for example a number of hospitals have associated research institutes, such as the Ottawa Hospital Research Institute (OHRI), devoted both to generating new evidence and bringing existing evidence such as that assembled by the Cochrane Collaboration (http://www.cochrane.org/) to bear on health care practice of the Ottawa Hospital with which it is associated.

At the same time, successful firms in these other sectors devote major efforts to understanding the needs and wants of their customers, and to quality control. Of course, there are major differences between the market for cars and for health care. With regard to needs and wants, consumers generally have much better knowledge of what they are buying in the case of a car than health care. But compared to the knowledge asymmetry between car sales staff and prospective car purchasers, health care providers typically have far more knowledge – though this disparity is being reduced by the widespread availability of health information on the internet, at least for those with the propensity and ability to understand it. At the same time, though, the provider has an incentive to find more "need" for his or her services. This differential knowledge asymmetry, far larger in health care than for most other goods and services, is one of the principal arguments for publicly provided health care. But this in no way obviates the needs for governments, acting on behalf of their citizens when providing them health care services, to engage in extensive and sophisticated assessments of their needs.

There is a corresponding analogy with regard to quality control. Producers in other sectors like manufacturing have understood its importance for decades, indeed since World War II and the seminal work of Deming (1950, also Shewhart and Deming, 1939), leading to the growth of statistical process quality control methodologies. Better producers regularly sample their products, subject them to quality testing, and have clear methods for tracking which steps in the production process are the sources of any observed defects. But even though the importance of these ideas has been understood for decades, and there are well established university programs in operations research and statistics that train individuals to do these kinds of quality control, these ideas are only recently beginning to be taken up in the health care sector, for example with the creation of a number of health quality councils.[18] Still, even these organizations

18 For example see the health quality councils in Saskatchewan (http://www.hqc.sk.ca), Ontario (http://www.ohqc.ca/en/strategic_plan.php), Alberta (http://www.hqca.ca/), Quebec (http://www.csbe.gouv.qc.ca/index.php?id=63&L=2), New Brunswick (http://www.nbhc.ca/index.cfm) and British Columbia (http://www.bcpsqc.ca/), the Canadian Patient Safety Institute (http://www.patientsafetyinstitute.ca/English/Pages/default.aspx) and the Health Council of Canada (http://www.healthcouncilcanada.ca/splash.htm).

are having difficulty due to the paucity of appropriate information, as indicated by the following statement on the Saskatchewan Health Quality Council's web site (home page):

> While there are a lot of data available on discrete encounters with the health system, there is currently no way to answer the following questions: How does a person with a health problem travel through the health care system? Which services do they access and in what order? What is the relationship between patient characteristics (age, sex, etc.), the services they are using, and health outcomes? Answering these questions will allow the health system to better understand how episodes of care are related, track changes in the use health services over time, and more accurately determine the cost of treating a condition.

These comparisons between health care and leading firms in the private sector are in no way a suggestion that more aspects of health care should be privatized. There are fundamental reasons why it should remain publicly provided, including the information asymmetry problem just noted, the fundamental importance of equal access to health care services in terms of social equity, and (certainly compared to the major counter-example, the United States) the better capacity to control costs. Rather, the point of these comparisons is to emphasize that methodologies for aligning what services are produced with what is needed in the most cost effective manner, and for rigorous quality control, are well developed and widely deployed in other parts of the economy. The outstanding question is why the health care sector has been so immune to learning from these other experiences.

There are several explanations. One is like the proverbial frog in the pot of water. If the temperature is increased gradually, the animal dies before it tries to jump out of the pot. In the case of health care, costs have been increasing for decades (albeit with a significant and controversial downward movement in the mid-1990s), but only gradually. As a result, policy attention has focused more on "muddling through" than on more fundamental responses.

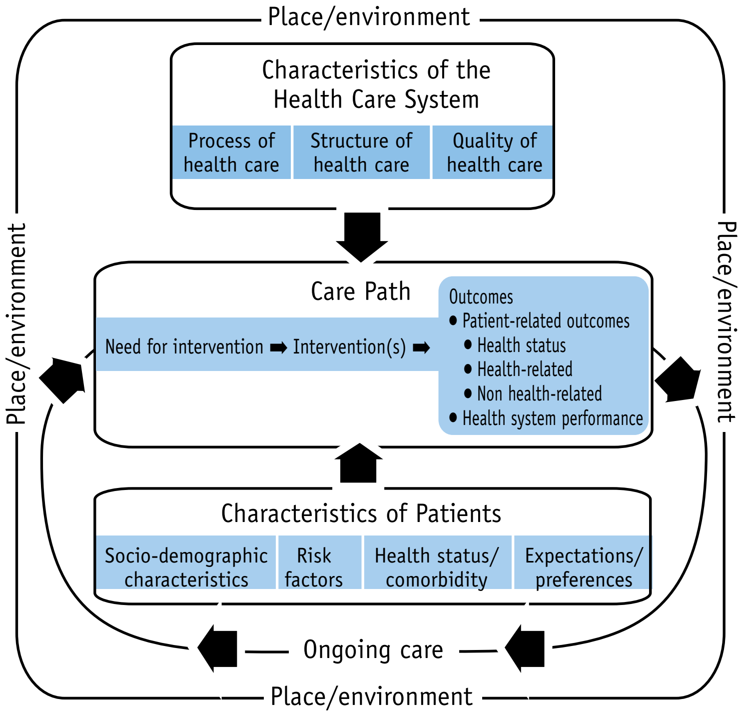
Another explanation is more sociological. Individuals who self-select into health care occupations tend to be preoccupied with one-on-one caring interactions, and not with broader structural issues. They also tend to be less quantitatively inclined. Doctors, in particular, are motivated to save lives, and often with a "damn the costs" attitude. These kinds of orientations are also evident in hospitals, ministries of health, and other health care organizations which naturally recruit many of their managers from these pools.

Yet another explanation is the powerful positions held by doctors throughout the health care sector. They are used to being authority figures. They have been through a grueling training process in medical school where they have had to master huge volumes of knowledge. Practicing doctors have passed these tests, and many do not like to be told what to do. Modern health information systems, however, do have the capacity to monitor physician performance in unprecedented ways. These systems can pop up reminders or alerts that something a physician is about to do or prescribe is wrong. They can also give them statistics about their practice patterns comparing them (perhaps unfavourably) to their peers when they have little training or interest in quantitative analysis. There are, as a result, very understandable reasons why the medical profession is resistant to the kinds of "modern management" that have become standard in other sectors of the economy.[19]

Yet the absence of modern management of health care is the most fundamental problem. At a technical level, what needs to be done is well-known. The key ingredients in general are the collection of the right kinds of data, analysis of these data, and feedback to managers at all levels of the health care enterprise, as well as clinicians and patients. In short, not only is a major part of health care at the patient level itself a knowledge process – collecting the patient's history, accessing prior accumulated knowledge, forming a diagnosis and deciding on a course of action – but addressing the most fundamental problems in the broader health care enterprise also requires well-designed and

19 We are tempted to use the term "scientific management" with its implications of managing with a view toward economic efficiency and the application of analysis, synthesis, logic, rationality, empiricism, efficiency and elimination of waste, standardization of best practices, disdain for tradition preserved merely for its own sake or merely to protect the social status of particular workers with particular skill sets. However, "scientific management" is also associated with Taylorism, which has unfortunate connotations of deskilling workers and dehumanising workers and the workplace. (Both preceding sentences borrow from the Wikipedia definition.) To avoid these latter connotations, we use the phrase "modern management."

Figure 2
An Analytical Framework of the Policy and Non-policy Influences on Healthcare System Outcomes



substantial information systems and knowledge generation and diffusion processes.

The main elements of the latter kind of information framework are shown in Figure 2 (Statistics Canada and CIHI, 2008). As noted in this Statistics Canada/CIHI study on health outcomes, it builds first on Donabedian's (1966, 1988) *structure – process – outcome* framework wherein the quality of health care is assessed in terms of health improvements that can be attributed to episodes of care. It also builds on Wagner's (1998) discussion of best approaches to chronic disease management, as well as the conceptualization of population health to include a much broader range of determinants than simply the biomedical (Evans *et al.*, 1994)

The core of this diagram is the care path, the central portion where individuals have a health problem, are treated with some kind of intervention, and this intervention in turn affects their health status as well as other aspects of their lives. These include other health-related results such as biomarkers, which are not really health outcomes in any sense meaningful to patients, and non-health outcomes such as satisfaction with the way the health care was delivered, and impacts on their work lives. As well, outcomes can be assessed at an overall health system level, for example by indicators such as infant mortality rates.

In turn, the most critical requirement is routine and repeated measures of patients' health status. There is no way to tell whether or not an intervention had a beneficial impact without knowing whether the individual's health status after the intervention was better than before. This notion is so elementary that it seems trivially obvious. Indeed, it was emphasized over a century ago by A.E. Codman with his "end results" cards (Berwick, 1989). Unfortunately, however, there is no locus for developing this kind of measurement, let alone broadening consensus on its need, anywhere in Canada.

In contrast, the United Kingdom's National Institute for Health and Clinical Excellence (NICE, 2008) has mandated this approach in its guidance on technology appraisal, which is fundamental to its work. The "fundamental principles" of NICE include,

> The Institute takes into account the clinical and cost effectiveness of a technology, along with other specified considerations, when issuing guidance to the NHS (National Health Service). (para 1.4.1)
>
> In general, technologies can be considered clinically effective if, in normal clinical practice, they confer an overall health benefit, taking account of any harmful effects, when compared with relevant alternative treatments. Technologies can be considered to be cost effective if their health benefits are greater than the opportunity costs measured in terms of the health benefits associated with programmes that may be displaced to fund the new technology. In other words, the general consequences for the wider group of patients in the NHS are considered alongside the effects for those patients

> who may directly benefit from the technology of interest. (paras 1.4.2)

NICE includes in "health technologies" pharmaceuticals, medical devices, diagnostic techniques, surgical procedures, other therapeutic technologies, and health promotion activities (para 1.2.1). The appraisals undertaken by NICE are significant because "The Secretary of State for Health has directed that the NHS provides funding and resources for technologies that have been recommended through the NICE technology appraisals programme…" (para 1.5.1).

Further, in their section on "Measuring and valuing health effects," the NICE document states, "For cost-effectiveness analysis, the value of health effects should be expressed in terms of QALYs (quality adjusted life years) for the appropriate time horizon. For the reference case, the measurement of changes in HRQL (health-related quality of life) should be reported directly from patients and the value of changes in patients' HRQL (that is, utilities) should be based on public preferences using a choice-based method." (para 5.4.1).

In the United States there have been important reports from the Institute of Medicine (Gold *et al.*, 1996) advocating the kind of approach adopted by NICE in the United Kingdom. The recent Obama health care reform package includes billions of dollars for health care cost-effectiveness evaluations, following in part on the kind of evidence like that in Chart 3 above produced by the Dartmouth group (Fisher *et al.* 2003; Gawande, 2009; Gawande *et al.*, 2009).

The Health Council of Canada (2009) has raised similar concerns in their report, "Value for Money: Making Canadian Health Care Stronger" where they ask:

> Are we using our resources well to produce services? And more importantly, are we using services well to foster a healthy population? We need better information to answer these questions. Assessing value for money requires knowing what care is effective, for whom, and under what circumstances; and finding out whether that care actually has the desired effects. (p. 9)

Canadian researchers (e.g. Torrance, 1976; Torrance and Feeney, 1989) have been world leaders in the development of the kinds of QALY measures cited by the NICE document, and Statistics Canada has been a leader in including such measures in its health surveys. The Statistics Canada-CIHI study, from which Figure 2 has been drawn, goes on to push available data as far as possible to begin to answer these kinds of questions in the case of depression and diabetes treatments, though with limited success. But aside from these few examples, there has been little or no interest in such approaches more generally in Canada's health care sector.

Of course, adequate data on health status using some kind of QALY measure, while essential, are not the whole of the story. As indicated in Figure 2, there are many other factors affecting health status and the way it changes over time. For example, the results in Chart 3 above on AMI treatments and outcomes, at least to the very limited extent measured in terms of 30 day mortality, could be due to small area variations in smoking or obesity rates (i.e. "patient characteristics" in the bottom portion of Figure 2). If these complementary data were also available, it would be possible to adjust statistically for their contributions to observed patterns of change in health status as done in Chart 1, and thereby at least approximate the contribution that can be attributed to the health care intervention. But again, such data are not available, and the prospects for their creation remain dim.

Where is the Problem?

If important approaches to containing the growth in Canada's health care costs and improving the health of the population are so obvious, why is almost nothing being done? Or, if things are being done, why is progress so painfully slow? Some of the reasons have already been outlined – the fact that cost pressures have been growing only gradually, so it is typically easier to try to "muddle through" than take more dramatic action. There is also a bias against quantitative analysis and rigorous evaluation in many parts of the health care sector, and the self-interests (both pecuniary and in terms of autonomy) of many providers.

Another is a sort of chicken and egg question. It is very difficult to rally public opinion, and hence political will, to make difficult choices if there is no apparent pressing issue. Canadians are generally willing to pay higher taxes in order to be assured that high quality health care will be accessible when they need it. As a result, gradual increases in health care costs will generally be accepted. The information and knowledge to show major inefficiencies in health care generally does not exist. And without the evidence of problems, the investments in improving health information and related analyses never achieve a very high priority. Hopefully, results like those in Chart 3 above will diffuse and strengthen the case that there really are potentially serious problems.

Another major factor is the concern for protecting personal privacy. There is no question that the kinds of data and data linkages needed for rigorous and systematic health outcome analysis are very sensitive. But at the same time, Canada and the provinces are suffering under a "privacy chill." Concerns about privacy protection on the part of many data custodians are excessive. In part, this is due to a basic asymmetry. A data custodian in a provincial health ministry has far more to lose if allowing access to patient record data results in some sort of privacy breach. If, on the other hand, the data are made accessible only to *bona fide* analysts – either in a secure university setting or under the stringent auspices of some other agency like Statistics Canada or a provincial health quality council – and important benefits are then derived from analysis of those data, the data custodian receives virtually no benefit to his or her career. There is clearly a trade-off here between the competing goods of protecting privacy and advancing knowledge of "what works" in the health care sector. While there is not extensive evidence, there are indications that the general public would prefer more use of their personal data if it would improve the quality and cost-effectiveness of their health care.[20]

Electronic health and medical records (EHRs and EMRs) are of potentially major benefit for Canada's health information and knowledge. The federal government has provided over $1.5 billion to Health Infoway to work with

20 As a related example, when Statistics Canada held focus groups to explore whether parents would be willing to allow the Canadian Health Measures Survey to collect bio-markers from their children, the initial reaction was quite negative. But once it was pointed out to parents that these data collections were essential to construct information like growth curves, the attitudes changed dramatically.

provincial, territorial and other partners to accelerate the deployment of such information systems. The provinces and territories are making similarly large investments.

However, until the past few years, Infoway has been reluctant to talk of EHRs in anything other than the context of direct improvements in patient care. The recent television ads, showing patients arriving in the emergency department with or without the EHR information on their allergies and prescriptions, provide a vivid example of these kinds of direct patient-specific benefits of EHRs. Yet it is likely that EHRs will provide even greater benefits in supporting health system evaluation – not least in providing the basis for appraisals of the cost-effectiveness of health interventions (or "technologies" in the terminology of NICE), and monitoring whether the interventions being provided are in fact appropriate. Unfortunately, however, these latter "health system" uses of EHRs have not been a visible priority.

Moreover, a careful analysis based on interviews with a number of stakeholders across Canada concluded that "lack of an e-health policy, inadequate involvement of clinicians, failure to establish a business case for using electronic health records, a focus on national rather than regional interoperability, and inflexibility in approach were seen as barriers to adoption of the (e-health) plan." (Rozenblum *et al.*, 2010) Recent scandals in the procurement of EHR software have also been a major setback. And it may turn out that the EHR software being deployed has been managed with so little vision that the kinds of information needs described above will not be achievable for yet another decade.

Vision of a Coherent Health Information System

As noted at the outset, a large portion of the actual patient-level work of providing health care is intrinsically knowledge work – from gathering patient histories to prescribing courses of action. Health care is a knowledge-intensive industry. But it is nowhere near as knowledge and information-intensive as it should be. While the costs of this limitation are diffuse and difficult to identify – not least because of the catch-22 that the information needed to do so generally does not exist, they are almost certainly very substantial, both in terms of excessive expenditure on inappropriate kinds of health care, and foregone opportunities to improve Canadians' health via more cost effective health interventions. This reality is clearly suggested by the unsettling results on the treatment of heart attacks shown in Chart 3.

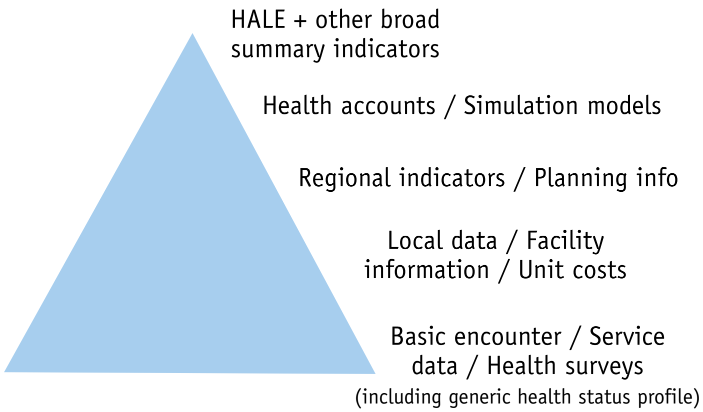
Government policy has historically been associated with the basic policy levers of raising revenues through taxation, spending money on programs and cash transfers, and promulgating regulations ranging from the criminal code to contract law. But we are now well into the "information age" and the "knowledge economy," so it is long past time for government policy to encompass more strongly and explicitly the social and economic roles of information. This is not to say that the government is not already engaged – from copyright law to regulation of internet providers to Canadian cultural content. But as in each of these areas, government policy is far behind; and it is moving far more slowly than information technology itself. The institutional structures, policy leadership, and even the basic skills in the relevant government agencies to mobilize health information via appropriate knowledge generation and diffusion are similarly weak.

What is needed, in addition to concrete policies along the lines sketched above, is an overall coherent vision for Canada's health information system. Figure 3 illustrates such a vision (Wolfson and Alvarez, 2002).

As we noted almost a decade ago, the pyramid shape is intended to convey the hierarchical character of such an information system. At the base is a combination of basic administrative and sample survey data. The administrative data should encompass the full range of individuals' health system encounters. Ideally, these data will be derived from electronic health or patient records, accessible on a need-to-know basis, not only for immediate patient care, but also (in anonymised but <u>not</u> aggregated form) for health system management and "population" or "health system" uses. The foundational administrative data should be relevant to physicians and the myriad of other health (and social) care providers at ground level (indeed to patients as well), otherwise there will be little incentive for them to generate high quality data.

The surveys should cover a broad range of items going well beyond clinical disease to gather information on health and socioeconomic status, and a range of risk factors. The surveys should include a generic measure of health status

Figure 3
A Vision for Health Information



that will support the calculation of QALYs (quality-adjusted life years) that are essential for and central to cost-effectiveness and a range of health system evaluation methods. And to meet these fundamental needs, the survey data must be linkable and linked to the individual patient care trajectories derived from the electronic health records.

The system should have a bottom up aspect – so data can be rolled up to local, regional, provincial, and then national levels. At the apex of the pyramid, the information system should offer a valid and salient but parsimonious set of top level summary indicators for the health system as a whole, particularly a basic measure of population health, and its distribution, as well as the costs and resources used in the health system. An international consensus has emerged that HALE (health-adjusted life expectancy) is the best concept, and Canada has been a leader in producing estimates.[21] Proper estimates of HALE also require the QALY measures at the foundation.

The information system should also have a top down aspect: overall or summary indicators cannot exist in splendid isolation; they cannot risk being disconnected from practical policy choices. Given the underlying richness of

21 McIntosh *et al.* (2009); note that virtually identical concepts are sometimes called by other names, such as HLE for Healthy Life Expectancy (NCHS, 2001), HYE for Healthy Years Equivalent (Berger *et al.*, 2003; Mehrez and Gafni, 1989) and DALY for Disability-Adjusted Life Years (WHO, no date)

detail in the linked longitudinal administrative and survey data that form the foundation of the information system pyramid, the capability to allow interested parties to "drill down" to understand the "why" of various trends or patterns, is also essential. And there must be a capacity, somewhere in the middle of the pyramid, to join the resources devoted to interventions with their outcomes. The information system has to support continuous monitoring and feedback on results achieved, as well as research and analysis to determine how well various activities are "working."

Novel for the health care sector, but standard in the economic portfolios of government, are simulation models. No federal finance minister for almost half a century has brought down a budget without staff running simulations of the impacts of proposed tax changes by family type, income and province. The information system pyramid vision in Figure 3 clearly shows not only the importance of this kind of analytical and foresight capability, but also the fact that it should be deeply integrated with the rest of the information system.

Actions

Canada has all the prerequisites to move toward one of the best health care systems in the world. These include excellence in clinical practice, world class health researchers, a strongly supportive public, and among the best statistical systems in the world. It is therefore a major puzzle why the adoption and penetration of modern management of health care in Canada remains largely a dream and not a reality. The vision shown in Figure 3 is almost a decade old, as is the founding of Health Infoway. It is truly unfortunate how little progress has actually been made.

A major opportunity was squandered with the original 2004 First Ministers' Health Accord. While the federal government provided $40 billion to the provinces, it received almost nothing in return. The Accord did include language on "accountability," and there were agreed requirements for publishing a suite of health indicators to support holding the provinces accountable – though not to the federal government, but to their own citizens. Earlier drafts of the Accord included a much stronger role for the Health Council of Canada than eventually emerged. But the provinces strongly resisted the "accountability agenda," and succeeded in severely limiting the role of the Health Council before it was created. With weakening federal government interest in the indicator aspect of the Accord, the provinces have essentially abandoned this activity in recent years. The physician community has also failed to take on a leadership role regarding effective use of health information.

Surely, however, the lead up to a new 2014 Accord can be used as an opportunity to seek consensus on actions to move much more aggressively to improve health information, and to establish adequate knowledge generation and diffusion (obviously building on existing foundations, including Statistics Canada, CIHI and leading provincial health information nodes). The federal government carries a very big carrot in the billions of dollars to be transferred to the provinces. It is disappointing that so far, all federal parties, in the context of the recent election, have promised to keep spending money in the upcoming health Accord, at an unsustainable rate of increase, but with "no strings attached."

Adding conditions to the next Accord need not be seen as intrusions into provincial jurisdiction. Rather, conditions with respect to information and knowledge are national mechanisms to help provinces achieve their own objectives by exploiting economies of scale associated with information standards and analysis.

Moreover, federal conditions, such as requirements for a proper health information system in a renewed Canada Health Transfer, would be beneficial for justifying these massive expenditures to federal taxpayers. Why should federal taxpayers support payments to provinces when the evidence suggests these monies are not being well spent, nor health care sensibly managed? Even to the extent that further federal conditions on managing health care costs in relation to health outcomes are seen as intrusions into provincial jurisdiction, they are also necessary to contain the long run growth in the federal portion of health care costs, which is squarely within federal jurisdiction. While some provinces may object publicly, it is certain that in private they may thank the federal government for pressuring them in directions they know full well are essential but politically painful.

References

Askari, M., B. Russell, J. Danforth, C. Matier, B. Recker, and S.Tapp (2010) *Fiscal Sustainability Report* (Ottawa: Office of the Parliamentary Budget Officer).

Baker, R., P. G. Norton, V. Flintoft, R. Blais, A. Brown, J. Cox, E. Etchells, W. A. Ghali, P. Hébert, S. R. Majumdar, M. O'Beirne, L. Palacios-Derflingher, R. J. Reid, S. Sheps, and R. Tamblyn (2004) "The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada," *Canadian Medical Association Journal*, Vol. 170, No. 11, pp. 1678–1686.

Berger, M., K. Bingefors, E.C. Hedblom, C.L. Pashos and G.W. Torrance (2003) *Health Care, Cost, Quality, and Outcomes: ISPOR Book of Terms* (Lawrenceville, NJ: International Society for Pharmacoeconomics and Outcomes Research).

Berwick, D.M. (1989) "E. A. Codman and the Rhetoric of Battle: A Commentary," *Milbank Quarterly*, Vol. 67, No. 2, pp. 262-7.

Boden, W. E., R. A. O'Rourke, K. K. Teo, P. M. Hartigan, D. J. Maron, W. J. Kostuk, M. Knudtson, M. Dada, P. Casperson, C. L. Harris, B. R. Chaitman, L. Shaw, G. Gosselin, S. Nawaz, L. M. Title, G. Gau, A. S. Blaustein, D. C. Booth, E. R. Bates, J. A. Spertus, D. S. Berman, G.B. J. Mancini and W. S. Weintraub (2007) "Optimal Medical Therapy with or without PCI for Stable Coronary Disease," *New England Journal of Medicine*, Vol. 356, No. 15, pp. 1503-1516.

CCORT (Canadian Cardiovascular Outcomes Research Team) (2006) *Canadian Cardiovascular Atlas* (Toronto: Institute for Clinical Evaluative Sciences).

CIHI (Canadian Institute for Health Information) (2010) *National Health Expenditure Trends: 1975 to 2010*). http://secure.cihi.ca/cihiweb/products/NHEX_Trends_Report_2010_final_ENG_web.pdf.

Deming, W.E. (1950) "Lecture to Japanese Management," http://hclectures.blogspot.com/1970/08/demings-1950-lecture-to-japanese.html.

Donabedian, A. (1966) "Evaluating the Quality of Medical Care,"*The Milbank Memorial Fund Quarterly*, Vol. 44, No. 3, Pt. 2, pp. 166-203.

Donabedian, A. (1988), "The Quality of Care, How Can It Be Assessed?" *Journal of the American Medical Association*, Vol. 260, No.12, pp. 1743-1748.

Evans, R., M. Barer and T. Marmor (1994) *Why Are Some People Healthy and Others Not?* (New York: Aldine de Gruyter).

Fisher, E. S., D. E. Wennberg, T.A. Stukel, D.J. Gottlieb, F.L. Lucas and E.L. Pinder (2003) "The implications of regional variations in Medicare spending, Part 1: the content, quality, and accessibility of care," *Annals of Internal Medicine*, Vol. 138, No. 4, pp. 273-287.

Gawande, A. (2009) "The Cost Conundrum," *New Yorker*, June 1, http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande?currentPage=all .

Gawande, A, D. Berwick, E. Fisher and M .McLellan (2009) "10 Steps to Better Health Care," New York Times, August 12. http://www.nytimes.com/2009/08/13/opinion/13gawande.html?pagewanted=all.

Gold M.R., J.E. Siegel, L.B. Russell, M.C. Weinstein (eds.) (1996) *Cost-Effectiveness in Health and Medicine* (New York: Oxford University Press).

Health Council of Canada (2009) *Value for Money: Making Canadian Health Care Stronger* (Toronto: Health Council).

Illich, I. (1976) *Medical Nemesis: the Expropriation of Health* (New York: Random House).

Johansen, H., J. Bernier, P. Finès, S. Brien, W. Ghali and M. Wolfson (2009) "Variations by health region in treatment and survival after heart attack." *Health Reports*, Vol. 20, No. 2, June, pp. 29-34. http://www.statcan.gc.ca/pub/82-003-x/2009002/article/10872-eng.pdf

Lalonde, M. (1974) *A New Perspective on the Health of Canadians* (Ottawa: Government of Canada).

Laupacis A., D. Feeny, A. S. Detsky, P.X. Tugwell (1992) "How attractive does a new technology have to be to warrant adoption and utilization? Tentative guidelines for using clinical and economic evaluations," *Canadian Medical Association Journal*, Vol. 146, No. 4, pp. 473-481.

McGrail, K. M., C. Sanmartin and D. Hennessey (2011) "Using linked, longitudinal data to quantify variations in acute care hospital use in Canada," in preparation.

McIntosh, C. N., P. Fines, R. Wilkins and M.Wolfson (2009) "Income disparities in health-adjusted life expectancy for Canadian adults, 1991 to 2001," *Health Reports*, Vol. 20, No.4, pp. 55-64.

Mehrez, A. and A. Gafni (1989) "Quality-adjusted life years, utility theory, and healthy-years equivalents," *Medical Decision Making*, Vol. 9, No.2, pp. 142-9.

NCHS (National Centre for Health Statistics) (2001) *Summary Measures of Population Health – Report of Findings of Methodologic and Data Issues* (Hyattsville, Md.: Department of Health and Human Services, Centers for Disease Control and Prevention).

NICE (National Institute for Health and Clinical Excellence) (2008) *Guide to the methods of technology appraisal.* http://www.nice.org.uk/media/B52/A7/TAMethodsGuideUpdatedJune2008.pdf.

PHAC (Public Health Agency of Canada) (2002) *Economic Burden of Illness in Canada,1998* (Ottawa: Health Canada). http://www.phac-aspc.gc.ca/publicat/ebic-femc98/pdf/ebic1998.pdf.

Richards, J. (2011) "Idle Speculation: Prefunding the Boomers' 'Frail Elderly' Care and Legitimizing a Carbon Tax" in Fred Gorbet and Andrew Sharpe (eds.) *New Directions for Intelligent Government in Canada: Papers in Honour of Ian Stewart* (Ottawa: Centre for the Study of Living Standards).

Rozenblum, R., Y. Jang, E. Zimlichman, C. Salzberg, M.Tamblyn, D. Buckeridge, A. Forster, D.W. Bates, R. Tamblyn (2011) "A qualitative study of Canada's experience with the implementation of electronic health information technology," *Canadian Medical Assocation Journal*, February 22.

Saskatchewan Health Quality Council (no date) "Measuring and reporting for learning and improvement." http://www.hqc.sk.ca.

Shewhart, W.A. and W.E. Deming (1939) *Statistical Method from the Viewpoint of Quality Control* (Washington D.C: Department of Agriculture).

Statistics Canada and CIHI (Canadian Institute for Health Information) (2008) *A Framework for Health Outcomes Analysis: Diabetes and Depression Case Studies* (Ottawa: CIHI). http://secure.cihi.ca/cihiweb/products/health_outcomes_web_e.pdf.

Torrance, G.W. (1976) "Social preference for health states: an empirical evaluation of three measurement techniques," *Socio-Economic Planning Sciences*, Vol. 10, No.3, pp. 129-136.

Torrance, G.W., and D. Feeny (1989) "Utilities and quality-adjusted life years," *International Journal of Technology Assessment in Health Care*, Vol. 5, No. 4, pp. 559-575.

Wagner, E. H. (1998) "Chronic Disease Management: What Will It Take To Improve Care for Chronic Illness?" *Effective Clinical Practice*, Vol.1, No.1, pp. 2-4. http://www.acponline.org/clinical_information/journals_publications/ecp/augsep98/cdm.pdf

WHO (no date) "Metrics: Disability-Adjusted Life Year (DALY): Quantifying the Burden of Disease from mortality and morbidity," http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/index.html

Wolfson, M. and R. Alvarez (2002) "Towards Integrated and Coherent Health Information Systems for Performance Monitoring: The Canadian Experience," in *Measuring Up: Improving Health System Performance in OECD Countries* (Paris: OECD).

How Can Subjective Well-being Be Improved?

John F. Helliwell[1]

Canadian Institute for Advanced Research and University of British Columbia

Introduction

Individuals, communities and governments are increasingly interested in using subjective well-being – based on how individuals rate the quality of their own lives- to supplement or even supplant more conventional economic measures of individual and social progress. Some countries, including Bhutan since 1970, and more recently the United Kingdom and China, have made

1 The structure and content of this paper draws heavily on my presentation at the Institute for Government, London, March 3, 2011, and on helpful contributions from panel members and other participants. This research is part of the Social Interactions, Identity and Well-Being program of the Canadian Institute for Advanced Research, and I am grateful for that support as well as the related research collaboration of Christopher Barrington-Leigh, Anthony Harris, Haifang Huang and Shun Wang, all of whom contributed importantly to the underlying research reported here. Helpful revisions and extensions to earlier drafts have been suggested by David Gyarmati, Judy Maxwell, Hugh Segal, Peter McLeod and Nick Rowe.

higher subjective well-being (SWB) an explicit goal for public policy. This flowering of interest has naturally sparked efforts to increase the quality and quality of subjective well-being data, research, and policy analysis. These have included the Stiglitz/Sen/Fitousi (2009) report, the simultaneous launching of public consultations and widespread SWB data collection in the United Kingdom, and efforts by the EC and the OECD to develop international standards and uniform surveys for the measurement of subjective well-being. Reflecting this increasing interest, the Centre for the Study of Living Standards (CSLS, 2011) sponsored in December 2010 a conference in Ottawa to introduce and extend discussions of the policy implications of well-being research.

Thus it is a good time to take stock of what is known and what most needs to be done to move the analysis and policy agendas from demonstrated interest to well-founded change. This paper attempts such a stock-taking in several stages. I shall first review a range of the most policy-relevant measures of subjective well-being, then outline some research results with direct bearing on policy issues, and finally illustrate how these results, and others like them, can be used to improve evidence-based policy choices by governments, companies, and communities.

How Can Subjective Well-being Be Measured?

The most common SWB measures are evaluations of life as a whole. The principal question refers to satisfaction with life (SWL), with alternatives including Cantril's self-anchoring striving scale (hereafter referred to as the Cantril ladder, and used in the Gallup World Poll, and the Gallup/Healthways Daily Poll in the United States) and questions asking how happy respondents are with their lives.

The other main class of SWB measures includes positive and negative emotions, sometimes measured on a momentary basis, and sometimes as remembered at a later time. Redelmeier and Kahneman (1996) collected both momentary and remembered measures of the pain of a colonoscopy, and found that the remembered assessments differed systematically from the sum of moment-by-moment assessments.[2] Where these two assessments differ, how should the analyst proceed? Kahneman has argued, following the example of Jeremy Bentham's felicific calculus (Kahneman, Wakker and Sarin, 1997), but also harking back to the Epicureans, that the true measure of utility is the cumulant of momentary pleasures and pains, with pain and negative emotions being given negative weight. If these cumulants differ from the remembered experiences of pain, as in the colonoscopy case, then he thinks the latter should be seen as mistaken (Kahneman and Riis, 2005). Others, including me (Helliwell, 2008), have argued that since it is the remembered pleasure or pain that governs subsequent decisions, whether about having another colonoscopy (Redelmeier and Kahneman, 1996) or where to go on the next spring break (Wirtz *et al.*, 2003), the remembered experiences should be treated as intelligible and often useful reframing of past experiences to support future decisions. (Otherwise, would there not be more one-child families?)

While momentary assessments of emotions have been tested in clinical and experimental settings (Shiffman *et al.*, 2008), they are expensive to collect and invasive of the lives being monitored. Thus most surveys that ask about emotions do so on a remembered basis, either as a part of a time-use survey (Krueger *et al.*, 2009) or with reference to a specific time period, e.g. yesterday.

How do remembered moods and life assessments differ in what they say about the quality of life? While some analysts treat positive and negative moods as equivalent, as in the U-index of Krueger, Kahneman and colleagues (Krueger, 2009), most researchers have found that positive and negative affect should be kept separate, as they have different sources and different consequences, at least in some important applications. Related evidence is reported in the next section.

Mood assessments, especially those relating to a specific moment or day, fluctuate with changes in the daily or hourly content of life. This makes them especially appropriate for inclusion in time use surveys, where they can help to unpack the hedonic content of daily life. If asked every day, of either the same

2 Stone *et al.*, (2002) find other differences between at-the-moment assessments and subsequent diary reports.

or comparable samples of respondents, they can be used to reveal the nature and sources of day-to-day fluctuations of moods.

Life evaluations differ from mood assessments in two key ways. First, life evaluations are much more stable, on a day-to-day basis, than are daily assessments of moods. This is shown clearly by the data from the Gallup/Healthways daily poll in the United States, which asks for life evaluations, based on the Cantril ladder, and for the prevalence yesterday of several measures of affect, both positive (happiness, enjoyment and laughter) and negative (worry, sadness and anger). Positive emotions are significantly more prevalent on weekends than on weekdays, with the reverse result holding for the three measures of negative affect. By contrast, there are no daily patterns apparent in the life evaluations drawn from the same respondents (Helliwell and Wang, 2011a, Figure 1.2).

The second key difference between daily mood assessments and life evaluations is that when the same set of variables is used to explain them, life circumstances are much more closely related to life evaluations than are emotions. This difference helps to validate both measures, as theory would suggest that cognitively based evaluations of life would pay more heed to the main circumstances of life than would reports of emotions, especially where the latter relate to specific moments or days. Thus life evaluations provide more securely based estimates of the relative importance of different life circumstances, as well being a more informative guide to future individual decisions and a more useful tool for policy assessments.

Two more examples from SWB measurement are worth mentioning at this stage, since they may help to reassure those who fear that subjective responses may not connect closely enough to the world in which the respondents live. Many surveys ask respondents to rate the state of their current physical health, on a five-point scale. The answers show a continual decline by age group. One set of surveyors, anxious to provide more precision to the question, asked respondents to rate their physical health on the same five-point scale, but to report their state of health relative to others in their own age group. The age-based decline was completely eliminated. This provides good validation for both sets of data, as it suggests that respondents were able to evaluate their own and others' states of physical health in precisely the same terms, revealing at the same time an age-based decline of subjectively assessed physical health that matches the decade-by-decade increase in health problems measured by clinical criteria.

A second example also shows how respondents are able to focus on the specifics of the question, and to answer appropriately. The World Values Survey (WVS) has in several rounds asked respondents how satisfied they are with their lives as a whole and, on a different scale and in a different part of the survey, how they rate their overall happiness.[3] Comparative modeling of the happiness and satisfaction evaluations (Helliwell and Putnam, 2004) shows the two evaluations to depend on much the same variables, in much the same way. The Gallup Daily Poll, by contrast with the WVS happiness question, asks respondents how happy they were yesterday. These answers are quite different from life evaluations collected in the same survey (Kahneman and Deaton, 2010; Helliwell and Wang, 2011b). Thus it would seem that "happiness" is capable of taking an evaluative role, as in the WVS (how happy are you about something) or a purely affective one, as in the Gallup-Healthways Daily Poll and the U.K. questions discussed below (how happy were you yesterday). Satisfaction, by contrast, is more universally evaluative, since it necessarily refers to satisfaction with or about something.

The quartet of key questions announced by the U.K. Chief Statistician in late February 2011, to be asked annually of 200,000 respondents to the main U.K. household surveys, contains three direct measures of subjective well-being, one evaluative and the other two emotional. The evaluative question asks respondents how satisfied they are with their lives as a whole nowadays, on a scale running from 0 at the bottom to ten at the top. There are then two questions on the respondent's emotions, one asking how happy the respondent was yesterday, and other asking how anxious, in both cases on the same 0 to ten scale. The fourth question is not a direct measure of subjective well-being, but instead asks "to what extent do you feel that the things you do in your life are worthwhile?" My interpretation of the four U.K. questions is that they repre-

3 The exact WVS wording is: "Taking all things together, would you say you are - Very happy, Quite happy, Not very happy, or Not at all happy".

sent an Aristotelian package centred on an overall assessment of life satisfaction flanked by examples of the pleasure/pain variables (represented by happiness and anxiety, respectively) emphasized by Bentham and the Epicureans, and the eudaimonic supports (represented by a purposive life) emphasized by the Stoics. Aristotle took a middle position, arguing that a good life requires both aspects, having good emotions and also doing the right thing.[4]

In this interpretation, overall evaluations of life satisfaction lie at the centre of the measurement of subjective well-being. Emotions are also important direct measures of subjective well-being, while a variety of other measures, including sense of purpose, trust, health status, sense of belonging to neighbourhoods and nations, social engagement, social supports, income, and sense of freedom need to be collected along with subjective well-being data to help explain why life satisfaction is higher for some people and communities than for others.

What Has Been Learned Thus Far?

This section provides a selective review of some recent SWB research results that have special salience for the design and operation of policies and institutions (see also Diener *et al.*, 2009).

Existence of positives trumps absence of negatives

Many public institutions, and the research intended to support them, are designed to diagnose and repair things that have gone wrong. Psychology over the past half century has been almost entirely concerned with the analysis and treatment of depression. But research over the past twenty-five years has shown that positive and negative states of mind can have independent sources and consequences. Not only do positive and negative states of mind have different biological markers (Steptoe *et al.*, 2005), but they have different impacts on health outcomes. More importantly, positive states of mind provide a more important buffer against future bad health outcomes ranging from the common cold (Cohen *et al.*, 2003) through a wide range of sources of morbidity

4 This case is made more fully, with the matching references to Aristotle, in Helliwell (2003) and as applied to modern SWB measurement in Hall, Barrington-Leigh and Helliwell (2011).

and mortality (Diener and Chan, 2011; Cohen and Pressman, 2006; Danner *et al.*, 2001). Although most prospective studies have involved measures of positive and negative affect (Chida and Steptoe, 2008), in those cases where life satisfaction has been measured it also predicts longer lives (for Finnish males, see Koivumaa-Honkanen *et al.*, 2000).

Humans are inherently social and altruistic

Cross-sectional studies have consistently shown strong correlations between various measures of the existence and strength of social ties and subjective well-being (e.g. Helliwell and Putnam, 2004; Helliwell *et al.*, 2010). Causal linkages in these cases almost surely run in both directions. However, when conditions are experimentally controlled, adding modest but meaningful social interactions significantly increased the subjective well-being of seniors in a U.K. residential care facility (Haslam *et al.*, 2010). Similarly, prospective studies show that stroke victims with more social contacts recover faster and more fully, especially if the social connections can be maintained (Haslam *et al.*, 2008).

The basic and inherent nature of the social nature of humans is revealed by experiments showing that even just rowing in synchrony elevates pain thresholds by one-third over doing the same workout in isolation (Cohen *et al.*, 2010). A fifty-year history of research (see Balliet (2010) for a recent meta-analysis) shows that face-to-face communications substantially increase cooperation and trust.

Although all positive social connections are associated with higher subjective well-being, there is a growing body of evidence, mainly based on experimental evidence, that altruism – doing things for others – has enhanced power to improve SWB, to an even greater extent than people realize. Regular peer-to-peer counseling between patients with multiple sclerosis (Schwartz and Sendor, 1999) was found to benefit the givers significantly more than the recipients. Students assigned to give money away were happier than those who spent it on themselves, and more so than they expected (Dunn *et al.*, 2008). Comparable international research suggests that the SWB benefits of generosity are universal (Aknin *et al.*, 2010).

Trust and procedures matter

It is well-established that trust and social connections are causally linked in both directions. As already noted, decades of experience and experiments have shown that even modest increases in social connections increase interpersonal trust (Balliet, 2010). In the other direction, where there is a climate of trust, people are more willing to reach out and make connections with others (Putnam, 2000). Survey data from many countries suggest that both trust and social connections have independent linkages to subjective well-being. Indeed, when respondents are asked to evaluate separately their trust in several different domains (e.g. in the workplace, in the police, among neighbours) their answers differ substantially, and trust in each of these dimensions is among the strongest correlates of SWB (Helliwell and Putnam, 2004). To have or not have trust in each of these key areas of life has the life satisfaction equivalent of more than a doubling of income (Helliwell and Wang, 2011a, Tables 4-b to 4-d).

Trust matters for emotions as well as for life satisfaction. Data from the Gallup/Healthways daily poll in the United States show that most people, and especially full-time workers, are significantly happier on the weekend than during weekdays. These weekend effects are three times larger for those who work in low-trust workplaces than they are for those in high-trust workplaces (Helliwell and Wang, 2011b, Figure 3.3). But happiness on the job, and hence the relative absence of a blue-all-week effect, also depend importantly on how things are done, and on the nature of social dynamics on the job. For example, weekend effects for happiness are twice as large for those whose immediate work supervisor acts like a boss, compared to one who acts more like a partner (Helliwell and Wang, 2011b, Figure 3.3). The importance of trust can be seen as one facet of the frequent finding (e.g. Frey *et al.*, 2004) that how a policy is developed and delivered matters at least as much as the content itself.

Close-in trumps distant

Life is more local than most people realize. This is true both for the relative strengths of near-by and far-way trade, migration and capital movements (with the distant much less frequent than could be justified by transport costs) and for the densities of, and SWB derived from, social connections. Thus we find that while local, provincial and national senses of belonging, and their related identities, all provide significant, and simultaneous, support for Canadian life satisfaction, a sense of belonging to the local community has much the largest effect, bigger than the sum of the other two effects together (Helliwell and Wang, 2011a, Table 3). In fact, it would appear that a good part of the strong life-satisfaction effect of trust in neighbours is mediated through a sense of belonging to the local community, since the direct effect of neighbourhood trust is one-third less (although still highly significant, Helliwell and Wang, 2011a, Table 3) when the equation also contains the respondent's sense of belonging to the local community.

How Can the Results Be Used to Improve Policies?

It is one thing for individuals and governments to accept that the quality of their lives depends as much or more on the quality of the social fabric as it does on their material standard of living. That realization is important, but it is far from being sufficient. It is important because unless there is a widespread recognition among the general public, and among policy-makers, that there is a need for better measures of the quality of lives in neighbourhoods, towns, provinces and nations, there will be no effective demand for the collection of the necessary data, and hence no ability to conduct the research required to make policies differently. It is not sufficient, because even with demand for better data, it takes time to build the data base, and longer still to develop a firm empirical basis for better policies.

There are now many countries, either singly or in concert, interested in building a large geographically coded inventory of subjective well-being data, along with measures of its likely supports. Even before these data are fully in hand, it is worth considering how the data can and should be used to assess policies. It is also possible to survey existing subjective well-being research to support an early harvest of policy ideas and assessment methods. In this section, I list an example range of methods and issues illustrating how government could be delivered differently.

Benefit/cost analysis

The first and relatively straight-forward application of well-being research is to extend conventional benefit-cost analysis to include matters that have long been understood to be important, but have previously been relegated to footnotes. A recent policy evaluation by the Social Research and Demonstration Corporation (SRDC) illustrates the differences in methods and results when SWB research is used to augment benefit/cost analysis (Gyarmati *et al.*, 2008). The Community Employment Innovation Project (CEIP) transferred randomly chosen participants from income assistance (IA) or employment insurance (EI) to employment in community projects chosen and managed by five participating communities. For participating individuals, CEIP "led to longer-term increases in job quality, transferrable skills, social capital, volunteering, and small improvements in overall satisfaction with life. For communities, CEIP led to increases in organizational capacity, through the direct supply of organizational labour as well as increased volunteering by participants and board members, in addition to improvements in community-level social capital…" (Gyarmati *et al.*, 2008, p. 93). In the benchmark benefit/cost analysis, the analysis included estimates of the values of most of these benefits, but excluded individual and community-level increases in social capital in order to achieve consistency with traditional benefit/cost methods where intangibles such as these are excluded.

Adding SWB-based estimates of the additional social capital, and declines in hardship, for the individual participants significantly increased the benefit/cost ratios of CEIP. The total values of the estimated community-wide increases in trust and social linkages were far larger still, so much so that they were left in an appendix, reflecting their still-preliminary status. If more secure estimates can be made of continuing improvements in community-wide social capital, it is clear, from the CEIP and other analysis, that they have the potential for being a decisively important part of benefit/cost analysis. The SRDC analysis illustrates two important features the benefit/cost analysis will require if SWB data and research are to be made central to program design and selection. The first is the documentation of SWB among participants and their communities before and after changes in the policy environment. The second is an experimental design that enables project participants to be compared with otherwise-identical controls, coupled with some convincing way to establish benchmark communities to provide an assessment base for the community-wide consequences of different ways of designing and delivering policies. Both of these requirements, and especially that latter, will be much more easily achieved if governments adopt a more step-by-step experimental process in policy design, and if national statistical agencies develop data archives deep enough to provide a larger range of choices of benchmarks against which policy experiments can be assessed.

Coping with disasters

In 1956, the growing number of people suffering brain and nervous system damage in Minamata (a fishing village on the west coast of Japan's southern island of Kyushu) was traced to many years of mercury in the effluent from the local Chisso chemical plant. Over the following 35 years, many people died or had chronic health problems throughout their lives. Those with the disease were discriminated against, and inadequately treated, raising the extent of their losses and increasing social divisions. Only in 1990, long after a string of lawsuits laying the blame on the source factory was completed, was there a local government in place that saw the need for a radically new approach if lives were to improve in Minamata.

Over the subsequent twenty years, Minamata has refashioned itself into a champion of environmentally friendly products, rediscovered its social and cultural roots, and replaced shame and blame with pride and shared well-being. What were the secrets to this long-delayed discovery of a new path? According to Kusago (2011), the key elements of the "Minamata model," which has since been packaged and used in other countries for earthquakes and other disasters, were strong local leadership and top-to-bottom engagement of local citizens to rebuild social ties. This has involved first a vision of an alternative (green) path, followed by implementation based on local ideas, with the ultimate goals of sustainable well-being.

It should not require a disaster to trigger recognition of what is needed to support sustainable well-being. But it might nevertheless provide a necessary jolt. The experience of Aceh (Indonesia) after the 2004 tsunami helps to illustrate this point. Despite the enormous losses of life and property, the residents of Aceh were more satisfied with their lives in 2008 than they were before the disaster (Deshmukh, 2009), because the severity of the disaster was enough to stop a bloody civil war of thirty year's duration, and to induce former enemies to rebuild their lives together. The "peace dividend" of Aceh shows the power of a disaster to reset attitudes and minds along a better path. Unfortunately, if there is not a sufficient level of shared social capital to permit cooperation to take place, then disaster can merely exacerbate existing tensions and make a bad situation worse. This was revealed by parallel analysis of the effects of the 2004 tsunami in Jaffna (Sri Lanka). In Sri Lanka, relief operations took a backseat to the continuing hostilities, with each side wanting to avoid aid going to the other (Deshmukh, 2009).

Thus disasters provide a testing time for the social fabric. If the fabric is strong, then post-disaster cooperation gives a chance for some of the ultimate sources of well-being to flower. What better than to have the chance to work together in a good cause in support of others? The evidence shows that these chances do not happen automatically in the rush of modern life, and that shared activities in a good cause are even better for SWB than people realize. Hence it is not so surprising to find "hikmah" (in Achenese, "something good out of the worst"; in Arabic "collective wisdom") in the wake of a disaster.

But if the social fabric is too weak, or too badly frayed, then the shared opportunity for cooperation will be lost, and become instead another source of animosity.

Reform of conventional public service design and delivery

Once subjective well-being and its lessons are taken seriously, they ought to change the ways in which all public services are designed and delivered. Some of the positive consequences may flow merely from paying more attention to the opinions of those for whom the services are designed. For example, Halpern (2010, 42) reports that Merseyside police started a few years ago to collect data not just on crimes committed and clear-up rates but how satisfied citizens were with their contacts with the police. The surveys showed, to police surprise, that people cared more about whether police showed up when they said they would (trust?) than about the rapidity of the response. The police were able to change their procedures accordingly, thereby increasing their efficiency and public satisfaction at the same time.

A more dramatic example, still in the field of law enforcement, is provided by the reforms of the Singapore Prison System. Because prisons are often considered social cesspits, or at least unpromising sources of increased subjective well-being, any success there provides a powerful example. If prisons can be reformed to improve the subjective well-being of all parties, then anything should be possible. Since 1998 the Singapore Prison Service has converted its prisons into schools for life, thereby improving the lives of inmates, prison staff and the community at large (Leong, 2010; Helliwell, 2011). The reforms embodied all of the SWB lessons described earlier in this paper. By any measure, the results have been impressive, ranging from a one-third drop in recidivism to improved staff morale and better social connections between prisons and the rest of society.

Health care makes up the largest and usually fastest growing component of most government budgets. What does subjective well-being research have to contribute on the design and delivery of health care? Health care has long adopted the same problem-fixing mode that characterized psychology before subjective well-being was paid much heed. It is still mainly concerned with applying procedures and drugs to cure diagnosed illnesses. The patients are at best clients, to whom services are delivered. Their communities and their families are a complication, or part of the back-drop. The previous section alluded to the accumulating results showing that improving positive states of mind, and the social interactions that they support and are supported by, has striking impacts on health outcomes. There has been increasing study of the biological and neurological pathways that are implicated, but much less has been done in terms of experimental changes in using this knowledge to redesign health care to deliver better outcomes at a lower cost.

New models for local government

The efficacy of face-to-face contacts, the subjective well-being advantages of a local sense of belonging, and the psychological benefits of working together for the benefit of others all explain why local government is such fertile ground for the development and application of policies aimed at improving subjective well-being.

The Young Foundation in the United Kingdom has pooled the ideas and resources of well-being researchers, policy-makers and three leading local authorities to form the Local Well-Being Project (Bacon *et al.*, 2010) to design and test community activities and public services that enhance subjective well-being. They do this both through what is done and how it is done. In all cases the emphasis is on having both design and delivery exploit and strengthen social glue. The areas of experimental application include family relations, education, health, ageing and the workplace, health, sports and the arts, essentially everything that takes place in the community.

Several metropolitan areas in Canada, including Victoria, Calgary, Vancouver and the National Capital Region, have been bringing together stakeholder groups and social sparkplugs to envisage and enable better ways of building communities and delivering services. In the Greater Victoria region, universities, health authorities, municipal governments, foundations and grass-roots organizations started with a well-being survey,[5] subsequently using the results as a basis for all-party discussions of what initiatives might serve to improve well-being.

Improving environmental sustainability

Attitudes towards the natural, built and social environments are changing, and with these changes comes the possibility of creating and harnessing new environmental norms. Conventional environmental policy often finds itself arguing about, and choosing among, taxes, regulations, subsidies and tradable pollution permits and the level and structure of utility prices. While these tools, especially those that enable users to know the overall social costs of the resources they are consuming, are an essential part of the story, they ignore the all-important social norms.

It has been shown that subjective well-being is raised when people are given the opportunity to do things for others. Actions to improve the local and glo-

5 The results are reported at http://www.victoriafoundation.bc.ca/web/node/353.

bal environments for the benefits of others in current and future generations fall right into that sweet spot. Such actions are most likely to be effective where they are socially connecting, demonstrably efficient, and represent voluntary actions by the givers rather than actions they are paid or forced to do.

Ian Stewart's side-yard ice rink is an inspiring example. It gives pleasure, healthy sport and social connections to many cohorts of grateful users, and returns pleasure and good feelings to their genial icemaker. Such actions can happen anywhere, and virtuous circles can be started as simply as by random acts of picking up sidewalk litter. It takes more planning to make them a part of public policy, and even here the more local the better. The "Green Gyms" initiative of the South Tyneside Metropolitan Borough Council, centred in the most deprived wards of the borough, provides a nice example (Bacon *et al.*, 2010, 84). These community-led projects include allotment development, nature reserve conservation, and restoration of community gardens and public open spaces. Similarly inspired neighbourhood gardens are starting to appear all over Vancouver. These activities require leadership and supporting social norms to get started, but the individual and community-level rewards they provide – ending or reducing social isolation, building connections that increase both current well-being and community capacity, and increased physical activity – are likely to make them self-sustaining. With luck they provide beacons for others to adopt and improve.

Macroeconomics

There are two main ways in which subjective well-being research suggests alternative approaches to macroeconomic policies. The first is the use of subjective well-being equations to replace the empirically unfounded "misery index," which presumed that the welfare cost of a one percentage point increase in the unemployment rate is equal to that of an inflation rate one per cent higher. The early results (Di Tella, MacCulloch and Oswald, 2001) suggested that the welfare weight for the unemployment rate should be almost twice that for inflation. Updated results (Di Tella and MacCulloch, 2009) suggest something more like 1.6 times. Another important feature of this research is that the subjective well-being effects of unemployment and inflation are both high in terms of GDP-equivalence. Using large samples of U.S. data, Helliwell and Huang (2011) find very large negative regional spillover effects of unemployment on the subjective well-being of those still employed. And for the unemployed themselves, the subjective well-being effects of unemployment are much larger than can be explained by the effects of unemployment on their household incomes. The total effects on the unemployed plus the total spillover effects on those who are not unemployed amount to fifteen times the income loss to the unemployed (Helliwell and Huang, 2011). The U.S. analysis does not permit any comparable estimates of the SWB costs of inflation, but if they are half or more as great as those of unemployment, as suggested by the international evidence of Di Tella and MacCulloch (2009), then they are very large indeed. Thus unemployment and inflation, often treated as the two main proxy objectives of macroeconomics, are both very important to subjective well-being.

The second way in which SWB research can influence macroeconomic policies and outcomes is by using research results to influence policy strategies. South Korean macroeconomic policy responses to the post-2008 global recession provide perhaps the most successful example. Korea had the largest and most integrated set of monetary and fiscal policy changes, was able to keep employment growing throughout the crisis, and yet is still on track to achieve a public debt/GDP ratio that in 2012 is expected to be the third lowest in the OECD (OECD, 2010b, Figure 1.14). How could such an exceptional policy be so successful, and how did the government come to choose policies that diverged so much from its own past policies and from what other countries were doing?

In 1997-98, facing a similarly large drop in the external value of the won, South Korea instituted very tight monetary and fiscal policies, leading to sharp drops in consumption and employment. This was a conventional package, at the time, for a country with a currency under external pressure. Between then and 2008, it was recognized that the predominantly growth-oriented economic policies were not producing correspondingly better lives. Per capita incomes had indeed increased several-fold over the preceding twenty years but reported satisfaction with life was declining. When the 2008 crisis hit, a new strategy was constructed. It had features that could be taken straight from an SWB playbook. Recognizing the high SWB costs of unemployment, the government acted to encourage both public and private employers to maintain employment, and to use their temporarily spare capacity to design and implement industrial changes for a Green Korea.[6] "The "grand social compact" which was agreed to in February 2009 set a guideline according to which the social partners should negotiate employment retention as a quid-pro-quo for wage concessions" (OECD, 2010c, 2).

In budget terms, the policy package involved expenditure increases equal to 3.2 per cent of GDP and tax cuts equal to 2.8 per cent, for a combined fiscal stimulus larger than in any other OECD country (OECD, 2010a, 50). Expenditures to support the green employment strategy included additional public investment of 1.2 per cent of GDP, and job support transfers to local governments and enterprises (1 per cent of GDP for the latter), particularly of small and medium size, and transfers to public financial institutions to keep the loan taps open for SMEs (OECD, 2010a, 51). The tax cuts were equally for house-

---

6 "The Republic of Korea has placed the utmost priority on improving the quality of life here in Korea and first to be more effective we are first developing an index that will accurately access the level of happiness and the effects on our economy. I hope that what you discuss here at the Forum will be applicable to all countries aspiring to improve the lives of their people. And I hope that it will contribute to improving the quality of life all around the world.... Based on our experience, I believe that Korea can contribute to helping the Global community achieve the advancement of their economies and the quality of life. Korea has already proposed a new way forward from the global crisis. We call this the sharing of jobs and a new vision for the future called low carbon green growth. As the economy worsened many economies opted to lay off workers in massive numbers in order to survive and of course in a market economy this may be considered as something very natural but our companies in Korea chose a different path. We decided to share the burden. Employees chose to sacrifice a cut in their own salaries and companies accepted to take cuts in their own profits because they wanted to save their employees and co-workers from losing their jobs. As a result, Korea's unemployment rate is a modest 3.4 per cent and as the forecast and the results of the third quarter show – as released yesterday – compared to the previous quarter we had a 2.9 per cent GDP growth which is very unexpected. As you can see Korea is recovering more quickly than expected and is one of the fastest recovering economies in the world. I believe one of the reasons for this is the cooperation between management and labour. Also the Korean government is set to invest a large portion of its fiscal policy into realising our green growth vision." (excerpted from a transcription of the simultaneous translation of the opening remarks by President Lee to the OECD Third Global Forum, Busan, Korea, October 24, 2009. Original text in Korean is available on request.)

holds and businesses, the latter targeted to green-related R&D and investment.

Whatever their macroeconomic consequences, the elements of the Korean package were likely to have sustained SWB very well. To keep productive groups of employees together during a temporary lull, and to provide them the capacity to move towards highly valued longer term goals at the same time, looks like a pretty sound well-being strategy. Did it work? It seems to have worked remarkably well. Aggregate employment, which fell 10 per cent during the 1997-98 crisis, grew steadily during the latest crisis, being 2 per cent higher in early 2009 than in mid-2007. As indicated by the employment-creating features of the policy package, the Korean unemployment rate was held almost constant from peak to trough, despite a drop of more than 4 per cent in the level of GDP, quite in contrast with the rest of the OECD (OECD, 2010c, Figure 2).

Korean aggregate GDP fell by less, and grew faster after the trough, than was the case in 1997 (OECD, 2010a, 45). For the OECD as a whole, growth merely paused during the 1998 crisis, while it fell by about 5 per cent from peak to trough in the current crisis. Korean growth is the highest in the OECD, while its debt/GDP ratio remains among the lowest. This illustrates that a well-being-oriented policy need not come at the expense of economic outcomes. In this case Korea chose policies that could be argued to enhance subjective well-being, above and beyond any economic consequences, but still left Korea at the top of the international league table for crisis and post-crisis economic outcomes. Thus more recognition of what motivates behavior, and what delivers better lives, can lead to policies that simultaneously deliver better economic and non-economic outcomes.

Conclusion

There seems to be sufficient evidence already in hand to encourage policy field trials and policy experiments implementing what is already known from subjective well-being research. If this is so, why has so little changed? The relatively slow progress from accumulating evidence to changes in opinions, and hence to different policies and procedures, is partly due to the human predilection, evident in medicine and all sciences (Nickerson, 1998), to adhere to old ways despite the arrival of contrary evidence. Even chess masters unconsciously stop looking effectively for better strategies once they have something plausible in hand, enough so to drag the quality of their play down by three standard deviations in the skill distribution (Bilaliæ *et al*., 2008, 654). This effect is pervasive, and is so hard to dislodge because decision-makers are generally unaware of their subconscious biases in favour of evidence supporting the view that they already hold.

Caution may have its own rewards, however, as the inherent conservatism of science can at least reduce the likelihood of running off in all directions. But if taking subjective well-being more seriously has the potential to improve the quality of lives while reducing pressures on available resources, should there not at least be a stronger commitment to broaden the range of policy alternatives to include those with a strong chance of improving subjective well-being?

References

Aknin, L.B. , C.P. Barrington-Leigh, E.W. Dunn, J.F. Helliwell, R. Biswas-Diener, I. Kemeza, P. Nyende, C.E. Ashton-James and M.I. Norton (2010) "Prosocial spending and well-being: cross-cultural evidence for a psychological universal," *NBER Working Paper* 16415 (Cambridge: National Bureau of Economic Research).

Bacon, N., M. Brophy, N. Mguni, G. Mulgan and A. Shandro (2010) *The States of Happiness: Can Public Policy Shape People's Wellbeing and Resilience?* (London: The Young Foundation).

Balliet, D. (2010) "Conversation and Cooperation in Social Dilemmas: A Meta-Analytic Review," *Journal of Conflict Resolution*, Vol. 54, pp. 39-57.

Bilaliæ, M., P. McLeod and F. Gobet (2008) "Why good thoughts block better ones: The mechanism of the pernicious Einstellung (set) effect," *Cognition*, Vol. 108, pp. 652-61.

Centre for the Study of Living Standards (2011) "Happiness as a goal for public policy: Ready for prime time? A synthesis of the CSLS-ICP conference on happiness and public policy," CSLS Research Note 2011-1.

Chida, Y. and A. Steptoe (2008) "Positive psychological well-being and mortality: A quantitative review of prospective observational studies," *Psychosomatic Medicine*, Vol. 70, pp. 741-56.

Cohen, S., W.J. Doyle, R.B. Turner, C.M. Alper and D.P. Skoner (2003) "Emotional style and susceptibility to the common cold," *Psychosomatic Medicine*, Vol. 50, pp. 652-7.

Cohen, S. and S.D. Pressman (2006) "Positive Affect and Health," *Current Directions in Psychological Science*, Vol. 15, No. 2, pp. 22-5.

Cohen, E.E.A., R. Ejsmond-Frey, N. Knight and R.I.M. Dunbar (2010) "Rowers' high: behavioural synchrony is correlated with elevated pain thresholds," *Biology Letters*, Vol. 6, No.1, pp. 106-8

Danner, D.D., D.A. Snowdon, and W.D. Friesen (2001) "Positive emotions in early life and longevity: Findings from the nun study," *Journal of Personality and Social Psychology*, Vol. 80, pp. 804-13.

Deshmukh, Y. (2009) "The 'hikmah' of peace and the PWI. Impact of natural disasters on the QOL in conflict-prone areas: a study of the Tsunami-hit transitional societies of Aceh (Indonesia) and Jaffna (Sri Lanka)," paper presented at the International Society for Quality of Life Studies (ISQOLS) Conference, Florence, Italy, July.

Diener, E. and M.Y. Chan (2011) "Happy people live longer: Subjective well-being contributes to health and longevity," *Applied Psychology: Health and Well-Being*, Vol. 3, No.1, pp.1-43.

Diener, E., R. Lucas, U. Schimmack and J.F. Helliwell (2009) *Well-Being for Public Policy (*New York: Oxford University Press).

Di Tella, R., R. MacCulloch and A. Oswald (2001) "Preferences over inflation and unemployment: Evidence from surveys of happiness," *American Economic Review*, Vol. 91, No. 1, pp. 335-41.

Di Tella, R. and R. MacCulloch (2009) "Happiness, contentment and other emotions for central bankers," in Foote, C.L., L. Goette, and S. Meier, eds. *Policymaking Insights From Behavioral Economics*. Proceedings of a conference held September 2007 (Boston: Federal Reserve Bank of Boston), pp. 311-73.

Dunn, E.W., Aknin, L.B., Norton, M.I. (2008) "Spending money on others promotes happiness," *Science*, Vol. 319, pp. 1687-1688.

Frey, B.S., M. Benz and A. Stutzer (2004) "Introducing procedural utility: Not only what but how matters," *Journal of Institutional and Theoretical Economics*, Vol. 160, pp. 377-401.

Gyarmati, D., de Raaf, S., Palameta, B., Nicholson, C., and Hui, T. (2008) *Encouraging Work and Supporting Communities: Final results of the Community Employment Innovation Project* (Ottawa: Social Research and Demonstration Corporation).

Hall, J., C.P. Barrington-Leigh and J. Helliwell (2010) "Cutting through the clutter: Searching for an overarching measure of well-being," CESifo DICE Report 4, pp. 8-12.

Halpern, D. (2010). *The Hidden Wealth of Nations* (Cambridge: Polity Press).

Haslam, C., A. Holme, S.A. Haslam, A. Iyer, J. Jetten and W.H. Williams (2008) "Maintaining group memberships: Social identity continuation predicts well-being after a stroke," *Neuropsychological Rehabilitation*, Vol. 18, No. 5/6, pp. 671-91.

Haslam, C., S.A. Haslam, J. Jetten, A. Bevins, S. Ravenscroft and J. Tonks (2010) "The social treatment: The benefits of group interventions in residential care settings," *Psychology and Aging*, Vol. 25, No. 1, pp. 157-67

Helliwell, J.F. (2003) "How's life? Combining individual and national variables to explain subjective well-being," *Economic Modelling*, Vol. 20, pp. 331–360.

Helliwell, J.F. (2008) "Life satisfaction and quality of development," NBER Working Paper 14507 (Cambridge: National Bureau of Economic Research).

Helliwell, J.F. (2011) "Institutions as Enablers of Well-Being: The Singapore Prison Case Study," *International Journal of Wellbeing* (Felicitators Symposium).

Helliwell, J.F., C.P. Barrington-Leigh, A. Harris, and H. Huang (2010) "International evidence on the social context of well-being," in E. Diener, J.F. Helliwell and D. Kahneman, eds. *International Differences in Well-Being* (New York: Oxford University Press) pp. 291-350.

Helliwell, J.F. and H. Huang (2011) "New measures of the costs of unemployment: Evidence from the subjective well-being of 2.3 million Americans," NBER Working Paper 16829 (Cambridge: National Bureau of Economic Research).

Helliwell, J.F. and R.D. Putnam (2004) "The Social Context of Well-Being' *Philosophical Transactions of the Royal Society B*, No. 359, p. 1435-46. Reprinted in F.A. Huppert, B. Keverne and N. Baylis, eds., *The Science of Well-Being* (London: Oxford University Press, 2005), pp. 435-59.

Helliwell, J.F. and S. Wang (2011a) "Trust and well-being," *International Journal of Wellbeing*, Vol. 1, No. 1: pp. 42-78. www.internationaljournalofwellbeing.org/index.php/ijow/article/view/3/85

Helliwell, J.F. and S. Wang (2011b) "Weekends and well-being," Draft paper for the 16th World Congress of the International Economic Association, Beijing, July.

Kahneman, D., and A. Deaton (2010) "High income improves evaluation of life but not emotional well-being," *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 107, No. 38, pp. 16489-93.

Kahneman, D., and J. Riis (2005) "Living, and thinking about it : two perspectives on life," In F.A. Huppert, N. Baylis and B. Keverne, eds. *The Science of Well-Being* (Oxford: Oxford University Press).

Kahneman, D. P.P. Wakker, and R. Sarin (1997) "Back to Bentham? Exploration of experienced utility," *Quarterly Journal of Economics*, Vol. 112, pp. 375-405.

Koivumaa-Honkanen, H., R. Honkanen, H. Viinamäki, K. Heikkilä, J. Kaprio and M. Koskenvuo (2000) "Self-reported life satisfaction and 20-year mortality in healthy Finnish adults," *American Journal of Epidemiolgy*, Vol. 152, No. 10, pp. 983-91.

Kusago, T. (2011) "A sustainable well-being initiative: Social divisions and the recovery process in Minamata, Japan," *Community Quality of Life Indicators: Best Cases V*, Vol. 3, pp. 97-111.

Krueger, A.B., ed. (2009) *Measuring the Subjective Well-Being of Nations: National Accounts of Time Use and Well-Being* (Chicago: University of Chicago Press).

Krueger, A.B., D. Kahneman, D. Schkade, N. Schwarz, and A.A. Stone (2009) "National time accounting : The currency of life," In A.B. Krueger, ed. *Measuring the Subjective Well-Being of Nations: National Accounts of Time Use and Well-Being* (Chicago: University of Chicago Press), pp. 9-86.

Leong, Lena (2010) *Story of the Singapore Prison Service: From Custodians of Prisoners to Captains of Life* (Singapore: Civil Service College).

Nickerson, R.S. (1998) "Confirmation bias: A ubiquitous phenomenon in many guises," *Review of General Psychology*, Vol. 2, No. 2, pp. 175-220.

OECD (2010a) *OECD Economic Surveys: Korea*, Vol. 12, July (Paris: OECD).

OECD (2010b) *OECD Economic Outlook*, Vol. 88, November (Paris: OECD).

OECD (2010c) *Employment Outlook 2010 - How Does Korea Compare?* (Paris: OECD). http://www.oecd.org/dataoecd/13/42/45603966.pdf

Putnam, R.D. (2000) *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster).

Redelmeier, D. and D. Kahneman (1996) "Patients' memories of painful medical treatments: real-time and retrospective evaluations of two minimally invasive procedures," *Pain*, Vol. 116, pp. 3-8.

Schwartz, C. E., and M. Sendor (1999) "Helping others helps oneself: response shift effects in peer support.," *Social Science and Medicine*, Vol. 48, pp. 1563-75.

Shiffman, S., A.A. Stone and M.R. Hufford (2008) "Ecological momentary assessment," *Annual Reviews of Clinical Psychology*, Vol. 4, pp. 1-32.

Steptoe, A., J. Wardle, M. Marmot and B.S. McEwen (2005) "Positive affect and health-related neuroendocrine, cardiovascular, and inflammatory processes," *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 102, No.18, pp. 6508-12.

Stiglitz, J., A. Sen and J.-P. Fitoussi (2009) *Report by the Commission on the Measurement of Economic and Social Progress* (Paris). www.stiglitz-sen-fitoussi.fr

Stone, A.A., S. Schiffman, J.E. Schwartz, J.E. Broderick and M.R. Hufford (2002) "Patient non-compliance with paper diaries," *British Medical Journal*, Vol. 324, pp. 1193-4.

Wirtz, D., J. Kruger, C.N. Scollon and E. Diener (2003) "What to do on spring break? The role of predicted, on-line and remembered experience in future choice," *Psychological Science*, Vol. 14, pp. 520-4.

Good Data and Intelligent Government

Munir A. Sheikh[1]
Queens University and Carleton University

Introduction

IAN STEWART, FAMOUS FOR HIS ROLE in the realm of public policy, was a friend of Statistics Canada. He was the very first chair of the National Accounts Advisory Committee for 11 years from 1984 to 1995 and remained a member after he left chair until 2000. This long association with Statistics Canada reflected Ian's conviction that, while an essential ingredient of an intelligent government is intelligent public policy, the latter is critically dependent on good data.

The purpose of this paper is to explore a range of issues related to the development of good data.

1 The paper has benefited considerably from comments by Fred Gorbet, Andrew Sharpe, Ivan Fellegi and Ross Finnie. These are gratefully acknowledged. However, any remaining errors are my sole responsibility.

There are many aspects of decision-making that require good data. Citizens use a variety of information to make decisions on a day to day basis. Policy makers use data to study, develop, implement, monitor and evaluate their policies. Researchers need data to conduct empirical research. Businesses need data to develop their plans and strategies. And, that is also true for other segments of society that need to make evidence-based decisions.

The plan for this paper is as follows. Section 2 provides a description of why we need "good" data. Section 3 discusses a list of attributes of what we mean by good data. Section 4 describes the Canadian data collection system and the role of Statistics Canada in that system. It goes on to evaluate how the Agency measures up to the attributes of good data. The section concludes that the Agency does a reasonably good job in delivering on its mandate. Section 5 examines reasons for the Agency's good performance. Section 6 describes recent developments surrounding the cancellation of the long form census that has significant implications for the production of good data. With this discussion, and other elements discussed in previous sections, Section 7 pulls together conceptual and practical challenges in gathering good data. Section 8 provides a description of steps that should be considered in ensuring the continuous flow of good data in the future. Finally, Section 9 provides concluding remarks.

Why the Need for Good Data

We describe what data can do for its users by providing one example of data, the consumer price index (CPI).

Data ***describe events*** as they unfold and thus are the source of information as things change. Every month Statistics Canada releases the CPI which describes the change in consumer prices for the past month. This release may show that the average price measured by the CPI rose by a particular magnitude over the past month. This development over the past month can be compared with time periods beyond the past month to obtain inflation rates over different time periods.

Data can be used to ***gain insight*** into the phenomenon that occurred. The detailed information contained in the CPI release can pinpoint where prices are changing most. For example, data may show that the main reason the average price rose last month was because of significant increases in auto insurance premiums. This would allow citizens to understand the reasons for an increase in prices.

Data allow ***analysis*** of the reasons behind developments that have been observed. Using other relevant data, such as the frequency and seriousness of accidents, it may be feasible to analyze the causes underlying the increase in insurance premiums described above. A better understanding provided by this analysis can be helpful in making improvements in outcomes.

The analysis made possible by data then allows the provision of a ***context for decision-making.*** The information contained in the analysis may, for example, show that the increase in insurance costs was driven by factors that may not be around permanently, in which case there may be no need for policy action. Or, this information may show otherwise.

Data help in ***decision making.*** Indeed, it is the most important contribution data make to improve the well-being of citizens. As a continuation of the CPI example, the increase in the inflation rate, along with the details of where the increased pressure may be coming from, gives the Bank of Canada the ability to relate this information to the objectives it is trying to achieve and adjust its policy levers to achieve the objectives.

Data are also used to ***monitor progress*** in achieving objectives. In the context of the CPI example, the Bank of Canada monitors progress on the inflation front by examining the core rate of inflation, which subtracts the volatile inflation components from the overall rate of inflation, in the context of its inflation targets.

Data are used as well to ***build systems.*** In the context of the CPI example, it is a key variable in the development of economic models that are used for a variety of purposes.

These systems, built on data, can be used for ***forecasting and predicting.*** These predictions allow decision-makers to take action in anticipation of adverse events taking hold. For example, CPI models may show, linked with other data, that the inflation rate could fall below the central bank's target range, encouraging the bank to take corrective action in anticipation.

Data are used as well for ***evaluation of outcomes.*** The evaluation exercise is helpful in determining whether or not objectives have been achieved, and if yes, satisfactorily or not, and, if not, why not. Such evaluations are a key to making adjustments in decision making.

These uses of data allow a society to achieve a number of fundamental objectives crucial to its civilized functioning, including: democratic accountability, monitoring the performance of society and, in turn, that of government; evidence-based decision-making; research to improve things, including allowing reproducibility of results; and honest information brokerage to settle matters in formula-driven outcomes such as distributing Parliamentary seats, billions of dollars in transfers from the federal to provincial and territorial governments, and labour and business contracts.[2]

In sum, data provide the foundation for knowing things the way they are and taking steps to making things the way they should be. In this sense, the importance of data in enhancing human well-being cannot be underestimated.

Attributes of Good Data

We begin this discussion with reference to the way Statistics Canada defines its mandate to produce good data. We will then evaluate the extent to which this mandate is achieved.

In its *2010-11 Report on Plans and Priorities* to Parliament, Statistics Canada defines its mandate as follows:

> ... providing access to a trusted source of information. Trust can be established only if data are relevant, meaning they meet the most important needs of the users, and if users are confident that the information is of the highest possible quality. Access, relevance and quality can be optimized only if the agency practices maximum organizational efficiency. (Statistics Canada, 2010a)

The four underlined objectives define Statistics Canada's business model, as described in considerable detail in the Agency's first ever *Corporate Business Plan* (Statistics Canada, 2009).

We will argue that these four objectives are the appropriate objectives to achieve as part of a statistical agency's contribution to be a valuable partner in

2 Ivan Fellegi (2011) made these observations in his comments on the first draft of this paper.

intelligent government. The rest of this section explains in some more detail what these objectives mean.

Access

Access refers to citizens' ability to get the information they need from their statistical agency. This access refers to the availability of both non-confidential and confidential data.

On non-confidential data, there are issues of how much data are available, at what cost, how long after the fact, and the ease with which available information can be understood.

On confidential data, there are other issues beyond those described above for non-confidential data. Many users need micro data for research and policy development. However, by their very nature these data cannot be made public. The issue, therefore, is the ability of a statistical agency to achieve both objectives simultaneously, of finding creative ways to make confidential data available to those who have important needs while putting in place safety devices to ensure those users do not make this information public.

Relevance

Relevance refers to the reality that no statistical agency can ever have the ability to gather all data that users may find useful. Choices have to be made. In making these choices, the issue is whether the data produced by a statistical agency are the most important in relation to the priorities and needs of the country.

It is useful to remember that priorities and needs evolve over time. Relevance of data produced by a statistical agency, therefore, automatically declines unless proactive steps are taken to reallocate resources to meet the evolving needs.

Quality

Quality of data refers to how representative the data are of the phenomenon they are supposed to capture. For example, if the data on the unemployment rate, based on a sample, say the rate is 8 per cent, are we confident that taking the labour market as a whole, the rate is really likely to be 8 per cent?

In reality, there is a confidence interval around data estimated from sample surveys. The issue, therefore, is whether the data are good enough for the purposes for which they are produced.

The level of quality needed for different types of data will differ because their uses are different. In view of this reality, a statistical agency may have five types of data gatherings: a voluntary survey; a mandatory survey; a sample census where information is collected from a very large unbiased sample on a mandatory basis; a full census, where information is collected about all citizens on a mandatory basis; and, the use of administrative data, that is information collected for purposes other than gathering statistics, such as to run a government program. An example of administrative data is the tax data that are collected by a tax department but that may also be useful as a source of statistical information.

There are also a number of methods in data collection including survey mailouts, door-to-door visits by enumerators, telephone interviews, and the internet. Again, different methods would be used to meet different needs for data collection.

Going back to representativeness as a hallmark of quality, there are a number of quality indicators that would define this representativeness. These can be of a static nature, meaning they are always present. Or, they can be of a dynamic nature, meaning they change over time. On the static side, these would include:

- *Local Relevance:* This refers to the relevance of a particular survey in gathering data consistent with the needs.
- *Accuracy:* Statistical information is accurate to the degree to which the information correctly describes the phenomenon it was designed to measure. Accuracy is usually characterized in terms of error in statistical estimates and is traditionally separated into bias and variance. Accuracy also includes accurate reporting of data, which is not an insignificant task in view of the fact that in each survey millions of data observations are collected that need to be converted into usable information for dissemination.
- *Timeliness:* This refers to the length of time between the reference point to which the information relates and its availability to users.

- *Accessibility:* This refers to the ease with which users can learn of the existence of a particular piece of data, locate it and import it into their own working environment. It includes the suitability of the form or medium through which the information can be accessed and its cost.
- *Interpretability:* This refers to the ease with which users can interpret and utilize the information appropriately. It includes the availability of "metadata", or the supplementary explanatory information on data being provided that answers questions users may have about the data.
- *Coherence:* The coherence of statistical information reflects the degree to which it can be successfully brought together with other statistical information within a broad analytical framework. It includes coherence between different variables pertaining to the same point in time, coherence between the same variables for different points in time and international coherence.

On the dynamic aspect of quality, there are two key considerations:

- *Non-response:* This refers to the automatic tendency for response rates to decline over time in view of economic and social evolution and changing technology (e.g. increasing use of cell phones). Maintaining quality would require dealing with this phenomenon.
- *Coverage:* Surveys use samples which need to be representative. The source of information from which samples are drawn is called a "frame". With the evolution of the society and the economy, and the different mix of data sources (e.g. greater use of administrative data), the frames need to be updated to ensure appropriate coverage.

Organizational Efficiency

Organizational efficiency of a data collection agency is a critical attribute of good data as it allows the achievement of the best possible data within available resources, or high quality data at least cost. The quality of a data collection organization's governance and management structure should allow it to intelligently handle all issues, existing or emerging, and to have the foresight to anticipate approaching challenges. It will include systems to employ the best available human resources and to keep its capital stock modern and up-to-date. And it should use a well-defined and concrete risk management structure and an evaluation framework to determine if objectives are being achieved at least cost.

How Does Statistics Canada Measure Up to the Desired Attributes

A comprehensive evaluation of Statistics Canada's performance in the areas described as desirable in Section 3 is not available. Indeed, it would be useful at some stage to estimate the Agency's productivity, which anecdotally seems to have risen considerably in view of the significant increases in data quantity and quality without a commensurate increase in resources.

In the early 1990s, the British magazine, the *Economist* examined the performance of the world's leading statistical agencies and declared Statistics Canada to be the best in the world (The Economist, 1991 and 1993).[3] Anecdotal evidence based on views of other statistical agencies around the world would lead one to conclude that Statistics Canada has kept its reputation as a leading-edge organization and can be safely characterized as, at least, one among the best in the world. The recent developments regarding the long form census may have a negative impact but it is still early to tell how much.

In its *Departmental Performance Report* submitted annually to Parliament (Statistics Canada, 2010b), Statistics Canada examines its performance over the past year against a set of quantitative benchmarks and targets. It is useful to reproduce some of that information to obtain a better sense of its performance.

3 Also see Wikipedia article on "Statistics Canada". URL: http://en.wikipedia.org/wiki/Statistics_Canada

Statistics Canada's Performance Highlights

Performance Indicators	Targets/benchmarks	2009/2010 performance summary
Indicators of access		
Number of visits to the Statistics Canada website	Annual increase in visits exceeds 5%	Not met – Visits to the website decreased by 4.2%
Client satisfaction with price to access data	Rating of 4 on a scale of 5	Somewhat met – Client satisfaction rating was 3.6 for economic statistics and 3.3 for social statistics
Indicators of relevance		
Number of data series downloaded from the CANSIM online database	Annual increase in downloaded series exceeds 5%	Exceeded – Downloaded series increased 23.2% for economic statistics, 13.4% for social statistics
Clients' satisfaction with Statistics Canada's ability to meet their needs	Rating of 4 on a scale of 5	Mostly met – Client satisfaction rating was 4.0 for economic statistics and 3.9 for social statistics
Number of media citations	Many	Met all – There were 9,294 media citations
Indicator of quality		
Percentage of statistical outputs that meet set levels of sampling accuracy	95% of major statistical outputs meet set levels of sampling accuracy	Exceeded – 96.0% for economic statistics and 99.7% for social statistics
Indicators of organizational efficiency		
Rating on 21 areas of management, as defined in the federal Management Accountability Framework	Obtain rating of 'strong' or 'acceptable' in most areas of management	Met all – Rated 'strong' or 'acceptable' in all but one area of management
Departmental Staffing Accountability Report (DSAR)	Improve on results from the 2008 DSAR	Exceeded – Overall rating improved to 'strong'
Public Service Employee Survey 2008	Rank among the best in comparison with other federal government departments (response rates and overall results)	Met all – Response rates well above Public Service average; job satisfaction at or above other federal departments
Financial reporting to Policy Committee	Monthly	Met all – All financial reports delivered as planned

Management Accountability Framework: Historical Trend Report Round 7,2009/2010 Compared with Previously Assessed Round Statistics Canada

Area of management		Assessed by TBS	Last	Current	Change
Core					
1	Values-based Leadership and Organizational culture	√	ST	ST	*
6	Quality and Use of Evaluation	√	AC	AC	=
9	Effectiveness of Corporate Risk Management	√	AC	AC	=
10	Excellence in People Management	√	AC	ST	*
17	Effectiveness of Financial Management and Control	√	AC	AC	=
19	Effectiveness of Internal Audit Function	√	OI	AC	↗
Department specific					
12	Effectiveness of Information Management	√	AC	OI	↘
13	Effectiveness of Information Technology	√	AC	ST	↗
Remedial					
7	Quality of Performance Reporting	√	OI	AC	↗
Rotational					
2	Utility of the Corporate Performance Framework	√	AC	AC	=
3	Effectiveness of the Corporate Management Structure	√	AC	AC	=
4	Effectiveness of Organizational Contribution to Government-wide Priorities	√	AC	ST	↗
14	Effectiveness of Asset Management	√	AC	AC	=
5	Quality of Treasury Board Submissions		AC	AC	=
8	Managing Organizational Change		ST	ST	=
15	Investment Planning and Management of Projects		ST	ST	=
16	Effective Procurement		ST	ST	=
19	Effective-management of Security and Business Continuity		ST	ST	=
20	Citizen-focused Service		ST	ST	=

Total number of areas of management assessed by Treasury Board Secretariat in current round	*	↗	=	↘
13	2	4	6	1

ST = Strong; AC = Acceptable; OI = Opportunity for improvement

√ Assessed in current round.

* Unable to compare (e.g., because of methodology changes or unrated areas of management).

International Comparisons of the Periodicity and Timeliness of Data Release, National Accounts, G7 Countries

G7 country	Benchmark	Periodicity			Timeliness		
		SDDS	Result	Rating	SDDS	Result	Rating
Canada	Meet SDDS requirements	Quarterly	Quarterly	Met	1 quarter	60 days	Met
France		Quarterly	Quarterly	Met	1 quarter	50 days	Met
Germany		Quarterly	Quarterly	Met	1 quarter	45 days	Met
Italy		Quarterly	Quarterly	Met	1 quarter	10 weeks	Met
Japan		Quarterly	Quarterly	Met	1 quarter	6 weeks	Met
United Kingdom		Quarterly	Quarterly	Met	1 quarter	1 quarter	Met
United States		Quarterly	Quarterly	Met	1 quarter	31 days	Met

SDDS: Special Data Dissemination Standard.

International Comparisons of the Periodicity and Timeliness of Data Release, Unemployment, G7 Countries

G7 country	Benchmark	Periodicity			Timeliness		
		SDDS	Result	Rating	SDDS	Result	Rating
Canada	Meet SDDS requirements	Quarterly	Monthly	Met	1 quarter	2 weeks	Met
France		Quarterly	Quarterly	Met	1 quarter	Not later than 10 weeks	Met
Germany		Quarterly	Monthly	Met	1 quarter	1 month	Met
Italy		Quarterly	Quarterly	Met	1 quarter	Not later than 1 quarter	Met
Japan		Quarterly	Monthly	Met	1 quarter	1 month	Met
United Kingdom		Quarterly	Monthly	Met	1 quarter	5 weeks	Met
United States		Quarterly	Monthly	Met	1 quarter	3 weeks—not later than 1 month	Met

SDDS: Special Data Dissemination Standard.

We can draw the following conclusions from these results.

- Overall, Statistics Canada's performance is quite good in all areas of its mandate including access, relevance, quality and organizational efficiency.
- This conclusion on the organizational efficiency aspect is confirmed by Treasury Board's independent evaluation.

- The Agency does not rest on its laurels. It continues to seek further improvements, as evidenced by improvements in its already strong results in the Management Accountability Framework.
- Statistics Canada compares quite favourably in international comparisons.

Reasons for Statistics Canada' Success

A number of factors explain Statistics Canada's success.[4] These are discussed below.

Political Neutrality and Independence

The production of data is a complex business and users have no means to determine its quality on their own. Their trust in data depends on the credibility and reputation of the Agency. Credibility depends on a range of factors described below, but one of the most critical of these factors is the neutrality and independence of the statistical agency. Credibility takes long to establish but can be lost quickly if the Agency lets itself be politically manouvered. Whether or not it has the ability to stay independent depends on a number of factors.

The legislative framework is clearly important in this regard. The *Statistics Act*,[5] however, neither gives the Chief Statistician the final authority to make methodological decisions nor does it provide the Agency independence from Ministerial control.

Despite this legislative weakness, Statistics Canada was able to achieve neutrality and independence in the past because of long-standing conventions on the part of governments not to interfere in its functions. Naturally, there is a real risk that conventions may not be respected. The Chief Statistician's option to resign in the face of political interference is one tool that helps the Agency. Because of the long-established tradition of neutrality and independence, all Statistics Canada staff also guard against governments intervening in an inappropriate manner.

---

4 See also Fellegi (1996). In his comments on the first draft of this paper Fellegi (2011) groups these factors into two categories: those that provide legitimacy to Statistics Canada data; and, those that provide credibility.

5 URL: http://www.statcan.gc.ca/about-apercu/act-loi-eng.htm

Furthermore, there are other tools that help allow the Agency to contribute towards maintaining neutrality and independence. These include the Chief Statistician's prerogative to allocate the Agency's budget appropriations with accountability to Parliament through the Minister, his control on survey questionnaires and survey content design and the existence of a transparent planning process in reallocating resources.

Centralized and Comprehensive Statistical System

The *Statistics Act* provides many strengths in this context. The mandate provided by the *Act* to gather data is virtually unlimited in terms of subject coverage. All requests made by the Agency to gather data are mandatory unless they are explicitly declared to be voluntary. This applies to not only the respondents of surveys but to all governments and other organizations from whom the Agency may seek administrative data.

Privacy and Confidentiality of Data

There is no doubt that the collection of data from citizens is a violation of their privacy. Such a violation is permitted by law, in the *Statistics Act*. This violation of privacy is justified because data and information are the cornerstones of decision-making, both by citizens and their governments. There is obviously a trade-off which is governed by privacy laws and through real life application of the privacy provisions by the Privacy Commissioner.

An important aspect of privacy is the linking of data from various sources, called record linkage. This can be problematic if there are no checks and balances. Statistics Canada has in place a multi-stage review process to ensure data linkage does not occur without careful thought and without the approval of the Chief Statistician.

In contrast to privacy, confidentiality refers to personal information not being available outside the Agency, except in situations where the respondents have given their explicit consent. The *Statistics Act* takes confidentiality extremely seriously. According to the *Act* all employees of the Agency are personally liable for the protection of statistical confidentiality and not even courts have access to individually identifiable information without the informed consent of respondents. The Chief Statistician ensures that confidentiality is upheld and even the Minister has no authority in law to overrule him. All staff in the Agency are extensively trained in understanding their obligations and in ensuring they respect the letter and spirit of the law.

Transparency of Operations

The way Statistics Canada does its business is an open book. Its planning process to establish priorities is public and extremely well-documented. Any and all data collected are made public, except those that violate the confidentiality requirement. There are no special clients: data collected for any client on a cost-recovery basis is also available to all Canadians. The release dates for key data are published in advance so a government would not have the option of manipulating data release dates to its advantage. The Agency's Parliamentary reports are comprehensive and provide all relevant information Canadians want to know.

Stakeholder Input

The Agency cannot produce data that users need most without communication with users. This is done through regular meetings of the advisory committees on various subject matters. The National Statistics Council serves as the advisory body to the Chief Statistician on matters of an overall nature and guides the Agency's operations and advises on its priorities. Contacts also exist with all key data users including federal departments, provincial and territorial governments, municipalities, researchers and the media.

Strong Methodology Group

Quality of data is Statistics Canada's hallmark. Maintaining quality is an ongoing challenge in the face of constant economic and social evolution. Statistics Canada is fortunate to have a world-class methodology group supervised by an Assistant Chief Statistician. They undertake sophisticated research on challenging issues to advise subject matter specialists on how to maintain and enhance quality of their data. They publish an internationally-acclaimed peer-reviewed methodology journal reporting on their findings.

Client-Orientation in Dissemination

Production of data is one thing. Disseminating it in a manner understandable to as many Canadians as possible is another. Statistics Canada takes this aspect of its tasks seriously. It publishes a daily release reporting on new data releases for the day, titled appropriately the *Daily*. It has made considerable efforts recently to improve its web-site.

Management and Governance System

All of the strengths described above are made possible by the management and governance system in place. The *Policy Committee* which is composed of the Chief Statistician and the Assistant Chief Statisticians meets every Wednesday to review major issues that need to be dealt with and makes collective decisions for the good of the Agency.

Sophisticated Resource Allocation Planning Mechanism

Statistics Canada has a well-established, open and transparent annual planning cycle to review its ongoing needs and find resources internally through efficiency-enhancing steps to meet new needs. This process begins in October of each year and is completed by the February of the next year at a marathon meeting of the Policy Committee.

Sophisticated and Comprehensive Program Evaluation System

Statistics Canada's quadrennial and biennial program reviews evaluate each and every one of its programs over a four year period. The Agency follows a unique model for this evaluation based on the following principle: effective program evaluation can be done only by those who actually have the experience in running those programs; however, mechanisms must exist to ensure that these self-evaluations are completely and totally neutral and above-board. To achieve this, those responsible for programs do comprehensive self-evaluations under the oversight of a Quality Secretariat, the centralized program evaluation group and the Policy Committee.

Sophisticated Risk Management System

Under this system each program has an evergreen risk profile which establishes a composite risk in each area. The program then analyzes the means required to bring risk to an acceptable level. The risks and investments required are then evaluated at the annual planning discussions and investments are made to deal with those risks that are beyond an acceptable level.

Strong Analytical and Research Program

Data confrontation, that is testing relevant data against each other, is one way of evaluating data quality and helps in identifying area that need improvements. This is one of a number of analytical methods that are employed by the Agency in its research and analysis groups to understand the data better for future improvements. The Agency publishes its research, which is accepted as high quality by the research community.

The Census Issue

The message from the above discussion is that Canadian data gathering and dissemination are reasonably good and compare favourably with other countries. The above discussion also describes some challenges that, while important, are natural in a large program.

With that as a context, how does one describe and explain the census controversy of the summer of 2010 when the government decided to cancel the long-form census and replaced it with a voluntary survey, leading to a public outcry and the eventual resignation of the Chief Statistician? These developments reflect substantially on all aspects of Statistics Canada's mandate described above, namely access, relevance, quality and organizational efficiency. In view of the importance of these developments, this section provides a detailed review of the census issue.

The section covers six topics. It begins with a brief history of the census. Second, it describes the process of undertaking the census. Third, it summarizes the nature of the census questions and the uses of the census data. Fourth, having provided a context, it describes elements of the 2011 census drama. Finally, it says a few words on the circumstances leading up to the Chief Statistician's resignation.

Census History

Believe it or not, the first census in the land that we now call Canada was initiated 367 years ago in 1644 by Jean Talon. Given the importance of his statistical contributions to Canada in those early years, Statistics Canada named one of its three buildings in his honor. The census counted the colony's entire population of 3,215 inhabitants and asked questions related to age, sex, marital status and occupation.

There was a long string of 98 colonial and regional censuses during the years leading up to 1871, when the first census was undertaken in Canada following the 1867 *British North America Act*.

The 1871 census contained 211 questions on demography, land holdings, vital statistics, religion, education, administration, the military, justice, agriculture, commerce, industry and finance.

The census with the largest number of questions took place in 1921. There were 565 questions in that census. Questions were asked on population, agriculture, animals and animal products, manufacturing and trading establishments, and certain disabilities.

The 1941 census was the first to introduce sampling within a census by asking questions of every tenth household. This innovation had the objective of collecting high quality data at a much lower cost and significantly lowering the response burden.

Based on the experience of the 1941 census, it was decided to increase the sample size to one in five in the 1951 census.

The current *Statistics Act* was passed in 1971, with Statistics Canada replacing the Dominion Bureau of Statistics. The 1971 census introduced many innovations. It began "self-enumeration". It started a new "short form" questionnaire, with the traditional census now labeled the "long form". It is worth emphasizing that the 1971 census did not begin the long form. Rather, it brought in the new short form. The 1971 census began the process of sending the short form to two in three households and the long form, which included the short form questions, to one in three households.

The 1996 census short form went to 4 in 5 households and reduced the number receiving the long form to 1 in 5 households. As another innovation, the census could be completed in two official and 49 unofficial languages, 12 of which were aboriginal languages.

The 2006 census took place on May 13, with a total of 13.6 million households receiving a census questionnaire. There were 8 questions on the short form and 53 additional questions on the long form. For the first time ever, internet response was an option, with 18.5 per cent of the population using this mode.

Census Process

The process can be usefully broken into six parts.

The first step is ***consultations*** with stakeholders and data users. The *2011 Census Content Consultation Guide* was released in July 2007 and the *2011 Census Content Consultation Report* was released in July 2008. Statistics Canada received more than 1200 content-related suggestions from more than 150 organizations and private citizens.

The second step is the ***development of questions.*** Based on these consultations, and the need for continuity of historical information, changes from one census to the next are generally modest. Sixty percent of the questions asked in the 1971 census still remain. Questions in the 2006 census now dropped are related to unpaid work. Questions added for 2011 include commute time, child care support and its costs, and subsidized housing. Questions are evaluated for privacy objectives, working together with the Privacy Commissioner.

The third step is to determine which questions go into the ***short form and which to the long form.*** As I mentioned earlier, the distinction between the short and long forms began with the 1971 census.

Statistics Canada does not differentiate among these questions on the basis of their importance, as they are all tied to the needs of a variety of users. For example, the head-count question in the short form may be the most important for governments in the distribution of Parliamentary seats or for federal-provincial transfers. But for a city transportation planning department, the most important piece of information may be about how people travel to work and how much time they spend commuting, a question which is in the long form.

It is, therefore, not the importance of the questions that determines whether they are in the short or the long form. What determines this division is a cost efficiency test: how can we obtain the highest quality data at least cost.

The fourth step in the process is for Statistics Canada to submit the proposed questions to the ***Government*** and for the Government to review these proposed questions and tell Statistics Canada what the census contents will be.

The fifth step is to ***collect*** data. As part of this process a census test is conducted about a year before the actual census date to ensure all systems work well. Again, to constantly strive to reduce costs and the response burden, Statistics Canada moved in a substantive way to internet data collection in the 2006 census. The May 2009 census test indicated the potential to double this response rate in 2011 to over 35 per cent.

The sixth step is to ***transform*** raw data into data useful for users and to disseminate them. Dissemination begins about a year after the census as the large amount of data has to be processed, edited, and checked for accuracy, gaps and consistency. The data are analyzed thoroughly to understand the results before they are released publicly.

The whole process takes about seven years.

Statistics Canada stands out particularly well in any international comparison in collecting census data.

There are four objectives a national statistical office tries to achieve in gathering data: high data quality; low cost; low response burden; and privacy and confidentiality of data collected.

On quality, we are not aware of another statistical organization that produces census data of a higher quality than Statistics Canada.

On cost, we can compare Canada with Australia and the United States, countries that are similar to us in running a survey-based census rather than using administrative data. Statistics Canada's per dwelling census cost for the 2006 census was $43.77 (in 2009/10 dollars) compared to $126.18 in the United States and $49.68 in Australia.

On the response burden, with the innovation of sampling within a census, only a fraction of the population needs to spend time filling the form.

On privacy and confidentiality, there were two complaints from Canadians related to the 2006 census. Statistics Canada has never had a breach of its census data because the Agency has in place sophisticated and effective security systems. Indeed, Statistics Canada has been blamed sometimes for being paranoid about privacy and confidentiality.

Census Questions and the Uses of Census Data

From 1971 to 2006, the Census included two forms: the short form and the long form. The short form included questions of a tombstone nature with the main objective being a head count. The long form included the remaining questions that were focused on getting respondents' socio-economic information.

The 2011 census will contain only the short form questions and two questions on language from the previous years' long form. All long form census questions will be part of the new National Household Survey that will be voluntary.

To get a perspective on the uses of past censuses, we can use the 2006 census as an illustrative example.

The short form questions on **demography** have many uses. As examples, this information is essential to enumerate the population, to provide counts of population by federal election district, to redraw the electoral boundaries, and to provide a base for the federal fiscal transfers to provinces and the territories. The language question in the short form allows the government to meet the minority language provisions of the *Charter*.

Labour market and income data are used by many to study economic and social performance of Canadians and are used by governments to develop and improve many social and economic policies. Detailed industry and occupation data for small areas, that are available only from a long form census, are required to assess changing skill needs and labour shortages. The census yields labour market output information for vulnerable groups in the community such as immigrants, visible minorities, aboriginal peoples, and official language minorities.

Transportation data include modes of transportation, place of work and commuting time. This information is used extensively by the federal, provincial and territorial governments, transport associations and the private sector in dealing with critical transportation planning needs.

Education data, in conjunction with other information, are used widely by governments and researchers for labour market analysis and education planning needs. Long form Census education data are fundamental for studies related to groups that draw policy attention such as immigrants, aboriginal peoples and official language minorities.

Language information collected from the long form census is required for federal programs in support of minority language education, for implementing bilingual services, for the promotion of bilingualism nationally, as well as for heritage language programs including aboriginal languages.

Activity Limitations questions provide information to meet the ongoing demands for data on the size and characteristics, including labour force experience, of the population of persons with disabilities.

Housing data provide information on shelter costs of tenants and homeowners, age of dwellings, value of owner-occupied housing, the need for repairs, number of rooms and bedrooms, and the extent of subsidization of housing. These allow governments and researchers to examine issues of affordability and the quality and state of housing. The housing information collected in the census is the only source of data for the condition of housing for aboriginals living on reserves.

Citizenship and immigration data allow governments to develop and enhance immigration and citizenship programs. Combined with other long form data, researchers can gain valuable insights into the performance and integration of immigrants into the Canadian economy and society. The results of such research are critical to governments in managing the Canadian labour market.

Ethno-cultural information allows governments to meet the requirements laid down in the *Charter*, *the Canadian Multiculturalism Act* and the *Employment Equity Act*.

These are just some of the examples of the uses of data gathered under a variety of headings in the short and long form census. Of course, these data can be used jointly to study a range of other questions which geometrically increases their value. Examples include: links between income and education; various indicators of performance for a variety of population groups; and comprehensive report cards on the performance of particular neighborhoods.

Think of a little experiment. Ask yourself what a new neighborhood would have needed as it is established? Just about everything it needed could have used information from the long form census ranging from building roads and sidewalks, to strip malls, to the establishment of schools, to the setting up of health care facilities, to the opening up of a community centre, to the provision of services for minority groups. And the list can go on and on.

The 2011 Census Drama

On June 26, 2010, the Government announced in the *Canada Gazette* that the 2011 census would include only the short form. The form would only have 8 questions.

This was followed by criticism from many users of the data. Close to 370 groups objected to the decision. Critics include, among many others, provincial and municipal governments, academics, think tanks, private sector researchers, NGOs, religious organizations and the media.

The government's response has been that it does not believe that coercion should be used to obtain long form information from Canadians who do not want to provide it voluntarily. The government is against obtaining information on the long form by threatening to send Canadians to jail or to impose fines.

The Minister responsible for Statistics Canada explained at the Parliamentary Committee hearings that his government believed in "balance" in getting the needed data and the citizens' desire to maintain privacy (Standing Committee on Industry, Science and Technology, 2010). This balance naturally produces an outcome where data are obtained voluntarily; hence the voluntary survey that replaced the long form census.

This "balance" approach is a change in course from the existing Statistics Canada practice of achieving both privacy and data quality objectives.

Under existing practice, Statistics Canada consults users extensively on their data needs as we have described earlier.

The questions that Statistics Canada develops are then vetted for privacy objectives, working very closely with the office of the Privacy Commissioner. The two organizations have always worked well together and, to the knowledge of Statistics Canada, it has not been in any situation of significant disagreement with the office of the Privacy Commissioner.

Having assured itself of the privacy objectives, both in letter and in spirit, Statistics Canada finds the most appropriate method of data collection to maximize quality at least cost. This may mean undertaking a voluntary or a mandatory survey depending on client needs. Undoubtedly, the quality of a mandatory census is higher than that of a voluntary survey; just as the power of a 53 foot transporter is greater than that of an SUV which itself is stronger than a small passenger car. However, each is built for its own particular use. One does not use a 53 footer to drive around two passengers in the city and one does not use a small sedan to transport goods to a Walmart on an ongoing basis. Similarly, one cannot satisfy the needs of many data users who rely on a census with the results of a voluntary survey.

Returning to the government's position to seek a new "balance", a number of questions have arisen.

- Did the government analyze carefully the consequences of a loss in data quality as a result of the voluntary survey? Did it consider how this loss in quality would impact the data needs of users? Did it examine the negative consequences of that on policy development, including that at the federal level?
- In undertaking such an analysis, why did the government not consult with data users?
- Did it compare these consequences from the loss of data quality against any privacy gains? In this context, what is the importance of the fact that the Privacy Commissioner had no issues with the long form questionnaire in the context of Canada's strict privacy laws? Furthermore, there have not been many complaints against the census in the past, either to the Privacy Commissioner or to Statistics Canada. To my knowledge, there were two complaints against the census on privacy grounds in the 2006 census and one in the 2001 census. A total of 64 Canadians were referred to the Public Prosecution Service of Canada in a population of over 31 million. Nobody was ever sent to jail for not completing the census questionnaire.
- What was wrong with Statistics Canada's approach to achieving the twin objectives of quality and privacy?

- How does the new approach of "balance" improve upon the existing Statistics Canada approach?
- What are the alternative ways of getting the information that users need to monitor, implement and evaluate their programs?
- What does this mean for other mandatory surveys of Statistics Canada? The future of the Labour Force Survey? The future of business surveys? For the future of the Agriculture Census?
- Was the decision on the long form taken with a view that the information so collected is less important than information collected from the mandatory short form, the Agriculture census and other mandatory surveys? Is that assumption valid?

Beyond the specific question of the mandatory or voluntary long form there is a structural issue that has come to the fore as a result of the census debate: the issue here is whether the *Statistics Act* circa 1971 provides enough independence to Statistics Canada and enough authority to the Chief Statistician for them to be known to be at arms length, so the Agency's products will continue to trustworthy. We believe there is a close relationship between citizens' trust in data and the independence the statistical agency is perceived to have in collecting these data.

The Minister responsible for Statistics Canada quite correctly observed that the Agency reports to him and is not independent in making its decisions. Data users until then had a perception of Statistics Canada as an arms length type of organization, an impression based obviously on the long tradition of independent decision making by Statistics Canada that was not enshrined in law. An issue in this context is that it is the Minister, not the Chief Statistician, who according to the law retains final authority on technical and methodological issues.

Another issue is whether the determination of census content is a political or a technical question.

And, finally, there is the question of whether the current nature of Statistics Canada, effectively as a government department, is appropriate, or whether a different model should be considered.

These questions are serious and important. They were not dealt with in the past as long traditions made their resolution unnecessary. With the census debate, it is time to consider these issues and determine whether improvements to the current law can be made.

Chief Statistician's Resignation

As explained in the Chief Statistician's testimony to the Parliamentary Committee, a Deputy Minister has twin roles; one, to give fearless advice to the government; and, second, to implement loyally all of the government's lawful decisions (Standing Committee on Industry, Science and Technology, 2010).

He argued that he had always fulfilled that oath as a public servant and the oath under the *Statistics Act*. He argued he was living up to his obligation to implement the government's decision to replace the mandatory census with a voluntary survey to the best of his ability.

However, during the week of his resignation, following comments the Minister had made on three separate occasions, media stories emerged focused on two points: first, that the quality of the voluntary survey data would be as good as that of the census; and, second, that Statistics Canada, and the Chief Statistician, were firmly behind this decision.

These media stories began to damage the reputation and credibility of Statistics Canada and to cast doubt on its integrity.

The advice Statistics Canada gave to the Minister is protected under the law. Releasing that was not an option.

Having made efforts internally to fix the problem without success, he argued he had no credible option but to resign with an answer to the underlying question in the debate: whether a voluntary survey can be a substitute for the mandatory census.

His response was: "It cannot."[6]

Challenges in Producing Good Data

With this information, we are in position to take stock of the future challenges in the collection and dissemination of good data as part of intelligent

6 See the resignation statement on URL: http://www.680news.com/radio/680news/article/80353--text-of-munir-sheikh-s-resignation-statement

government. The challenges include the following in components of Statistics Canada's four part mandate.

Access

On the non-confidential data, the greatest challenge is the price the Agency charges for its regular data. This charge is beyond the cost recovery system the Agency maintains in charging users for the specialized data they ask for. There is no economic rationale for charging a price for a public good beyond its marginal cost, which in the case of Statistics Canada's regularly-produced data, is small to non-existent.

This is a matter for the government of Canada to resolve as the Agency does not have the approximately $5 million needed to accomplish this objective.

On the confidential data front, the Agency faces a challenge: micro data are essential to researchers to understand critical economic and social issues facing Canada; however, a leak of such data can seriously harm the Agency's data collection business as respondents stop cooperating with the Agency. It is Statistics Canada's obligation to extend the frontiers of this trade-off by finding creative ways to improve accessibility, perhaps by using new technologies, to preserve confidentiality. The Agency is already moving in this direction but it needs to ensure that, rather than letting up on this, it moves full speed ahead.

Relevance

The reality that the relevance of data falls automatically with economic and social evolution, as old data keep being collected and new resources are constrained, has already had real consequences. There are many areas where new and better data are needed but not being produced.

Examples of significant and critical data gaps include, without being exhaustive:

- There is a need for an improved Consumer Price Index that updates weights more frequently, has a wider coverage of commodities and does a better job in dealing with quality changes.
- Canada does not have an ongoing wealth survey. This is surprising since a number of issues the country faces today require information on wealth holdings at the household level. The debate on the adequacy of pensions

is taking place without the knowledge about personal asset levels of Canadians at the time of their retirement. The impact of the financial and economic crisis cannot be fully examined without an understanding of changes to household wealth.

- The Drummond Report, prepared for the Council of Labour Market Ministers, highlighted serious labour market data gaps and urged the government to act expeditiously in view of the weak labour market that exists today following the financial and economic crisis (Drummond, 2009).
- With globalization, trade data have not kept up. There are weaknesses in data for trade volumes, because of inter-industry and intra-industry trade, and trade prices, particularly import prices.
- Service sector data, particularly service prices, need improvement.
- Data on aboriginal populations are particularly weak. This is especially true of populations on reserves where the only source of data for reserves which participate was the census. Even that source is now largely gone with the cancellation of the long form census.

Quality

The Agency has worked valiantly to maintain the quality of its data. However, it is facing a number of challenges on this front as well.

Quality like relevance can be threatened by economic and social evolution and technological change. For example, the increasing use of cell phones makes it harder to contact to respondents. Social change is making it more difficult for the Agency to obtain citizen cooperation as the growth of two-earner families and mobility, as examples, makes it harder for the new generation to spare time.

Meeting the challenge requires ongoing investments. However, the option of scaling down existing programs to find these resources is hard as there are clients of all existing data that become very vocal if their cherished program is cut. The alternative is increased funding from the government. The reality is that funding has been cut repeatedly.

The residual result of these realities is the pressure on data quality. There is just so far the Agency can go in finding innovative solutions to this conundrum.

As if this were not enough, the government's decision on the long form census has the potential for a substantial impact in reducing the quality of Statistics Canada data.

Data quality may be affected in a variety of ways.

First, it will affect the long form survey data.

It is a statistical fact that a voluntary survey cannot become a substitute for a mandatory census because of uneven response rates from different population groups and different size geographic areas. Increasing the sample size cannot offset this problem. Hence, many data users including the federal government will lose the data quality they need.

Second, to the extent that the long form census data provide a benchmark for other Statistics Canada surveys, the quality of data from these other surveys would deteriorate.

Third, there is now risk about the quality of the short form data and other data produced by Statistics Canada.

The short form information is even more critical to benchmarking a number of Statistics Canada surveys. Many respondents may be getting confused about what is voluntary and what is mandatory and why is there a distinction between the data needs of the two types. The risk of this confusion may have increased substantially in view of the debate that has unfolded since the announcement of the census decision. One factor Canadians may take into account in deciding whether or not to respond to the mandatory short form or other surveys is the government's argument that Canadians are right in not providing information they think the state does not need to know.

Fourth, what is the future of Statistics Canada's other mandatory surveys, such as the Labour Force Survey, all the business surveys and the Agriculture census? Would they become voluntary in the future and what implications for data quality would follow?

Organization Efficiency

The Agency's philosophy to-date has been to produce the highest quality data at least cost. The cancellation of the long-form census, and its substitution with a voluntary survey, turns this objective upside down: the Agency will now produce low quality survey data with increased expense of $30 million.

The cancellation of the long form raises more worrisome structural issues regarding the adequacy of the *Statistics Act* in preserving the independence and neutrality of Statistics Canada. If these issues are not resolved they have the potential to damage the trustworthiness of Statistics Canada.

Making Gains in Producing Good Data

Based on the review provided above we are now in a position to suggest improvements. There are some suggestions directed at the government and others directed at Statistics Canada.

We suggest the following to the government.

First, Statistics Canada, and the quality of the data it produces, should not be taken for granted. It should always be on the government's radar screen. No country can be among the league of civilized societies without intelligent policy development. And, intelligent policy development is not possible without good data.

Second, the United Nations Fundamental Principles of Official Statistics[7] state: "To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage, and dissemination of statistical data."

In this context, the government should ensure that Statistics Canada is at arms length from the government. This indeed was the perception of users until recently, grounded in long tradition, rather than in law. With what has happened on the census, it is now time to revise the *Statistics Act* and achieve this objective in law.[8]

Third, the government should seriously look into Statistics Canada's resources to ensure that it continues to produce data that reflect the highest needs of the country. The government needs to understand that Statistics

7 URL: http://unstats.un.org/unsd/methods/statorg/FP-English.htm

8 In a letter sent to the Prime Minster, Cappe *et al.* (2010) recommend inserting this UN principle in the *Statistics Act*. They also suggest that the Chief Statistician and not the Minister, should have authority on all matters of technical and methodological nature. URL: http://afhimelfarb.wordpress.com/2010/09/10/statistics-canada-letter-to-the-prime-minister/

Canada is principally a data producer for others to use. It should either find a more efficient way to let the Agency re-allocate resources by terminating data collection programs that have become less relevant over time. The difficulty here is that any decision to stop producing ***any*** data upsets those who use them, often within the federal government, who make it difficult for the Agency to act. Alternatively, if existing data should continue to be produced, as decided by some users, the government should make funding available for critical data needed for good policy development. Developing pension reform, as an example, affecting a trillion dollar industry without having all the needed data, is short-sighted.

Fourth, data of general purpose use must be free. The government should make funds available to make this happen as quickly as possible.

As for Statistics Canada we suggest the following.

First, it must continue its innovative practices to be a truly efficient organization. It may have some potential to reduce its costs further through re-structuring, which it has already begun. It should complete this process as soon as possible.

Second, it needs to pay more attention to making confidential data available to bona fide researchers *without* sacrificing data confidentiality. It should examine technological solutions, such as remote data access, to achieve the objective. The Agency is already pursuing this course. However, it should give this objective higher priority given the value of these data in achieving Canada's economic and social potential.

Third, until the *Statistics Act* gets changed, it must guard against political intervention and preserve its integrity and reputation.

Fourth, it is understandably becoming quite difficult, but Statistics Canada must continue on the path of reallocating resources from low priority to high priority areas.

Concluding Remarks

We have argued in this paper that Statistics Canada is a world class organization. The quality of data it produces is among the best in the world. It used to enjoy a great reputation internationally until the census issue broke open in the summer of 2010.

The positive outcome was achieved despite a number of challenges including the weakness of its legislation, the difficulty of the reallocation of resources because of interest in all the data it produces, and budget cuts. It has been achieved due to the dedication of the Agency staff who take pride in their Agency and its products.

The census issue has put a pointer on the fact that the good outcomes cannot be taken for granted. This paper has provided a list of issues that should be dealt with, with some focused on the government and others at Statistics Canada.

References

Cappe, Mel, David Dodge, Ivan Fellegi, and Alex Himelfarb (2010) *Letter to the Prime Minister*, September.

Drummond, Don (2009) *Working Together to Build a Better Labour Market Information System for Canada*, Advisory Panel on Labour Market Information, Human Resources and Skills Development Canada, July 6.

Economist (1991, 1993) *Good Statistics Surveys*.

Fellegi, Ivan (1996) "Characteristics of Effective Statistical System," *International Statistical Review*, Vol. 64, pp. 165-197.

Fellegi, Ivan (2011) "Comments on good data and intelligent government," prepared for the Ian Stewart festschrift authors' workshop, April 20-21, Ottawa, Ontario.

Standing Committee on Industry, Science and Technology (2010) *Minutes of Proceedings*, July 27.

Statistics Canada (2009) *Corporate Business Plan*, *2009/2010 to 2011/2012*, Statistics Canada website.

Statistics Canada (2010a) *Report on Planning and Priorities*, *2010-11*, Treasury Board Secretariat.

Statistics Canada (2010b) *Departmental Performance Report*, *2009-2010*, Treasury Board Secretariat.

Personal Reflections on the State of Public Policy Analysis in Canada

Don Drummond[1]
Queen's University

ONE OF MY RESPONSIBILITIES WHEN I joined Finance Canada in 1977 was to adapt the Bank of Canada's RDX model to do simulations of policy options. Ian Stewart had been one of the principals in the path-breaking work at the Bank to develop this early version of an economy-wide econometric model. His name loomed large in the model documentation I studied. In a case of "isn't it a small world," other principals included Fred Gorbet, co-editor of this volume, and John Helliwell, another contributor. I would later have the opportunity to know Ian Stewart in person when he became Deputy Minister of Finance in the 1980s. He instilled an analytical discipline in the Department's work that combined rigour in theory and quantitative methods. A good deal of this policy work was put into the public domain where it could be scrutinized.

1 This article is based on a talk Don Drummond gave December 3, 2010 at the Queen's International Institute on Social Policy.

In this paper I will examine whether the rigour in policy analysis of that era continues today. It is difficult, however, to establish definitive benchmarks from which to make judgments. It is certainly the case that over the past 10 years the federal government has published few analytical documents. Important policy shifts on matters such as immigration and the environment have not been accompanied by published analysis such as that accompanying the Free Trade Agreement (FTA) or the introduction of the Goods and Services Tax (GST). But that does not necessarily mean that the rigour has not continued internally. Paradoxically, then, this examination of the state of public policy analysis cannot have the rigour I seek in policy work. Rather, it is based on personal reflections, often formed on little more than anecdotal evidence of what is happening within policy institutions. As well, the reader should take heed of the saying that tales of the good old days are often the product of bad memories.

Sources of Public Policy Analysis

So what is the state of public policy analysis in Canada? First of all, there are a number of different sources where this kind of analysis could be found: the federal government, the provincial governments, the local governments, academia, think tanks or research institutes, the private sector and the media. I will just briefly go through a couple of the sources that offer literally nothing so that I can get down to the more interesting ones.

Local Governments

Local government would be one of the sources offering little. They have weak analytical policy capacity with few resources devoted to the field and a typical structural impediment in the sense there are thick walls separating the mayor, the council and the bureaucracy. This is a shame because mayors could make a credible claim that the most interesting economic and political activity in Canada over the next 10 to 15 years will come at the local government level due to urbanization and the clustering of economic activity in the major urban centres. Yet, local governments have little political authority and are poorly resourced and structured to apply analysis to the decisions they are able to make. In many cities the bureaucracy actually reports to council rather than the mayor. In some municipalities, Toronto being an example, there is a move toward a "strong mayor's office" where there is greater access to the policy resources in the bureaucracy and some independent, albeit limited, capacity within the mayor's office. But still, it seems unlikely that local governments will become bastions of strong policy analysis over the next few years.

The Media

Another source, the media, is not of course charged with what one would think of as policy analysis. Journalists do not typically have the luxury of working on a particular file for very long. And the media doesn't have much of a market for policy analysis. Nonetheless, the media is incredibly important in the public policy delivery process. Indeed, the media is much more important than most people would give them credit for, because I think that one of the most important aspects of public policy is the conditioning of the public. Politicians do not like to deliver surprises to the public. The public does not deal with surprises very well. A good example is the contrasting approaches to HST harmonization in Ontario and British Columbia. In the former case there was open communication, conditioning and ample analysis provided. In the latter, the policy was announced without context. The Ontario harmonization has occurred without serious political difficulties whereas the B.C. initiative is in peril. The media in the two provinces played predictable roles, reporting on the analysis in the Ontario case and covering the tension in B.C. But this is a reflective role rather than a matter of the media generating its own policy analysis.

Unfortunately, little can be expected on the latter front. In Canada there are very few investigative or even editorial writers to opine on policy matters, and the numbers seem to dwindle annually. Even the column space of the few we have has been reduced. Further, non-editorial writers seem saddled with very strict prohibitions against even a glimmer of personal perspective. So most articles consist of a few facts and then quotes from a few sources. I will note, however, that in recent months there have been some interesting longer features in newspapers, including reviews of healthcare systems, immigration, manufacturing and the workforce. Those who do policy analysis would do well to pay more attention to the role the media can play in generating awareness and understanding of their work.

Private Sector

I will now turn to the private sector. Having just completed an 11-year attachment to the TD Bank I look back with some surprise, almost awe, at the latitude I was given to do policy analysis. TD CEO Ed Clark once remarked that of 70,000 employees, I was the only one able to do whatever he wanted. He emphasized that even he did not enjoy the freedom I had. But it wasn't really a free rein. As in most circumstances, there was an element of implicit censorship. The bank has clients with sensitivities. The bank is heavily regulated by federal and provincial governments so one has to be careful not to alienate government. A few of the TD Economics studies caused considerable controversy. Work on a carbon tax elicited what could only be called hate mail. The same thing happened when I first suggested we needed a debate on opening up the Canada Pension Plan for further reforms. Many people threatened to drop their TD business. Whenever I became aware of such a threat I would contact the client directly and that seemed to persuade most to stay with TD. But how many withdrew their business without me hearing about it?

The sensitivity of clients and governments to policy work by private sector entities leads to a natural tendency to only research "safe" subjects and stay away from anything that might be controversial. But that's hardly a recipe for a valuable contribution to policy analysis. To their credit, the TD Bank took an awful lot of risk, but even then I must admit I probably left them a bit of baggage because it seems a line was crossed with the report on climate change. None of us were under any illusion about this being controversial. And the public and even industry reactions weren't any harsher than we had anticipated. But the government reaction, at both the federal and Alberta level, was much more strident than expected. The effects of the controversy created by that report were still evident when a couple of months later the Ontario Health Minister asked Ed Clark to do a report for her on how to slow down health care spending. There was enormous nervousness in the bank and, for the first time in 10 years, I had lots of people peering over my shoulder wondering exactly what I was going to say, what I wasn't going to say, and how we were going to communicate it. Fortunately for me, and again to the great credit of TD, there were no elements of censorship applied to our health care report. But I don't think one can expect many institutions, or even one institution, consistently to allow such free rein in policy work. And also keep in mind that even the work we did at TD Economics came from the equivalent of one person year on an average, annual basis and even that is probably rounding up. So the private sector contribution to policy analysis has been slight and will probably continue to be so. We do have business associations and other associations which occasionally have done studies, but one has to be very careful in interpreting them as they are often tainted by self-interest. They are still helpful, but not greatly.

Think Tanks and Research Institutes

Now I will move on to think tanks and research institutes. First of all, we don't have very many of them in Canada. We certainly don't even have anything close to our normal one to ten relationship with the United States. And a couple of those in Canada (as in the United States) display their ideological leanings in every single thing they write. It reaches a point where if you tell me the subject I can describe to you precisely what the report will say. Such contributions are hardly very helpful. Fortunately, not all research institutes are like that. We've had some very important longer pieces from the Institute for Research on Public Policy. In addition, the C.D. Howe produces an amazing quantity of relevant public policy research. They tend to be less in-depth than the work of the Institute for Research on Public Policy, but the faster turnaround of the C.D. Howe's projects keeps them very timely with current policy matters. I am envious of what they accomplish on a shoestring budget. In particular, they release a lot of commentaries on issues of the day. There was a time when the Conference Board of Canada took seriously their self-imposed prohibition on policy analysis. But this has been greatly relaxed in recent years, so they have become another positive source. But still, all the research institutes and think tanks together don't add up to that much policy analysis in Canada.

Federal Government

The void left over from local governments, the media, the private sector and think tanks leaves much to be done by federal and provincial governments. I will now turn to the federal government. This will be my main focus. I will offer up the punch line now: I think the state of policy analysis in the federal government is dismal. Remember that this is simply a personal observation and that I have neither empirical evidence of this dismal state nor any rigourous tracking of how the federal government's policy capacity might have deteriorated over time.

My sense of a dismal state of policy analysis capacity is largely based on discussions with former and current civil servants and a monitoring of published work. Indeed, there is precious little evidence of public policy analysis from the federal government in the public domain. If one thinks back to the past, whether one agreed with the policy and the analysis or not, the Conservative government of the Mulroney era put out very extensive documentation of their belief of what would happen under the Free Trade Agreement. They did the same when they introduced the GST. Both were preceded by publication of their economic vision through *An Agenda for Economic Renewal*. They did not shy back at all. In all cases, I was constantly on the road speaking to groups about our analysis. If someone wanted to know our assumptions or our model properties, everything was put out for inspection.

When the Liberals came into power in the early 1990s they set out their economic and fiscal beliefs very explicitly in the so-called *Purple* and *Grey Books*. In the mid-1990s, we had a fairly fulsome debate that the government fully participated in when Lloyd Axworthy was interested in changing a number of aspects of the social security system. All this was backed by an official government paper. The *Purple Book*, the *Grey Book* and Axworthy's paper were very explicitly designed for the public domain. Again, they offered the details of thinking from which a debate could spring. In 2003, the then Ministers Alan Rock and Jane Stewart put out documents on their innovation and learning agendas. These documents supported a series of conferences. Thus, historically it was clear that there was a critical mass of analytical thinking going on in the government because we would see the evidence of it, we could feel it, we could touch it, we could participate in it and, perhaps most importantly, we could question it. I think that this has not been the case in recent years. The lack of public documentation of policy analysis is not necessarily a feature of the Conservative Government because there is no sharp break around 2006. Perhaps it is associated with minority government status. If that is the case, then the recent shift back to a majority government might bring forward more documentation on policy issues.

The classic example of an analytical void is climate change. Again this cannot be laid at the doorstep of the Conservative Government. Canada started the negotiations that ultimately led to Kyoto in the early 1990s, the agreement was signed in the late 1990s and we are now almost through the first reporting period. Yet there is not a single public document, from the Liberals or the Conservatives, with a complete government perspective on what it will take policy wise to hit various emission reduction targets. In fact, the only documents with any shred of analysis show that the policies that have been implemented to date, and those that are being contemplated, will not come remotely close to any of the government's targets.

I think that is scandalous and I don't know how it can be viewed in any way as acceptable. I don't know how a government can stay this silent on the policy analysis front. I don't understand why the media and public have not criticized the policy vacuum more aggressively. Perhaps the analysis exists internally. We can't know this if we can't see it. I do not know of any other public policy field where there is not immediately available, with a relatively tight degree of consensus, a ranking of the various different policy options with the benefit-cost ratios attached to them. It does not exist in the climate change of the environment area writ large. And that void leads to policy mistakes. For example, one finds something like the transit pass tax credit introduced under the guise of a climate change measure when it reduces emissions at a cost likely around $2,000 a tonne but was financed by scrapping programs that were working at about $60 per tonne. In other words, from the climate change perspective, it is a completely inefficient policy. That's probably why over time it has come to be described as a more general tax credit. My point is that without a rigorous policy analysis framework, governments are not called out on having introduced inefficient measures like this. And where do the figures of $2,000 and

$60 per tonne of emission reduction come from? From gossip concerning never-released government papers.

In the fall of 2008 the government completely reversed the immigration selection process from an emphasis on education to identifying 38 occupations allegedly in short supply. If potential immigrants wanted to be on the fast track, they had to have worked in one of these occupations. Why did the government make the switch? What was the analysis that led to the switch and on what basis were the particular occupations identified? What is the guarantee the same occupations will have labour shortages in future? At the time of the change I was chairing an advisory panel for the federal, provincial and territorial governments on labour market information and I tried with some insider access to figure out what the analysis was. I never did find it. I was smirking a little bit when the Auditor General's report revealed that her office couldn't find detailed analysis. So maybe the evidence of lack of policy analysis rigour is only superficial, but maybe there really isn't much for us to see.

Another source of anecdotal evidence is the many friends who were with me in the Government of Canada in the 1970s and 1980s who recently retired, thinking they would do the odd contract. Instead they find a seemingly endless supply of contract work available. Work that in their view would have been handled by internal policy shops during their years in government. It can certainly be a good thing to farm out some policy analysis work. There is a lot of expertise available outside government. But there's a downside to farming out a large portion of the work. For one thing, when the work is done outside, the government loses its inside champion. Policy is a holistic experience. One does not have an innovative policy implemented by sitting in one's office and writing a great report. It has to go through the channels, it has to be communicated appropriately, and it has to recognize the political realities. And it is hard to do when one is outside the process and does not have a champion inside the process. So what I have seen is that the disproportionate majority of policy analysis that is contracted out tends to find itself on the shelf rather quickly and it tends to stay there because it doesn't have that inside link. To my great regret, that seems to be what has happened to my labour market information report. Another downside is through the human capital side. The capital tends to stay with the external contractor rather than becoming embedded within government. The recent tendency to commission external reports on policy aspects such as competitiveness and innovation can greatly inform policy thinking by bringing in outside expertise, but again there can be shortcomings through lack of inside involvement and limited opportunities for internal human capital development.

There is a legacy, or at least there was a legacy, in most of the government departments of doing first quality research. And when you came into government many years ago, that legacy was right there. You could smell it, you could taste it, you lived it. When I joined the Department of Finance in 1977 I was surrounded by people who had been used to taking a hard edge analytical look at issues. You couldn't help but be swept up by that. The tradition was extended and deepened by Deputies to come such as Ian Stewart, Fred Gorbet, David Dodge and Scott Clark. I think that environment is largely gone. And it will be hard but certainly not impossible to rebuild it.

Factors Behind the Decline in Federal Government Policy Analysis

So the question is then why did that happen? Well one of the answers is money. In some respects I played a role in that, which can be traced back to a large degree to Program Review. In the wake of Program Review, government departments did what companies typically do. When budgets are cut, the first cuts are generally applied to capital spending, and in a sense the infrastructure that allowed government departments to do policy analysis was the equivalent to capital. It is not something that causes an organization to go under immediately. A department has a set of legislative and regulatory responsibilities and protects those at the expense of the infrastructure, which includes research.

One of the projects I enjoyed most in my government experience was an assignment in the late 1990s by then Clerk of the Privy Council Jocelyne Bourgon. She asked me to do a study of the policy capacity of departments. This took place about three years after the Program Review. I went into the assignment with a pre-conceived notion that capacity had been weakened but I was shocked at the extent of the damage. In fact I encountered a large number of departments that had completely closed down their policy analysis capacity. Citizenship and Immigration was one that came pretty close to a shutdown. For example, in this department, one group that had 11 people was at one point reduced to one person. They have since rebuilt to some degree, as did quite a few other departments. To the credit of Jocelyne Bourgon, when she was faced with this documentation showing how weak the policy capacity was, she forced deputy ministers to go back and assign a larger portion of their budgets to research. She also created the Policy Research Institute which could help smaller departments and exploit synergies from issues that cross-cut departments. But I think even to this day we can see the scars of that loss of human capital even if it lasted for just a short period. And even though the budgets have been resurrected to some degree, in many cases they are still smaller in real terms than they once were.

I think a second reason for the decline in policy analysis by government is that in my experience, and that goes back to 1977, we are living in a time of unprecedented divide between the political and bureaucratic in Ottawa. Throughout my career, I have certainly witnessed many fights between the two sides. But fighting meant talking, even if very loudly. Even with fighting there was a mutual respect. In a recent parliament, I was part of external advisory groups for two ministers. They both started the first meetings by noting that there was no representation from their departments because they did not feel they got valuable input from them. That's very sad. One can see why such an environment would lead to further weakening of policy research, or at least to the publication of it. I don't think this state is all a product of a Conservative government. More likely the realities of minority governments play an important role. Such a climate certainly changes the focus from forward-looking policy agendas to more day-to-day management of issues.

It is interesting to hear of trickle down effects from a less tight association of the political and bureaucratic sides. Essentially much of the work done in a department is preparation for going to the Minister and Cabinet. If there is no final performance it is natural to have fewer dress rehearsals. In this sense it is hard for a department to maintain its analytical strength when its prowess is not on display at the political and then public levels.

I will come back to the provincial capacity but I just want to draw a lesson for the federal government of what I observed happening in Ontario. The Mike Harris Conservative Government developed its policy plans outside of office and looked to the bureaucracy only for implementation. Ernie Eves carried on the same tradition. Over this period the bureaucracy lost considerable capacity to do policy analysis. Then Dalton McGuinty came to power in 2003. He asked the bureaucrats for their ideas and they were slow to come up with them, having lost a few strides over the previous decade. Departments were even slow to submit transition briefing books, in an apparent attempt to first judge the directions the new political leaders wanted to pursue. That's sad and in a sense irresponsible to the bureaucratic mandate of offering independent and reasoned advice. In recent years, the Ontario bureaucracy has been attempting to rebuild its policy capacity. But the lesson should not be lost on other governments, including the federal. I don't think the federal government's policy capacity is beyond the point of no return. But care must be taken to revive it and soon.

That revival will require action on both the supply and demand side. As argued, the bureaucracy is likely to only go so far in rebuilding policy capacity if the political side does not make demands against that capacity for both internal decision-making and public engagement. We have seen a weakening of this demand side. It will be interesting to see if there is a revival under a majority provincial government.

Provinces

I will now turn to the provinces. Each province has policy shops in several departments. I have worked with many of them in my Finance and TD days. There is tremendous variability by province and by department. In general, they tend to be fairly weak, in good part because they have few resources. For example, I was always astonished that provinces which received as much as 40 per cent of their revenues from equalization were dependent upon the federal government for estimates. Quebec is a notable exception because on this and many other matters I found that province to have competent policy capacity. Particularly during the PQ era there were sharp policy differences between the federal government and Quebec, but Quebec bureaucrats always seemed to show up with their analytical homework done. One element of their strength may have been that they recruited heavily from the federal Department of Finance. It seemed that every time I had a strong francophone economist, Quebec lured the person away after I had invested a few years in training.

There is a risk of an incomplete picture by discussing the federal government and the provinces separately. I think we are missing an institutional layer now in Canada. We have had a massive devolution of power from the federal government to the provinces, in theory, but probably even more particularly in practice. Health and education were always in the provincial jurisdiction, but the federal government played an active role. The current federal government does not want to play that role. They have ceded most of these areas to the provinces, and that includes matters such as labour and housing policy as well. The provinces have picked up the ball on an individual basis to a certain extent, but the institutional layer we are missing is a group of entities that are national without being federal.

If one looks at issues like health care, we do not have a strong entity of provincial health care ministers. They did address the tainted blood supply issue together, and at the last Premiers' meeting they were tasked with setting up some kind of entity to bulk purchase drugs, but there isn't much more on their record. We do have a Council of Ministers of Education, and with a secretariat support of about 40 people, it has some analytical capacity. But these areas are about it for national but not federal institutions that can do policy analysis.

I ran smack into this issue when I dealt with labour market information. The federal government actually had a reasonable labour market information system in place, but it disbanded it when the labour market policy powers were devolved to the provinces. Some of the provinces picked up the pieces individually and for their own jurisdiction. Some of them have not yet developed much capacity. Nothing has been done on a cohesive, comprehensive, national basis. So, for example, one can look at a pretty good website in Saskatchewan to help one find a job in that province. But it is much harder to search for what might be available elsewhere. Ironically, the best source of labour market information in Canada is now a website that is designed for, and almost exclusively used by, people who are not in Canada. It is managed by Citizenship & Immigration with support from HRSDC. Its purpose is to give people contemplating immigration to Canada a sense of what jobs are available here. We have no equivalent for Canadians. Several provinces are strengthening health quality councils that research and publish best practices on various health interventions. But the situation is virtually the same in all provinces. It seems inefficient for each jurisdiction to be going it alone.

Academics

My final potential source of policy analysis is academia. First of all, I note there are not very many people on the academic scene involved in public policy. It is not something that neatly fits into the normal tenure track as the policy route doesn't often lead to publication in the kinds of journals that count most. The tenure track is more geared toward publication in refereed academic journals. Certainly in my field, economics, there has been a shift toward academics working in theoretical and highly mathematical matters. Most of the academics who have been involved in public policy tend to be further along in their career. They have tenure, they are feeling more comfortable, so they indulge in work that interests them. They tend to be in their 50s and 60s. So we must be cognizant that as weak as the policy scene has been in academia, the effort has largely been concentrated in a cohort that is about to retire. One does not find many professors in their 30s and 40s actively working on policy issues. And when they do, they tend to analyze particular fragments of issues rather than taking holistic approaches.

In part this fragmented approach is fuelled by the administrative structure of universities. The departments operate as silos and professors view themselves as independent contractors. So there doesn't tend to be a lot of collaboration across departments. The collaborations are more likely across universities, but within a particular branch of a discipline. So, for example, few academics would look at the whole immigration system or the whole healthcare system. And there are few agents who can bring together the bits and pieces that individuals are working on. There are of course academic conferences, but for the most part the conferences are attended by fellow academics. The proceedings may be published but are usually largely forgotten. In part that relates back to my earlier point about the cost of not having internal champions of policy research within government departments. If these bureaucrats are not integrated into the conference proceedings, then the results don't tend to get transferred to the policy implementation level.

The internationalization of academia has also changed the nature of policy analysis. Academics working in Canada are now much less likely to be Canadian than they were historically. The internationalization has undoubtedly increased the capacity to study global issues and to provide global perspective on Canadian matters, but the interest, personal ties and knowledge of Canadian policy have likely weakened.

Could the academic scene play a bigger role in policy? I think it could but certain changes would have to occur. One would have to have much more collaboration amongst academics on both an individual and institutional level. One would probably also have to cross into an area traditionally uncomfortable for academics. Public policy is a holistic experience that synthesizes ideas. One has to be cognizant of public perceptions and even be prepared to change them. That requires creating consensus and engaging with the public. For very good reasons, academics often say that this is not their responsibility, that this would be crossing the line. My response to that is that if one wants to make an impact in the policy arena, one has to accept the conditions of the game. One can no longer just do the abstract research on policy analysis, hand it over to the government and think that they will run with it. Because they won't. They have lost that receptor capacity. Academics have to recognize that and adjust their model accordingly.

Healthcare will be an interesting test case for Canada's policy analysis capacity. Let us take it as a given that something has to give within the next few years. Governments cannot return to fiscal balance with health care spending growing 6-7 per cent per annum. And worse, relative to international standards, all the money Canada spends on health buys a fairly mediocre system in terms of quality. We saw governments pare back on health spending in the 1990s, but the rapid spending increases quickly returned because they did not do the required underlying reforms. Few other countries have found magic solutions to lowering cost growth while preserving quality, so Canada will have to carve a unique path to reform.

But who will lead the charge? The federal government? No way. Even if they had the analytical capacity they wouldn't exercise it because they are walking on eggshells in this provincial jurisdiction. They will likely not be activists, even on just the policy research areas. Can the provinces do it? Probably not because they are petrified of the sensitive political elements. They just need to witness what happened to Obama's reform proposals to get even more frightened. Even seemingly sensible ideas came under sharp attack and every ounce of political capital was required to forge a compromise agreement that in the end isn't very satisfactory and may not last. Think tanks? They can and should play a role. The Conference Board and the C.D. Howe Institute have recently launched health care initiatives. They have succeeded in raising funds but it is too early to judge the substance of what they might do. Could academics play a role? I think they can. But it would take a fairly large number of researchers because it's a huge sector. Most aspects of the issue have to be covered if we are to arrive at a sustainable system that requires much lower growth rates of funding.

The sector's stakeholders, including doctors, nurses and the drug companies must also become involved. They must put out their own ideas for reform and engage with the public. Most critically, we would have to find or create an institute or some kind of facility as a means of bringing together all the ideas, making sure the approach was holistic rather than a scattering of isolated ideas. One would have to build a consensus and to do some conditioning, working with the media. And again this would be going into a new capacity for most academics, for the sector stakeholders and the respective institutions. After others have gone a certain distance and the public has been informed and in a sense conditioned, then perhaps governments, in this case most likely at the provincial level, could poke their heads up and follow in wake others have created. It will be an interesting policy analysis experiment to observe.

Policy studies schools are a growth industry in universities lately. They are springing up all over the place. They certainly offer the potential to greatly increase policy analysis capacity. But I would caution that if they are to succeed on that front there must be a certain rigour developed in the curriculum. And that will be tough to achieve for those schools with one year programs. In particular, there must be more rigour around quantitative issues. Let's face it, most policy research requires an empirical bent. People doing it must be comfortable in this space. Courses are typically available to address deficiencies students may have had after their undergraduate degrees in fields such as economics and quantitative methods. But they seem imperfect substitutes for stricter entrance requirements. Having students with better quantitative backgrounds would also offer better research assistance to the faculty working in the policy studies schools. Opportunities should also be sought to combine economics and policy studies courses. This would address what a Queen's economics professor observed when he said "economics has moved away from policy and policy studies has moved away from economics." Both movements are in the wrong direction.

Concluding Remarks

My personal reflections on the state of policy analysis in Canada are rather bleak. But I do think there is hope. Universities can play a big role in turning around the situation. There has been a tremendous investment in academic research. We need to see the pay-off. That pay-off will only come if universities change the model and bring together the various strands of research and work more effectively with governments and the public. The bureaucracies at all levels of government can lift their game. In each department it might only require putting a handful of the right people into the right places. A few Ian Stewarts here and there, for example. That speaks to the supply side. Governments need to ask more pointed questions of their civil servants and need to re-establish the rigour of publicly releasing policy analysis. Perhaps with the return to majority government in Ottawa we will see more of this.

I am particularly encouraged by a very recent initiative. Industry Canada, with the support of Statistics Canada, is taking the lead on an initiative to better understand Canada's productivity malaise. There is tremendous interest within the academic community. The Social Sciences and Humanities Research Council may provide considerable funding. It won't require the creation of a new institution such as the old Economic Council of Canada which got bogged down in excessive overhead. It will require drive on the part of the federal government and that seems to be shaping up.

Policy analysis capacity has slipped in Canada relative to the good old days, which weren't even as good as they could have been. However, this trend can be turned around. And indeed it must be turned around for the sake of delivering solid policy.

The Way Ahead: A Framework for Discussion

Working Paper: Government of Canada

CONTENTS

PREFACE

In October of 1975 the government introduced a temporary program of direct controls of income and prices. Since that time, the successful implementation of the Anti-Inflation Program has been the most urgent priority of the government.

It is not enough to dampen current inflationary expectations. The root causes of inflation—the conditions which led the government to impose controls in the first place—must also be assessed and solutions found. Towards that end, the government has been involved in a fundamental examination of the major structural components of our economy and our society.

This review has not been restricted to Ministers and senior officials alone. The consultation effort has been widespread. Within the Liberal Party, informal policy groups have been active. Caucus has held special meetings to assess post-control problems. Parliament has debated economic issues on many occasions and the government has listened with care to the views presented by members from all parties. Over the past several months, Ministers have met often with representatives of labour organizations, business associations, farmers' groups, fishermen, representatives of consumer and other public interest groups.

These discussions have been useful. But in order to better focus future consultations and to aid national understanding, many groups and individuals have asked for a general paper outlining the economic and social directions the government intends to take after controls end. This Working Paper outlines these principles and strategies and provides a context for further consultation. It sets new directions for the application of liberal philosophy in the light of the economic and social conditions of our time. Some measures, consistent with these new directions, will be announced in the Speech from the Throne. Other measures, as the paper makes clear, require further consultation with all segments of Canadian society. The government will actively pursue such consultation before proposing further measures to Parliament.

Canada's economic prospects are excellent. The talent of our people and the richness of our resources assure us of a bright future. How best to utilize these talents and resources in a manner that will promote national unity, assure balanced growth without inflation, and enhance individual freedom and opportunity, is one of the pressing issues of our time. The government hopes that this Working Paper will assist Canadians in understanding both the economic and social challenges which all of us must face and the principles and strategies which this Liberal Government advocates to meet them.

THE WAY AHEAD: A FRAMEWORK FOR DISCUSSION

I. INTRODUCTION

In October of 1975, the federal government introduced a temporary program of direct controls on incomes and prices. It did so only after a sustained effort to arrive at a voluntary consensus had broken down: It was becoming apparent that rapidly rising expectations with respect to future levels of inflation posed grave threats to the stability of the Canadian economic and social system. A period of restraint on the part of labour and business, together with government restraint in spending, was and is essential in order to reduce the rate of inflation to the point where it would no longer threaten the continued well-being of Canadians.

The program is working. The rate of inflation is coming down. But inflation is still Canada's greatest problem and the uncertainty it has created about the future, and about the future role of government in the period beyond controls, persists.

Controls will lapse in 1978. The government will remove them sooner if conditions allow. Shortly after the Anti-Inflation Program was introduced the government began a search for the conditions and policy directions that would be necessary for the removal of the controls program and for the post-control period. Policies were sought that would assure necessary economic growth, consistent with the full use of our human resources, a continued increase in the quality of living conditions, and freedom from inflation.

The principles and strategies that have emerged from this process amount to a statement about the role that the federal government will play in Canada's future. These strategies, and the principles that have shaped them, are presented in this paper. The central principles are a continued pursuit of liberal ideals, consistent with fiscal responsibility, and continued and reinforced reliance on the market economy. Strategies required to give effect to those principles entail a search for policies that will improve the workings of the market system and stand against pressures for rapid increases in government expenditure and the size of bureaucracies.

This government has no intention of lessening its commitment to its fundamental social goals. It reaffirms its commitment to a society in which all Canadians their potential to the fullest degree possible, a society in which justice, compassion, tolerance and understanding lead to a strong and united Canada, a society based upon individual initiative and marked by personal freedom. However, the government believes that the preservation and enhancement of individual freedoms and opportunities depend critically on our ability, not only as a government but as a society, to control inflation.

New means must be sought to achieve our goals and new policies will be required. Important aspects of these policies must be not only their capacity to serve individual well-being but their capacity to convey to all Canadians a sense of living responsibly in a responsible society. An important dimension of the task to be accomplished is to achieve a shared appreciation of how the economy works and how governments and individuals can best work together to serve individual and collective economic and social goals.

Canadians will recall that one advantage of the controls program is that it provides a "breathing space" to reflect on the economic directions that would be appropriate after controls are removed. This statement presents the government's assessment of where we are and the directions in which we must move. It outlines strategies designed to ensure the efficient, effective and equitable performance of Canada's social and economic system. The first policy measures in the implementation of these strategies will be presented in the Speech from the Throne. These specific actions flow from principles that the government has adopted.

These principles, and the further policies that they suggest must be pursued, could ultimately reshape the nature of government's role in our society. Most critical in this process is the need for close and continuing consultation with all segments of the Canadian public. A common understanding of our future prospects and the challenges that confront us is essential if we are to act, as governments and individuals, in ways that serve our longer-term interests and objectives. The policy directions that are set out in this paper can be viewed as an agenda for further consultation. The government seeks the active participation and advice of all Canadians in the modification or further elaboration of these policies.

II. THE INFLATIONARY PROCESS

A search for future directions must begin with an understanding of current economic conditions and, in particular, the inflationary process. Simplistic explanations of inflation are bound to be incomplete and misleading. Inflation is a complex economic, social and political phenomenon, both in its origins and in its effects. One of the characteristics of a period of continuing, rapid inflation is that expectations that prices will continue to escalate become deeply entrenched. Groups with market power demand higher wages and prices in order to offset not only past inflation but anticipated future price increases. Those individuals and groups who cannot 'keep up' in this process—those with fixed incomes, those who cannot work or cannot find work, and many who simply lack market power—suffer a loss of real purchasing power. This leads to increased demands on governments to redress the inequities bred by inflation. Increased government spending can lead to higher prices if the government simply prints the money or if additional taxes levied to finance these expenditures are passed on to others through higher wages and prices. Excessively high wage settlements and pricing decisions impose higher levels of cost, leading directly to higher prices. Expectations escalate and inflation continues to feed upon itself.

The debilitating effects of inflation extend beyond economic considerations to threaten the very nature of our institutions and traditions. The problems that unrestricted inflation creates were spelled out in the Budget Speech of June 23, 1975:

> ...inflation ultimately inflicts grievous damage to the fabric of society. It lowers the living standards of those on fixed incomes, including pensioners. It leaves people without reliable, understandable guideposts by which to arrange their economic affairs. It injects grave uncertainty into decisions on family budgets, housing, savings and provision for old age. It provokes deep frustration, social tension and mistrust of private and public institutions. Collective bargaining is embittered. Industrial relations are damaged. We in Canada are already beginning to live some of these experiences.

There is a real sense in which the stability and endurance of our economic system and the social and cultural traditions on which it is based will be measured by our ability to respond to the challenge of inflation.

Inflation is not just a recent phenomenon. Escalating prices, and concern about their impacts on the economy and society have been with us for at least the past thirty years. For a large part of this period inflation was fairly moderate, though slowly increasing. It was widely, if reluctantly, accepted as a necessary and fairly tolerable cost of maintaining adequate levels of employment. Only in the late 1960's and early 1970's when inflation began to accelerate rapidly in Canada and in other countries, were its dangers clearly perceived.

There have been many reasons advanced as to why industrialized countries appear to be increasingly vulnerable to inflation. At one extreme, inflation is seen as a purely monetary phenomenon that can be eliminated by controlling the supply of money. Others argue that governments' monetary and fiscal policies must be viewed together, and assert that excessive government spending in pursuit of social goals together with a government commitment to full employment create inevitable inflationary pressures. There are those, as well, who would argue that even if governments do not incur deficits, increasing levels of taxation required to fund growing expenditures lead to the erosion of incentives, a shift of income from investors to consumers and a consequent reduction in available output that is accompanied by rising prices.

There is a further view that asserts that inflationary forces are deeply embedded in the very structure of our society. A rapid shift of employment to the service industries and declining rates of productivity growth, as well as broad differences in income and wealth and the ability of powerful groups to protect too narrow interests, are factors which are said to lead inevitably to continuously rising prices. In this view, the market system as we know it does not always allocate resources efficiently and cannot provide a socially acceptable distribution of the fruits of growth.

In addition, there are those who point to the worldwide inflationary experience, in part a result of the rapid expansion of international liquidity, and to the sudden and severe increases in food and energy prices. They argue that Canada, as a trading nation, is extremely vulnerable to imported inflation.

There is a real sense in which the growth experience of the past thirty years has, itself, been seen as a basic factor in the inflationary process. Since World War cyclical slowdowns that occurred were short and quickly reversed by expansionary government policies. One of the legacies of this period, fundamental to an understanding of inflation, is a deeply rooted expectation that real growth will continue at past rates and an increasing willingness on the part of both individuals and governments to borrow against anticipated future income to support higher current living standards.

There is no single cause of inflation. Not all observers would rank the importance of the factors noted above in a similar way. There would nonetheless be general agreement with the following conclusions:

1. Industrialized economies for the last three decades, but more particularly since the mid-1960s, have become increasingly vulnerable to a long-run, continuing increase in measured inflation rates.
2. Continuing inflation creates short-term problems—internal inequities and a possible reduction in the ability to compete in world markets. These, together with the longer-term disruptions that accompany behaviour modified to anticipate inflation, exacerbate the inflationary process.
3. Once inflationary expectations have become entrenched, corrective policy measures can be offset—particularly in an economy as dependent on world trade as Canada's—by price increases that the government may not be able to control. The eradication of inflation can therefore be a long and painful process.
4. Continuing inflation, particularly in North America, has been accompanied by an increase in measured unemployment rates. Over the long term, continuing inflation is inconsistent with the maintenance of full employment. Fiscal and monetary policies directed at the control of inflation, unless associated with other measures, will have increasingly costly and socially disruptive unemployment consequences before they have a significant effect on inflation rates.
5. Continuing inflation inevitably results in greater public demand for government intervention in the economy, to offset the structural disabilities and inequities bred by the inflationary process. It is therefore imperative that inflation be controlled if governments are to be free, in responding to and serving social and economic objectives, to opt for less rather than more intervention in the economy.

III. CANADIAN ECONOMIC PERFORMANCE: RETROSPECT AND PROSPECT

The force of these conclusions is that a careful and critical assessment of the sources of the inflationary process is essential. This assessment demands an understanding of the growth we have experienced and our prospects for further growth.

The period following World War II has been as sustained a period of real growth as the industrial world has ever known. In most industrialized countries real after-tax income per person almost doubled through this period. Industrialized economies were characterized by the continued substitution of relatively cheap capital and energy for increasingly expensive labour in primary and secondary manufacturing processes, leading to rapidly increasing output per person employed. This was an important factor in sustaining and enhancing economic growth, which increased employment opportunities.

This growth process, through the broad rise in real incomes and living standards it provided, greatly expanded the opportunities and increased the well-being of all Canadians. In Canada, real after-tax income per person more than doubled in the thirty years following World War II. Our population almost doubled. New houses were built and jobs were created for the fastest growing labour force in any of the industrialized countries. Working and living conditions improved dramatically and the opportunities for individual Canadians to choose—where they wanted to live and how they wanted to live—continued to expand.

Sustained growth, and the benefits it brought, were in substantial part attributable to the successful economic management policies of the governments of industrialized democracies. Internationally, new economic institutions contributed to economic stability and the rapid expansion of trade and prosperity. Domestically, a collective determination that the widespread suffering of the Great Depression must not occur again led to government commitments to supplement the market system with policies to enhance job creation and minimize unemployment.

At the same time, rising incomes led to increasing government tax revenues. In Canada, these revenues were used to provide programs designed to equalize opportunity, through the construction and operation of schools, hospitals and transportation facilities and through the extended provision of direct income assistance. The introduction or strengthening of such programs as unemployment insurance, family allowance, public pension plans, and hospital and medical care sought to assure that the fruits of growth were distributed to all Canadians in a just and equitable manner. Through this period the growth in federal government expenditure as a proportion of Gross National Product was almost entirely related to increasing transfer payments to individuals and to provincial governments. The goods and services provided directly by the federal government grew at roughly the same rate as the national economy, although growing transfer payments increased access by all Canadians to a growing array of goods and services financed by tax dollars rather than private after-tax incomes.

However by the late 1960's and early 1970's—even before the rapid escalation of inflation accompanied by recession and high unemployment recently experienced—several disturbing features of the post-war growth period had begun to become apparent. Not only in Canada, but in other countries as well, disquiet was increasing over the ability to manage the economy with traditional policies alone.

Of primary concern was the growing evidence, particularly marked since the early 1960's, that periods of cyclical expansion were taking off from successively higher plateaus of inflation. As well, successively higher rates of unemployment in cyclical pauses were associated with substantial and continuing price increases. There was an increasing apprehension that the growth process itself was unbalanced, creating the very pressures which threatened its continuation.

From an international perspective, continued growth had been of disproportionate benefit to the industrialized world. Despite increasing demands for the raw materials of the developing countries, income and wealth disparities between the developed and much of the developing world continued to widen. The result was a number of attempts by export-dependent developing countries to force a more rapid redistribution of income and wealth by acting in concert to restrict the supply of their export commodities and so drive up the price. Attempts to form effective export cartels generally met with failure until, in the fall of 1973, the Organization of Petroleum Exporting Countries was able to quadruple the price of oil. The immediate success of OPEC has led to renewed efforts by other countries to accelerate a redistribution of income and wealth.

From a domestic perspective, as well, the growth process has produced, along with its obvious and tangible benefits, increasing social and economic pressures:

1. Although the proportion of people living below the poverty line decreased, the gap between the rich and the poor showed little evidence of narrowing. This has led to claims that growth did not adequately serve social goals. It must be recognized, however, that a comparison of relative living standards must take into account, as well as incomes, the increased availability of publicly provided goods and services such as low-cost medical care and post-secondary education. To the degree that these are low-cost because they have been financed by taxpayers as a whole, a substantial extension of a common standard of basic protection for the individual within our society has taken place. It has occurred, however, together with and as a direct result of an increasing responsibility assumed by governments at all levels for the direct provision of goods and services.
2. This growing role of governments, in response to real needs for social assistance and legitimate desires for equality of access to basic necessities, was essentially financed through the 1960's by the increased government revenues that accompanied rapid growth. By the late 1960's and through the early 1960's however, as the pace of economic growth slowed, the net financing requirements of governments became quite large. As a result there was an increase in borrowing against expected future income in order to finance existing programs and this, together with an accommodating monetary policy, reinforced inflationary pressures. As inflation increased, so did the pressures on government to redress the inequities that were created, and the cycle threatened to intensify.
3. A further concern about the nature of the growth process is reflected in a heightened awareness of the adverse effects on the natural environment and in some instances the health and safety of individuals. Continued growth presses further against the natural constraints that are imposed by the capability of air, water and land to support industrial, agricultural and

urban activity. Increasingly, concerns are expressed that growth, as we know it, is less responsive than it might be to our collective demands for adequate health and safety standards and a decent environment.

4. Finally, the size, power and complexity of institutions and organizations have increased. This has been accompanied by a growing sense of alienation from, and mistrust of, big corporations, big labour organizations and big government.

The explosion into double-digit inflation in 1974-75 in Canada and in the rest of the world, must be viewed against this general background. The demands created by the rapid growth experienced in most industrial countries were beginning to press severely against available international supplies. These inflationary effects were compounded by the quadrupling of oil prices and the resulting rise in other energy prices, and by drought and crop failures, leading to widespread food shortages. These inflationary forces, through the real income losses they imposed on oil and food importers and through the constraining actions of governments which they made necessary, forced a severe cyclical contraction on most of the world economy through 1974 and 1975. However, while real production declined in other industrial countries, it continued to advance moderately in Canada. This relatively healthy economic performance, combined with continuing labour settlements that contained not only elements of 'catch-up' but anticipated inflation as well, threatened to prolong and to intensify inflation in Canada which would erode further Canada's competitive position in the international trading economy.

Prior to the summer of 1975, it appeared that the rapid international inflation would run its course as the industrial economies adjusted to much higher price levels for basic commodities and for energy. Indeed, the rate of inflation in most of our major trading partners had begun to ease considerably. In the United States, the annual rate of inflation had fallen from 12.2% at the end of 1974 to 7.8% by September 1975. In Canada, however, the annual rate of inflation was still over 10.5% in September of 1975. Inflationary expectations had become deeply entrenched and there were indications that they were about to increase to extraordinary levels. In late summer and early fall of 1975, it was not unusual to read of demands for wage and professional income increases in the range of 30%-60%. The risks were great that Canada would effectively price itself out of international markets. While the rest of the world shared in economic recovery Canadians would suffer a continuously deepening recession, until the rate of unemployment rose high enough to restrain price and wage increases to a range that would restore our ability to compete. The government viewed such a prospect as intolerable.

It was in this context, and only after a sustained effort to achieve a consensus on voluntary restraint had failed, that the government took its decision, in October of 1975, to impose controls and to adopt a posture of fiscal and monetary restraint. The immediate target of the government's Anti-Inflation Program was to reduce inflation below 8% by the fall of 1976. It is now clear that this target will be achieved. The target for the coming year is 6%. To support these objectives the government will limit the rate of growth of government expenditures to no more than the rate of growth in GNP. The Bank of Canada has also adopted targets for managing the money supply that are consistent with the overall objectives of the program. The government's Anti-Inflation Program is working. The process of economic recovery is underway and inflation has been decreasing to a rate that is more tolerable, if not yet acceptable.

There is still a long way to go. The annual rate of inflation in Canada has decreased from 11.1% in August of 1975 to 6.2% in August of 1976. Some deterioration in this performance can be anticipated through the next two months resulting from higher oil prices and municipal property taxes. In addition, our inflation rate remains higher than the inflation rates of certain of our important trading partners. Continuing high wage settlements, together with relatively poor productivity performance, threaten the competitive position of Canadian exports. The deficit in the current account of our balance of international payments increased to record levels in 1975 and was financed by record borrowings from other countries. In large measure, this deficit arose because Canadian growth was greater than that of our trading partners. Our exports declined while our imports remained high. As worldwide economic recovery proceeds the demand for Canadian exports is strengthening. But to take full advantage of this opportunity it will be necessary to ensure that the competitive position of Canada's export industries is not only safeguarded but improved. Cost increases must be constrained and, most important, expectations that prices and costs will continue to rise must be further reduced.

Continued determination, and the development and implementation of new policies, are needed to guard against a repetition of the experience of previous economic recoveries. By mid-1976, resumed growth in industrialized countries was widespread. The early strength of the recovery and strengthening prices for natural resources and food raised concerns that another inflationary spiral might begin, this time taking off from a plateau much higher than the last. These concerns were heightened by continuing levels of wage settlements that were inconsistent with future reductions in the rate of price increase.

The Government of Canada—like other governments—is determined to prevent a renewed outbreak of inflation. However, the high rate of growth of the Canadian labour force will continue through the remainder of the 1970's. This, together with the need to carefully manage the economic recovery and the controls program, and the necessity to further reduce inflation, means that new strategies must be found if currently high unemployment rates are to drop significantly before the end of the decade.

Looking beyond this decade to the 1980's, Canada's economic prospects are excellent. Indeed, they are matched by few other industrialized countries. Canada's opportunities for continued real growth lie in its relative wealth of resources, its abundant food-producing potential, its technology, and of course, its highly skilled and educated population. They lie, not least, in Canadians' capacity for enterprise. But to take advantage of these opportunities, to ensure that our substantial potential is indeed attained, Canadians and their governments will have to meet a number of major challenges.

The international economy is likely to be marked by strong competition for productive resources and markets. Continued growth will lead to increasing demands for food, energy and mineral resources, all of which will become increasingly more expensive. As their prices rise, competition for the financing, equipment and skilled labour necessary to produce them will increase. Such increases in the prices of scarce commodities must be accepted in order to provide the incentives and the conditions necessary to increase production, lead to more efficient use and stimulate the development of substitutes. It is this dynamic process of adjustment that leads to innovation and growth. It is imperative, however, that price adjustments for particular commodities not be allowed to feed a general inflationary process, to the detriment of all.

In Canada, the rate of growth of the labour force will slow during the Continuing economic growth may lead to tighter labour markets, together with problems of adjusting to new economic opportunities. Estimates of our energy requirements, even with much lower rates of growth in demand, indicate that a substantially higher proportion of our total resources will be allocated to the development or importation of higher cost energy in the future than has traditionally been the case. Additional investment requirements and opportunities—in minerals, transportation, manufacturing—suggest that conflicting demands will have to be carefully reconciled if shortages in the supply of equipment or skilled labour are not to result in renewed inflation.

In addition to the necessity to avoid overloading the economy, a number of other potential problems must be addressed:

- Anticipated demands for Canada's resources by other countries, together with rapidly increasing investment requirements, raise the issue of foreign investment in the Canadian economy. It will be necessary to reconcile Canadians' desires to develop their potential to the fullest with objectives to increase the ownership and participation of Canadians in the Canadian economy. In effect, Canadians must recognize that this can only be achieved by increasing even more our already high rates of saving.
- Similarly, it will be necessary to balance the need for increased competitiveness in the international economy, and the large-scale organizations that may imply, with the continuing objective of more balanced economic and population growth within and among the regions of Canada.
- It will, as well, be increasingly important to rationalize Canada's trade and industrial strategies with the growing demands of the developing world. Particularly in secondary manufacturing, Canada will face an increasingly competitive international environment and a continuing shift in comparative advantage towards the developing world for some labour-intensive industries. Canada must respond to this challenge positively and constructively. However, the adjustment problems created for Canadian industries, communities and individuals could be considerable and must be eased.

Canadians have always faced challenges and it would be naive to assume that we will not continue to do so. Recognizing their existence is not cause for pessimism, but necessary in order to face them realistically and resolve them successfully. The coming decades offer tremendous opportunities to Canada and to Canadians. To seize these opportunities, however, requires a shared appreciation of the nature of the prospects and problems confronting us.

IV. SOURCES OF INFLATIONARY PRESSURE

The gravest threat to our ability to meet these challenges would lie in our incapacity to arrest inflationary pressures. The 1980's promise to be an environment in which such pressures will be continuously latent. Our ability to resist them requires an appreciation of the forces that produce them, an appreciation that transcends narrow economic considerations and examines inflationary pressures in the context of Canadian society, its existing institutions and economic prospects.

The notion that inflation results from excessive government spending is a popular one and, indeed, there may be instances where governments must bear a large share of the responsibility for inflation. To diagnose the inflationary spiral we have recently experienced as largely attributable to a profligate government, however, is simplistic to the point that it is misleading. Such a diagnosis ignores the fact that the recent acceleration of inflation was a worldwide phenomenon. It ignores the fact that all industrialized democracies have experienced gradually increasing inflation for at least the last three decades. Most fundamentally, it ignores the institutions that make up the Canadian economy and the complex relationships that define Canadian society.

To understand the inflationary process, and the issues surrounding the role that governments play in that process, it is necessary to examine those aspects of our social and economic structure that lead to inflation directly or indirectly through demands on government to spend money and to intervene in the economic system. The existence of market power, declining productivity growth and rising expectations, Canada's role in the world economy, economic growth itself and the issues it raises, all contribute to the nature of the role that government plays in the economy and the responsibility that the government bears for inflation.

Freedom from inflation in the post-control period demands an understanding of these issues so that effective policies can be developed to deal with the basic pressures they produce.

A. Market Power

The market system is a continuously evolving set of relationships. The notion that private markets are characterized, always and everywhere, by competition that leads to flexible prices is patently a stereotype that ignores the evolution of private and public institutions over hundreds of years. At the same time, the view that all markets are dominated by powerful groups is no less a stereotype. A balanced view must acknowledge that in some markets, at least in the short to medium term, organizations and institutions exist that have substantial economic power, including the power to set wages and prices in a way that may bear little relation to supply and demand.

Although the ability to set prices in this way may not be a critical source of inflation, the use of market power to "administer" prices can pass on and hence aggravate inflation originating from excess aggregate demand or from specific price increases. "Administered" prices frequently embody inflationary expectations as well. Powerful economic groups, on the assumption that inflation will continue and acting to protect themselves, create cost pressures that in fact lead to higher prices, the realization of their own expectations and a continuing process of self-fulfilling prophecy. This is particularly the case when governments and monetary authorities act permissively out of a concern to avoid unemployment and to protect those affected by inflation.

Such prices are typically rigid in a downward direction; they are not lowered when demand falls. When overall demand is not excessive, but prices are rising in some sectors, this rigidity can create an inflationary bias even in the presence of substantial unemployment. Instances of employees accepting reduced wages or of industries reducing prices in order to sustain output and employment are becoming rare in today's environment.

A particularly serious consequence of widespread market power is that increases in the prices of goods or services that are relatively scarce tend to be interpreted as an increase in inflation generally. Wages increase, labour costs increase and prices of other goods and services increase as well. The price "signals" that result in efficient markets are impaired and the market system fails to work as effectively as it should.

Although one typically thinks of market power as characterizing the private sector, a serious administered pricing problem also exists in the public sector, where governments must often provide essential services that are widely considered to be "vital at any cost", and where labour does not feel there is any danger of "driving the company bankrupt" by asking for substantial increases. The development of collective bargaining in the public sector has served to remove many of the inequities which existed between public and private sectors in the past. But the process has nonetheless directly contributed to higher spending by governments and can indirectly increase inflationary pressures by providing high-profile settlements which give other workers an inflationary target to aim at. It is important that public service collective bargaining not be allowed to overshoot and go beyond what is fair. Modifications in public sector relations are an essential element in a broad anti-inflation strategy, along with improved labour-management relations in the private sector and policies to sustain and enhance competition.

B. Declining Productivity Growth and Rising Expectations

Demographic trends will reduce the rate at which the Canadian labour force will grow in the 1980's. A continuing shift of employment to the service sector, together with some evidence that the productivity of capital goods may be declining, implies a future in which average productivity may grow less rapidly than it has over the past thirty years. Lower rates of productivity increase and slower rates of growth in the labour force would result in a potential for growth that would be lower in the future than it has been in the past. The confrontation that may occur between lower rates of future growth and increasing income expectations of Canadians could create new inflationary forces.

The amount and type of goods and services that can be produced will have to be reconciled with Canadians' expectations of higher levels of real consumption, as well as with the large and growing requirements for investment. This reconciliation is likely to be difficult. It will ultimately be dictated by the interplay of market forces. In the process, however, frustrated expectations can lead to concerted attempts to maintain relative positions. In an international context, the structural adjustments that will be called for may be exacerbated by continuing short supplies of energy and food and increasing demands by the developing world for a better distribution of wealth.

Policies will have to be developed to ensure that these necessary adjustments occur with the least possible disruption and do not lead to a renewed outbreak of inflation. An important component of such policies will be to establish measures to increase productivity. New investment will obviously be required, as will the capability to develop new and improved technologies, entrepreneurial skills and organizational structures.

C. Canada in the Economy

Exports account for about a quarter of Canada's gross national product. Similarly, about a quarter of all the goods and services that Canadians consume is imported. This relatively large dependence on international trade raises concerns, not only about the capacity of the Canadian economy to compete internationally and the need to resist internal inflationary forces, but also with regard to Canada's vulnerability to inflationary forces originating abroad. While a flexible exchange rate can accommodate modest deviations in relative rates of inflation, it cannot cope easily with large discordant swings in price levels and has little role to play in periods of world-wide and coincidental price increases.

The broad prospects for the world economic community should favour Canada's trading interests. The rise in relative prices for natural resources which can be anticipated through the 1980's will benefit Canada as a seller. They will be, however, a mixed blessing. Not only are there commodities, such as oil, for which Canada's net dependency will increase but rising resource prices in general could result in inflationary income adjustments in an attempt to offset them.

In addition to the direct concerns arising from the impact of inflation, whether domestically or foreign induced, on Canada's trading prospects, there exists a more fundamental concern. Severe inflation breeds recession, and periods of high unemployment and low growth such as the one we have recently experienced, typically lead to pressure by nations to limit imports and expand exports through measures such as tariffs, quotas, and export subsidies.

Such rounds of national self-protection would not only harm Canada's ability to compete but in the longer run would also present the gravest threat to an expanding and stable world trading community—a community on which Canada as a major trading nation greatly depends. The process of trade restriction must be resisted.

A further serious element in our prospects is the recent marked deterioration in Canada's balance-of-trade. Traditionally, Canadian merchandise exports have exceeded imports and the balance has been adequate to service the foreign debt we have incurred. In 1975, however, mainly because Canada continued to grow while other countries experienced a severe recession, merchandise imports exceeded exports, putting Canada in a position of borrowing abroad to make up the balance as well as to pay the interest and dividend charges on previous borrowings. To the extent that such borrowing is used to finance consumption rather than investment it lowers the rate of future growth and thus shifts some of the burden of supporting current living standards to future generations.

As the world recovery proceeds and resource prices firm, demand for Canadian exports will increase and our merchandise balance should again become positive and continue to increase. This general prospect is endangered, however, by the declining rates of productivity growth referred to above and recent, high levels of wage settlements which together have resulted in increases in the unit labour cost of production that seriously threaten our competitive position.

The government will continue to seek broader and mutually beneficial trading relationships with the European Community, Japan and our other trading partners, and to preserve and intensify our already substantial trade relationship with the United States. It will be necessary, as well, to seek measures that will increase the productivity of the export sector and ensure that cost increases do not erode its ability to compete.

D. Growth and Growth-Related Issues

Growth itself has been a contributing factor to inflation. While growth has brought about a substantial increase in average levels of economic well-being, the inequity of the distribution of its benefits both within and among nations has been a principal source of a restless quarrel over shares that has seriously escalated over the past few years. The very success of the growth process has created firmly embedded expectations of the continuing capacity of the economic system to deliver a continously increasing array of goods and services.

The debate over growth has shifted from the earlier issues of whether continued growth was desirable, or indeed, sustainable to a more meaningful discussion of "quality of growth" concerns. There are a number of pressing problems that must be the legitimate concern of governments.

Earlier concerns that absolute limits to growth might exist are being recast in a more sophisticated, but no less disturbing, form. It is increasingly recognized that, as resources become depleted, prices will rise'to reflect scarcity and that higher prices will lead to more efficient use of existing resources, development of less accessible and more costly resources, and concerted efforts to develop substitutes. This process of adjustment, however, raises questions about the ability of high consumption societies to generate the savings necessary to finance the higher investments required for the extraction of less accessible resources and for the development of substitutes. The necessary adjustments will require further shifts in relative prices to provide the signals essential to the successful operation of a market economy. All of these price shifts must be accomplished without renewing the inflationary process.

In addition, concern is increasing about the continued environmental degradation associated with high energy using and high resource extractive activities. This is a particular manifestation of a general concern that continued growth imposes increasing "social costs", because of the incapacity of the market system, as it currently functions, to provide balanced growth. It is particularly important to understand the relationship between the growth process we have experienced, the social costs that this process has generated, and the increased direct role of government in the economic system.

The market economy, and the price system on which it rests, is the most efficient allocative mechanism available. The billions of daily decisions that are freely taken by individuals and together comprise a viable, functioning economy make it obvious that any alternative to the market system would require a massive bureaucracy to administer with the unacceptable result of diminution in individual freedom of action and choice.

Our belief that the market system provides the greatest efficiency and growth rests on the presumption that prices direct scarce resources to their most valuable use, that the price charged for a commodity reflects both the incremental cost of producing it and the incremental benefits that accrue through its purchase. There are obvious cases, however, where prices measure private cost and benefit but fail to reflect the costs and benefits to society as a whole. In such cases resources will not be put to their most appropriate social uses.

For example, the presumption that air and water are "free" has led to production processes and consumer decisions in which the costs of polluting the air and fouling the water are not reflected in the prices of the products produced and consumed. This leads to greater demands for, and increased use of, such products than would occur if individuals had to pay to protect the environment. At the same time, it leads to growing demands for government expenditures to redress the damage done to the natural environment. The provision of individual commodities demanded by some is, therefore, subsidized by all consumers in their role as taxpayers. Industrial pollution is a popular example, but consumers also pollute. Garbage disposal, automobile exhausts, non-returnable bottles are all examples of consumer decisions that impose a social cost, leading to increased demands on governments to intervene in the economy to provide environmental protection or abatement—to try to "balance" the growth process.

One view is that these social costs should be charged more directly to the recognized production costs of business so that they are reflected in the prices consumers pay. On the other hand, it is clear that forcing Canadian producers to absorb costs that their competitors in other countries do not reflect would increase their competitive disadvantage. It is important, however, to be clear about the issue. Social costs can be ignored: rivers can be polluted, urban congestion can worsen, transportation systems can deteriorate, the quality of working life can be impaired. The real costs will, in the end, be borne by society as a whole and often by future generations. Ultimately the accumulation of such costs leads to intense social pressure to have them alleviated. They become a claim on governments, as "spenders of last resort", and are met by general tax measures. We are paying now to redress the social costs of previous actions.

Meeting social costs leads to a reduction in real disposable incomes, through higher prices, lower wages and profits, or higher taxes required to defray the real costs. The simple fact is that we cannot protect the quality of our life unless we are willing to pay for it. The issue is who pays. To the degree that such costs are charged directly to the private sector, Canadian prices would rise further, or wages and dividends would be lower, in those industries most affected than they would under a more generalized and dispersed tax burden. But it is precisely these relative price changes—in a healthy market system—that will stimulate a search for new methods of production and new technologies that will be less wasteful of naturalresources and less damaging to the environment, providing healthier and better balanced growth. Through such measures as the *Canada Water Act*, the *Clean Air Act* and the *Arctic Waters Pollution Prevention Act*, the government has taken steps which have this effect and seek to assure that the quality of our natural environment is protected and enhanced.

As well as concerns raised by depleting resource availability and increasing social costs, the question of who should pay for publicly provided goods and services is becoming increasingly important. Governments have traditionally provided goods and services that are, in large part, financed by all taxpayers—parks, educational facilities, transportation systems, and many others. There are obviously instances where such subsidization is appropriate and necessary to provide broad access and equality of opportunity. In many instances, however, the true costs are inadequately perceived and this may result in levels of demand that increase government expenditure to the point where the capacity of the economy to support their provision can become strained. Better information about how the costs of publicly provided goods and services are met is required to provide an increased understanding of the process and to facilitate a determination of the appropriate sharing of costs between users and all taxpayers.

Finally, there is mounting social concern that the economies and efficiencies of large-scale operation have led to the creation of corporate conglomerates and growth in labour organizations and government. Increasing scale has led to centralist forces that have created conflicts with objectives of regional and demographic dispersion and have contributed to the present unease with "bigness" and the remoteness of decision-making processes. There is also a view that increasing concentration and scale result in a vulnerability of systems to sudden and severe shocks. In the context of a future which is likely to be characterized by continued economic tension in the international economy, with the possibility of serious and sudden economic disturbances, it will be necessary, as we develop policies to deal with the period beyond controls, to consider carefully the resilience of our economy and our society.

E. The Responsibility of Governments

The issues that are in dispute about the responsibility that governments bear for inflation can be clarified by distinguishing three basic views as to the role of government in the social and economic system.

(i) A Minimal Role for Government

In economic terms, this view asserts that the market system allocates resources most efficiently resulting in the highest possible production and growth. It is this growth and only this growth that enables the government, through the tax system, to raise the revenues necessary to pay for public goods or serve social purposes. Intervention or interference in the operation of the market system impairs this efficiency and leads to rigidities that threaten growth. Adherents of this view would admit that imperfections in the price system exist and that the distribution of income that results may be socially unacceptable. They would emphasize, however, that the "benefits" to be gained by government intervention—whether through regulation, taxation or direct expenditures—are short-term and outweighed by the longer-run "costs" of lost efficiency and output, and higher inflation.

Philosophically, this view sometimes acknowledges a public responsibility to provide "equality of opportunity". But it is characterized by the belief that government intervention in pursuit of "equity of outcomes" has led to the loss of individual freedom and initiative and could undermine the market system, which it sees as the best guarantor of a better life for all.

In this view, governments play a central role in the inflationary process through

- levels of taxation that erode incentive;
- social assistance payments that bias production in favour of consumption and against investment;
- regulations that reduce enterprise; and
- adherence to full employment policies that bias the economic system in the direction of excess aggregate demand and enhance inflationary pressures.

(ii) A Continually Expanding Government Role

This view emphasizes governments' responsibility to support economic growth, equity, the public provision of goods and services, and intervention in the working of the market system to ensure socially acceptable outcomes. In this view inflation is seen not merely as an economic phenomenon but rather as a result of a complex interplay of economic, social and political forces. The ultimate sources of inflation are to be found both in market "failures" and in the incapacity of the market system to serve social goals, with a consequent need for increasing government intervention. These "failures" and incapacities would include:

- the fact that market economies cannot assure a socially acceptable distribution of incomes, both among persons and between wages and profits;
- the inability to recognize the increasing demands put upon public authorities arising as a result of private decisions, for example the provision of social capital such as transportation systems, roads, sewers;
- the failure to account properly for social costs, which leads to demands on governments to remedy pollution, urban congestion, and to correct for resource misallocation generally; and
- the failure to provide all persons equal access to a growing range of perceived necessities such as education and health care, leading governments to undertake the provision of such goods and services either directly or through the subsidization of private production and consumption.

To a considerable degree, therefore, this view would assert that the growing role of government has been thrust upon it by the incapacity of the private market economy to serve social goals. Many adherents of this view would go further to argue that social direction of production is imperative if a socially optimal array of goods and services is to be assured.

(iii) A Middle Road

There is a middle view that resists both of the more extreme views outlined above. This view would not accept the social costs of a minimal role for governments. It would not deny the legitimacy of the goals that governments have generally pursued. It would assert that the principal sources of expanding government expenditure have derived from the pursuit of greater equity in income distribution, wider access to basic goods and services, and the necessity to offset or repair the social costs that result from the operation of the market system as it has evolved.

This view, however, would acknowledge that at any point in time it is indeed possible for governments, in pursuit of social and economic goals, to damage the engine of economic growth, contribute to excess aggregate demand, and hence originate or exacerbate inflationary pressures. In this view, it is entirely possible for governments to:

- establish commitments to a range and volume of expenditure goals that either demand a tax structure beyond the community's ready acceptance or lead to recurring deficits which in turn are financed by borrowing from Canadians and non- Canadians or by selling government debt instruments to the central bank, thus increasing the supply of money;
- contribute to "rising expectations", either by underwriting the costs of unemployment or by a series of accessions to public demands that cause the public at large to lose sight of economic constraints;
- intervene excessively in pursuit of social goals and better social performance of the economic system, with a consequent erosion of incentives, initiative and personal freedoms and responsibilities.

There is an emerging middle view that essentially argues that the inflationary consequences of government actions reside less in the ends that governments have sought to pursue than in a choice of means, including timing, that may not always have been most appropriate.

Those who hold this view would not deny that the pursuit of social goals can damage the economic fabric. They would emphasize, however, that the pursuit of narrow economic goals can as easily damage vital social fabrics, which are just as important. Rather than relent in the pursuit of social goals, they would seek new and effective means to pursue them, and recognize that all segments of society must work together in this pursuit. They would seek a rationalization and simplification of the vast array of government programs. They would argue that it is both possible and desirable to seek a substantial reduction in the rate of growth of government expenditure and direct government intervention, and to search for alternative strategies—less expenditure oriented—to serve the legitimate social concerns of government, and in fact to better serve society.

It is this emerging middle view that has been adhered to by the present government in its search for appropriate policies for the post-control period and for the principles that will shape the role that the government will play in this period.

V. THE ROLE OF GOVERNMENT IN THE POST-CONTROL PERIOD

Current government policies of controls and determined restraint in fiscal and monetary policy are appropriate if the inflationary forces unleashed by the events of 1973-75 are to be wound down. Looking beyond the period of controls it is clear that the posture of fiscal and monetary restraint must be sustained. If these policies are to be supported, however, it is critical that the deeper structural issues in the inflationary process which contribute to inflation directly, or indirectly through their expenditure pressures on governments, be addressed. Some clear directions have been noted in the discussion of particular sources of inflationary pressure. The government has concluded, however, that what is ultimately required to meet the challenges of the future goes beyond the introduction of new policy measures to a basic and fundamental reassessment of the role of government itself.

An essential theme emerging from this reassessment is the necessity to increase both the reliance on and the effectiveness of the market system. The role of government policy should not be to direct and manage the economy in detail. The interplay of dynamic forces that results from the market system and has led to continuing economic growth must be encouraged. It is not only growth that is at issue. Governments can become too pervasive and oppressive actors in the daily lives of Canadians.

At the same time, however, it must be recognized—certainly by those who wish to strengthen the market system—that market-directed economic growth has not fully served the social goals and aspirations of Canadians. This government has no intention of reducing its deep commitment to liberal ideals of individual freedom, equality of opportunity and social justice. It does not intend to participate in, or to allow, a dismantling of the socially progressive society Canadians have built in this country. Indeed, the preservation and improvement of this society is a paramount reason for the government's determination to control inflation. It will therefore be necessary to seek and to implement a broad range of supportive public policies that will enable improved operation of the market economy. Such supportive policies must be developed and managed in a way that allows governments to fulfill their legitimate responsibilities, but to do so with less, rather than more, direct intervention in the economic system. Such policies must provide effective alternatives to increasing expenditures and expanding bureaucracies.

A number of policy initiatives have been identified as consistent with the above themes and necessary to the successful functioning of the Canadian social and economic system in the period beyond controls. Some directions have already been indicated and specific policies will be announced to Parliament in the Speech from the Throne. Necessary as these policies are, they will not in themselves be adequate to ensure the elimination of inflationary pressures and to produce the balanced growth necessary to provide continuing increases in the quality as well as the standard of our living conditions. It will be essential to pursue additional strategies. These strategies must serve effectively the government's social concerns—and certainly its commitment to enhance the welfare of the individual—in those areas which most seriously threaten the government's resolve to restrain its own growth. The government is committed to the strategies. The precise policy implications are clearer for some than others. The government looks to the processes of consultation to lead to further elaboration of policies consistent with these strategies.

A. Employment Policies

Continued high rates of unemployment impose enormous costs on individual Canadians and heighten disparities among the regions of Canada. The high level of unemployment currently prevailing and the prospect that the unemployment rate may be reduced only gradually over the balance of the 1970's pose the greatest threat to the government's determination to exercise fiscal restraint.

Social policies, and particularly unemployment insurance, have enormously reduced the element of 'hardship' accompanying unemployment and have been a major factor in sustaining total demand. A prolonged period of severe unemployment, however, imposes a significant expenditure strain on the government, a strain that has no direct counterpart in productive employment.

The average government payment to unemployed Canadians, through programs such as unemployment insurance, welfare and retraining, currently exceeds 75% of the average industrial wage. The total cost of unemployment is even greater if one considers the indirect costs as well. Not only does the cost of unemployment to society remain high in this sense, but there is also abundant evidence that the true cost to the unemployed individual, despite the maintenance of his income, is also high. All evidence available indicates that the vast majority of Canadians prefer wages in reward for work to transfer income. Periods of prolonged unemployment are a disaster for the individual, eroding moral strength and personal dignity. This is particularly the case when unemployment rates are high, as they are now, among young entrants to the work force and in particular regions. In addition, the most rapid erosion of poverty and the most significant narrowing of income disparities occur in periods of high employment, and not through income transfer policies. New employment policies, that increase productive work and reduce all of the appalling costs associated with unemployment, are clearly called for. Such policies must be implemented within the general framework of monetary and fiscal policies of government but must supplement these policies by focussing on specific employment problems and particular regions, in ways that do not increase inflationary pressures.

Excessive tightness in job markets, as in any market, can be an inflationary force. The unemployment problems we may experience through the remainder of this decade may slowly transform themselves into problems of shortages of workers and workers with particular skills in the early 1980s, particularly in certain regions. During this decade a number of changes in the structure of our economy will be both necessary and desirable. As the nature of economic activity shifts so will the nature of employment opportunities. Government employment policies must help match people with jobs, both in occupational categories and in different regions of the country, and thus avoid inflationary pressures created by shortages in the supply of skilled labour. This will require the reexamination and intensification of manpower training and mobility programs. But government neither can nor should play this role alone; industry and labour organizations must assume a greater share of the responsibility for ensuring that job markets function efficiently and effectively.

While enhanced labour mobility and training are essential elements of a viable employment policy for the future, there will continue to exist unemployed persons who are actively seeking productive work but not able to find employment. From any point of view—enhancing the welfare of individuals, reducing the total cost to society, providing valuable services that the market system does not now offer—it is both appropriate and desirable to introduce programs of direct job creation. Imaginative programs of direct job creation, community employment schemes, and the developing experiments in the use of unemployment insurance funds to support job creation will be indispensable elements of the government's commitment to sustain a fuller employment society consistent with fiscal restraint and an anti-inflation objective.

These programs will be designed to ensure that the job opportunities created will not be in competition with the private sector. At the same time, the government is anxious to confer with private employers on means to sustain private employment when industries or firms experience short-term reductions in the demand for their products.

B. Social Policies

The government's commitment is to a society in which incomes from productive and satisfying employment, rather than from government transfers, sustain the dignity and the income requirements of most individuals of working age. However, programs to assure minimum levels of income to those who cannot work, or whose work income is inadequate, and to provide greater access to basic services for all Canadians are a continuing commitment of the government. Over the past decade the number, scope and scale of such programs have expanded greatly, providing real benefit to millions of Canadians. The rapid and continuing growth of these programs, however, creates potential conflicts with the need to restrain government expenditures to responsible levels. Excessive demands upon government to equalize opportunities and to protect the disadvantaged could create formidable pressures to depart from fiscal restraint.

An additional dimension of these potential pressures arises from the fact that a large number of government programs have multiple objectives, one of which is frequently a social concern. For example, food and energy policies have in the past been shaped by a desire to intervene directly in pricing decisions in order to protect the interest of particular regions or to ease adjustment problems for individuals most seriously affected. It is anticipated that the decade of the 1980s will be a period of important structural price changes. If the necessary adjustments that these price changes call for are to occur in an orderly manner, it is imperative that the price changes themselves neither give rise to, nor reinforce, a general inflationary process. Successful management of the economy in a way that will facilitate balanced growth and freedom from inflation will depend upon the ability of individuals and institutions to react to these market forces. At the same time, however, the government must develop an enhanced ability to provide adequate relief to those Canadians affected most adversely by particular price changes and to do this in a manner that does not compromise the operation of the market system by directly controlling prices.

It is in the context of these concerns that the government has undertaken to redesign social programs, with an emphasis on focussing assistance more directly towards those in need through greater integration of existing programs and an enhanced reliance on programs that encourage self-help. The rationalization, simplification and redesign of programs in the social policy area will provide governments with instruments that are more flexible, efficient, and capable of serving government objectives more compassionately-instruments that can effectively constrain rapidly expanding expenditures, increasing bureaucracies and the direct manipulation of strategic prices to serve social policy goals. What is required is not less commitment, but greater efficiency together with delivery systems that protect the dignity of individuals in need. To accomplish this, it will be necessary to pursue an examination of the integration of income transfers with the tax system. The results for those who need it will be more help, not less.

C. Labour-Management Relations

The government remains committed to the collective bargaining system as the fairest and most publicly acceptable method of determining wages and working conditions, in both the private and public sectors. However, the collective bargaining system is, in many instances, not working as equitably or effectively as it should. The increasing number of working days lost through strikes is not only a burden for all involved, but severely threatens the satisfactory performance of the economy. In some cases, strikes have imposed particular hardships on the general public, especially in the public sector where essential services have been withdrawn.

The collective bargaining process has been seriously strained by the inflationary experience of the past few years. Escalation of the quarrel over relative shares and growing pressures to protect against expected future inflation have resulted in increasing confrontation between labour and management. To the degree that the Anti-Inflation Program is successful in constraining the increase in living costs to tolerable levels, it will itself reduce the tension surrounding labour-management relations. But, if social and economic strains are to be minimized, new directions in which labour-management relations can continue to evolve through the post-control period, becoming more cooperative and less adversarial, are necessary in both the private and public sectors.

Closely related to concerns about the collective bargaining process are deep concerns about the productivity performance of Canadian industry. Low rates of productivity increase, together with continued high levels of wage settlements, threaten the international competitive position of our existing industries and reduce the attractiveness of Canada as a location for new industries.

Governments have a responsibility to develop a framework that will encourage a continuing search for productivity increases. But within this general framework, the major initiatives that can improve Canada's productivity performance should, and indeed must, be taken at the level of the individual plant or industry.

It will be necessary for labour, management and governments to seek measures that can broaden the scope of labour-management relations and the collective bargaining process in both the private and public sectors. Employers must become more responsive to demands for high standards of industrial health and safety and more sensitive to the overall quality of the working environment. Employees must become more aware that continued employment opportunities depend upon the continuing viability and profitability of the enterprise. Over the longer term sustained increases in real labour income can be supported only by advances in productivity. Both employers and employees must become more responsive to the interests of the general public in settling disputes.

D. Social Responsibility

This paper has discussed a number of difficult challenges to *government's* social responsibility. That matter is far easier to discuss than the subject of the social responsibility of individuals and institutions. No theme sounds more utopian—yet none is more crucial if Canadians are to fulfill themselves, as individuals and as a society, without expanding government spending and bureaucracy; without giving free rein to the inflationary pressures that have threatened our economy in the recent past; without abridging personal freedoms; and without retreating to the social dark ages of the 1930s. It is a constant theme of this paper that if we truly want governments to do less—for us, and to us—we as individuals and in our private institutions will have to do more for each other.

The question of social responsibility is becoming both more important and more difficult. The increasing size and complexity of the economy make it difficult for any institution or individual to perceive the social, as opposed to the private, consequences of economic behaviour. The result has been a heightened concern about issues of common interest that affect all Canadians but are the responsibility of no single individual or institution. Ultimately, the government becomes a focus for such concerns.

The capacity of the individual to perceive how the economy is working can be significantly improved through the establishment of better information and public and private accounting practices which make social costs more visible. Other countries, particularly the United States, are moving towards the establishment of such practices within businesses and the development of social accounting measures as a counterpart to the gross national product. More information on the way in which the economic system functions—its benefits as well as its social costs—cannot but help encourage both better understanding of the sources of claims upon governments and more socially responsible decisions by the private sector.

The government has spoken often about the need for voluntary restraint as the alternative to restraint by government. What is needed is a reaffirmation of values which embrace a greater sense of sharing, compassion, tolerance and responsibility towards others, values which reflect a sense of Canadian cooperation and common direction. Individual values cannot—and indeed should not—be imposed by governments. It is nevertheless clear that as social responsibility has shifted from individuals to their governments, the direct role of government in the economy has increased.

Experience confirms that Canadians, when made aware of the challenges we face and the nature of the choices open to us, act responsibly and in their own long-term interest. The government will therefore act to improve the information available to Canadians on the manner in which the economic system operates, its opportunities and its constraints, and to develop appropriate forums in which such information can be critically discussed.

Beyond the development and distribution of such information, the following areas merit further consultation and consideration:

1. Ways and means to encourage the recognition of social costs and to lead to their being taken into account by private companies and individual consumers so that they do not become the expenditure responsibility of gov-

ernments. For example, taxes might be placed on production or consumption decisions that breed social obligations and costs (as road use and automobile weight are now taxed) or on polluters generally. Another area that deserves further scrutiny is the more realistic pricing of publicly provided goods and services. For example, the user's price of an airline ticket might reflect more—and the public's tax bill reflect less—of its true cost.

2. Mechanisms to encourage a broader recognition and acceptance of social responsibility by both corporations and labour organizations, as well as an understanding of that responsibility by the general public. Such mechanisms might include the increased participation of employees in plant management and profit sharing, and heightened corporate responsibility for training, job maintenance and the quality of the working environment.
3. Mechanisms to encourage the further development of cooperatives and voluntary organizations.
4. The possibility of the private sector providing goods or services that are now provided through government enterprises and programs.

The appropriate balance between the public and private sectors with regard to how social costs should be met will depend on particular circumstances. The development and implementation of appropriate measures will require extensive consultation with those organizations and individuals that will be most affected. Any changes that might be introduced must be carefully considered and phased over a time period sufficiently long to allow the necessary adjustments to take place with a minimum amount of disruption.

E. Decentralization

One change that could foster greater social responsibility in the private and public sectors is greater decentralization. The openness of the Canadian economy, the dependence on exports and the competitive world trading environment foreseen for the 1980s, all create a continuing need to sustain and improve Canadian competitive capacity. In some instances this will require the reorganization and rationalization of Canadian industry in order to gain the economic advantages of large scale production. The increasing scale of organizations, however, has resulted in major centralist tendencies in the economy.

These have conflicted with government objectives to promote regional balance. They have also led to a heightened sense of individual alienation from decision-making processes and have contributed to the increased direct intervention of government in the economic system.

The capacity of any single trading nation, and particularly one so dependent on international trade as Canada, to stand against centralizing forces is extremely limited. In many cases the economies of scale are real and important and outweigh the social costs that "bigness" might entail. Nevertheless, there is a growing appreciation in many countries that "bigger is not necessarily better". In many cases the efficiencies of scale may be overestimated, and when the resulting social costs are considered, may indeed be non-existent. While objectives of economic efficiency and decentralization must be carefully balanced, opportunities may arise where it is possible and desirable to lean against centralizing forces.

One such opportunity that the government intends actively to pursue is the elaboration of a consistent and comprehensive small firm development strategy that will preserve and enlarge the role of small businesses—most of them owner-managed—in our economy. While much public attention is devoted to corporate giants, small to medium-sized business forms the life-blood of most Canadian communities. To the degree that it is necessary to devise further policies to ensure that this continues to be the case, the government intends to do so. No theme is more consistent with the government's objectives to maintain a healthy and regionally diverse economy and to enhance individual opportunity and enterprise.

The government will pursue vigorously its own decentralization program, to bring the delivery of government services closer to those they serve, and to resist needless centralism. It is eager to pursue consultations with the private corporate sector on the capacity of that sector to sustain maximum regional diversification consistent with efficient and competitive operations.

Decentralizing policies can make an important contribution to a regionally diverse and equitable economy. Assurance of regional equity will, however, continue to depend either upon the capacity of the federal government to assist less advantaged regions or upon decisions of the private sector to do so. While the federal government will restrain its growth, it cannot and will not forsake its capacity to sustain and deepen the sense of national unity flowing from its regional equalization and development policies.

A further opportunity, and indeed obligation, that must be pursued is the continuing search for a more productive and constructive basis for federal-provincial relations. No attempt has been made in this paper to continuously note issues and directions in which federal-provincial collaboration will be essential. The principal policy directions outlined above will, of course, require intensive federal-provincial cooperation in their implementation. Without such cooperation, success can only be limited. The government will actively seek more effective federal-provincial consultative mechanisms, to discuss the sharing of responsibility and capability for public programs and to ensure that such programs are efficiently implemented.

F. Growth

Continuing real economic growth is essential to the health of the economy and the well-being of Canadians. But unbalanced growth imposes "costs" on society. If these costs cannot be accommodated within the growth process itself, they will lead to increasing public demands for direct government intervention. Concerns have focussed particularly on issues of environmental degradation and continuing high rates of resource use.

It has been suggested that the 1980s may be a period of severe strain on world resources—labour and equipment as well as investment capital. The investment requirements foreseen for energy in Canada, though feasible with careful management, may be only one component of a severely stretched economy. It is in this context that policies that can provide more balanced growth, by increasing social responsibility and by serving the objectives of decentralization and smaller scale, take on added importance. Government policy can increase the range of choices and provide the information that can allow Canadians to be more selective about growth.

There are a number of policy directions that offer the potential to ease the adjustment problems of the 1980s, to enhance our ability to avoid inflationary pressures and, generally, to assure that the growth process results in an improved quality of life. Energy conservation programs, for example, are a least-cost, least-risk direction for Canadian energy policies and a critical contributor to the reduction of inflationary pressures. Such programs must be intensified and expanded.

In this same regard, the capital intensity and large scale of present energy supply alternatives, together with their adverse environmental implications, strongly suggest that urgent attention be given to less capital intensive, more decentralized, renewable energy alternatives. Solar space heating, for example, even in a Canadian climate may become economically competitive well within the next decade. This, and other renewable energy options, offer substantial potential that needs to be carefully assessed and, where appropriate, vigorously developed.

Finally, there are a number of other areas where government may have a role to play in ensuring that our limited resources are utilized for the greatest benefit. The advantages of recycling increasingly scarce and expensive mineral resources, the increasing concerns expressed that some forms of advertising serve little social purpose, and the growing resistance to wasteful, built-in obsolescence that seems to characterize growth as we know it, are all areas that merit further consideration.

Investment

One of the major challenges posed by increasing capital requirements will be the need to generate sufficient domestic savings. Over the past few years the government has introduced a number of measures to increase the incentives for Canadians to save—for housing, for their own retirement, and to facilitate more investment by Canadian industry.

Large investments will be required over the coming decades—for energy and other resources, for transportation, and to improve the productivity and competitive performance of Canada's secondary industries. Satisfying these capital demands may lead to structural adjustments in the economy that could, if not carefully managed, result in a renewed outbreak of inflation.

It is imperative that these investments occur in order to produce the range of goods and services and the quality of life that future generations of Canadians will demand. Fostering a climate in which Canadians and others will invest with confidence in the future of this country is a primary objective of this government. For the shorter term, the Anti-Inflation Guidelines have been revised to encourage investment. In the longer run, our continuing capacity to provide attractive opportunities for new investment will be measured by our ability to control inflation and to pursue the responsible implementation of the policies required to sustain balanced growth.

VI. CONCLUSION: THE NEED FOR CONSULTATION IN THE DECISION-MAKING PROCESS

Inflationary forces are deeply embedded in industrial economies. There is no simple source of the problem nor any simple solution. Bringing inflation under control will be a long and painful process. There will be a continuing threat of renewed inflationary pressures both internally and from world-wide forces beyond Canada's control. The growth of government expenditure must bear some of the burden of responsibility for inflation. It is clear, however, that the pressure on governments to continue to grow rapidly and to increase areas of intervention will be intense unless inflation can be arrested and unless inflationary pressures arising in the market economy can be allayed.

The imposition of controls, the commitment to fiscal restraint and the adoption of monetary targets were, and are, the appropriate short-term responses to the current Canadian inflation. The policy proposals that will shortly be announced in the Speech from the Throne form a broad and consistent package addressed to a further reduction in the sources of inflationary pressure. Though each is necessary, they are not likely, alone or as a package, to provide a sufficient solution to the longer-run inflationary problem. A fully developed strategy for the continuing reduction of inflation requires both an examination of the sources of increasing government expenditure and the articulation of a role for government which might reduce expenditure and interventionist pressures.

In establishing its priorities in the summer of 1974, the government highlighted five themes:

- a more just, tolerant Canadian society
- with greater balance in the distribution of people and in the creation and distribution of wealth between and within regions
- which makes more rational use of resources and is sensitive to the natural and human environment

- accepting new international responsibilities particularly with regard to assisting developing countries
- with an evolving federal state capable of effective national policies as well as sensitive, responsive and competent government at all levels.

The government remains committed to these priorities. They are essential if we are to create a strong and united Canada.

It is clear, therefore, that principles of fiscal responsibility, less direct intervention, and increased reliance on the market economy demand, for consistency, policies which will both reduce pressures upon governments arising from 'imperfections' of the market economy and which will permit the government's priorities to be served in a less expenditure-oriented and interventionist manner. New strategies for pursuing employment and social goals, improving labour-management relations, promoting social responsibility, and encouraging decentralization, balanced growth and investment, are all necessary avenues for further pursuit.

Underlying many of the themes developed in this paper is the central role that broader public understanding of the Canadian economic system, its opportunities and its problems, can play in the development of appropriate policies for the post-control period. Indeed, it is a basic assumption of this paper that when presented with the information necessary to assess our future options and opportunities to discuss the directions in which we should be moving will make their choices in a manner that is both responsible and in accordance with their longer-term interests. The concept of a new sharing of social and economic responsibility is fundamental to the search for new directions that will assure balanced growth without inflation.

The further elaboration of these new directions cannot and should not take place without a focussed public dialogue. What is at issue is nothing less than the nature of Canada's social and economic future and the role that government will play in that future. The government believes that a concerted and coordinated process of responsible consultation with all segments of Canadian society will enhance our understanding of the options available to us and the directions in which we must move. In the final analysis, the responsibility for the decisions that must be taken and the policies that must be implemented will rest with the government and with Parliament. In the process of formulating those policies, however, the government seeks the advice and views of all Canadians.

The government will initiate a formal process of discussion, dialogue and consultation with all elements of Canadian society: provincial governments, representatives of business, labour and consumer organizations, other special interest groups, and individual Canadians. This paper represents a major step in such a process.

October, 1976

Biographical Sketches of Contributors

Robin Boadway

Robin Boadway is Professor of Economics at Queen's University. He has served as Head of the Department of Economics at Queen's University (1981-1986), President of the Canadian Economics Association (1996-1997), and Editor of the *Canadian Journal of Economics* (1987-1993), the *German Economic Review* (1999-2002), and the *Journal of Public Economics* (2003-2008). In 2009, Robin Boadway was a Distinguished CES Fellow at the University of Munich. In addition, he is a Fellow of the Royal Society of Canada, Officer of the Order of Canada, and President of the International Institute of Public Finance.

Scott Clark

Scott Clark is President of C.S. Clark Consulting. He enjoyed a long career at Finance Canada where he served as Assistant Deputy Minister of Economic and Government Programs (1985-1986); Assistant Deputy Minister of Fiscal Policy and Economic Analysis (1986-1989); Senior Assistant Deputy Minister of Finance and G-7 Deputy (1992-1994); Associate Deputy Minister of Finance (1994-1997); and, Deputy Minister of Finance (1997-2000). He also served as Canada's Executive Director to the IMF (1989-1992) and to the European Bank for Reconstruction and Development (2001-2006).

David Dodge

David Dodge joined Bennett Jones LL.P as a Senior Advisor in 2008 after a distinguished career as a public servant where he served as Governor of the Bank of Canada (2001-2008), Deputy Minister of Health (1998-2001) and Deputy Minister of Finance (1992-97). He currently serves as Chancellor of Queen's University, is co-chair of the Global Market Monitoring Group, and a member of the board of directors of Canadian Utilities Limited and Canadian Institute for Advanced Research.

Don Drummond

Don Drummond is Matthews Fellow and Distinguished Visiting Scholar in the School of Policy Studies at Queen's University. He was Senior Vice-President and Chief Economist at the TD Bank from 2000 to 2010. Before joining the TD Bank, he served for 23 years at Finance Canada, where he served as Associate Deputy Minister, Assistant Deputy Minister, Fiscal Policy and Economic Analysis, and Assistant Deputy Minister, Tax Policy and Legislation. He is a member of the Board of Directors of the Centre for the Study of Living Standards.

Pierre Fortin

Pierre Fortin is Professor Emeritus of Economics at the Université du Québec à Montréal (UQAM), which he joined in 1988 after teaching at Université Laval and the Université de Montréal. In 1995 he was selected by the Quebec Association of Business Economists as "the most influential Quebec economist of the last decade." He is a past President of the Canadian Economics Association. He is a member of the Board of Directors of the Centre for the Study of Living Standards.

Fred Gorbet

Fred Gorbet enjoyed a distinguished career in the federal government culminating in his appointment to the position of Deputy of Minister of Finance

(1988-1992). He is currently Associate Director of the Financial Services Program at the Schulich School of Business at York University and serves on a number of corporate boards. He is Chair of the Board of ASSURIS, Vice Chair of Covenant House Toronto, a Director of LAWPRO, and a Trustee of the North American Electric Reliability Council. He is also Vice Chair of the Government of Canada Audit Committee and is currently appointed by the Government of Ontario as Chair of the Steering Committee of the Task Force on Auto Insurance Fraud in Ontario. He was appointed to the Order of Canada in 2000. He is a member of the Board of Directors of the Centre for the Study of Living Standards.

John Helliwell

John Helliwell is an Arthur J.E. Child Foundation Fellow of the Canadian Institute for Advanced Research and Professor Emeritus of Economics at the University of British Columbia. He is an advisor for the Centre for International Governance Innovation, a member of the National Statistics Council, and a Research Associate for National Bureau of Economic Research. He also was president of the Canadian Economics Association and has served as research consultant to the Bank of Canada, several Royal Commissions, the Government of Canada's Department of Finance, and the OECD. He is a Fellow of the Royal Society of Canada.

Lars Osberg

Lars Osberg is University Professor of Economics at Dalhousie University where he has taught since 1977. He is currently Chair of the Department. He has published numerous articles in academic journals and seven books, including *Unnecessary Debts*, co-edited with Pierre Fortin (James Lorimer Publishers, Toronto, 1996). He is a past President of the Canadian Economics Association. He is a member of the Board of Directors of the Centre for the Study of Living Standards.

Chris Ragan

Chris Ragan is Associate Professor of Economics at McGill University and has taught there since 1989. He also holds the David Dodge Chair in Monetary Policy at the C.D. Howe Institute. Since 1995 he has been the co-author (with Richard Lipsey) of the popular introductory economics textbook *Economics*. In 2004-05 he was Special Advisor to the Governor of the Bank of Canada and in 2009-10 he served as Clifford Clark Visiting Economist at Finance Canada. From 2009 to 2011 he was President of the Ottawa Economics Association. He is a member of the Board of Directors of the Centre for the Study of Living Standards.

John Richards

John Richards is Professor of Public Policy at Simon Fraser University and Roger Phillips Chair of Social Policy at the C.D. Howe Institute. He co-edits the Canadian policy journal, *Inroads*. He has taught and conducted research in Bangladesh. In addition, he serves as an advisor to the International University of Business Agriculture and Technology.

Andrew Sharpe

Andrew Sharpe is founder and Executive Director of the Ottawa-based Centre for the Study of Living Standards (CSLS), a national, independent, non-profit research organization studying trends and determinants of productivity, living standards and economic well-being. He has held a variety of earlier positions, including Head of Research at the Canadian Labour Market and Productivity Centre and Chief, Business Sector Analysis at the Department of Finance. He is also founder and Editor of the *International Productivity Monitor* and Executive Director of the International Association for Research on Income and Wealth.

Munir Sheikh

Munir Sheikh is a Distinguished Fellow and Adjunct Professor at the School of Policy Studies at Queen's University and Distinguished Visiting Scholar at Carleton University. He has enjoyed a distinguished career in the federal public service where he served as Canada's Chief Statistician (2008-10); Deputy Minister of Labour (2005-2008); Deputy Secretary to Cabinet, Expenditure Review, (2004-2005); Associate Deputy Minister of Finance (2003-2004): Associate Deputy Minister of Health (2001-2003); and Senior Assistant Deputy Minister of Finance, Tax Policy (1998-2001). He currently is co-chair of a review of Ontario's social assistance system.

Ian Stewart

Ian A. Stewart has had a distinguished career as an economic policy maker in the federal public service, serving in a number of senior positions. After teaching at Queen's University and Dartmouth College, he joined the Bank of Canada in 1966 to head an econometric modeling team. He moved to the Treasury Board Secretariat in 1972 and subsequently served in positions of increasing responsibility, including Assistant Secretary to the Cabinet Committee on Economic Policy, Economic Advisor to the Privy Council Office, Deputy Minister of Energy, Mines and Resources, and Deputy Minister of Finance. He is the Chair of the Centre for the Study of Living Standards.

Stanley Winer

Stanley Winer is Canada Research Chair Professor in Public Policy at Carleton University. He is the co-author of *Democratic Choice and Taxation: A Theoretical and Empirical Analysis*, Cambridge (1999), and he has published widely in international journals and collected volumes, including the *Oxford Handbook of Political Economy* (2006).

Michael Wolfson

Michael Wolfson holds a Canada Research Chair in Population Health Modelling/Populomics at the University of Ottawa. He served as Assistant Chief Statistician responsible for Analytical Studies and Health Statistics at Statistics Canada. Before joining Statistics Canada he worked at the Treasury Board Secretariat, Finance Canada, the Privy Council Office, the House of Commons, and Deputy Prime Minister's Office.