STUDIES IN ECONOMIC PROSPERITY

Number 2 / November 2003

Quebec Prosperity

Taking the Next Step

Fred McMahon

Contents

An Occasional Paper from the CENTRE FOR BUDGETARY STUDIES
A Division of The Fraser Institute

THE FRASER INSTITUTE

Studies in Economic Prosperity are published periodically throughout the year by The Fraser Institute, Vancouver, British Columbia, Canada.

The Fraser Institute is an independent Canadian economic and social research and educational organization. It has as its objective the redirection of public attention to the role of competitive markets in providing for the well-being of Canadians. Where markets work, the Institute's interest lies in trying to discover prospects for improvement. Where markets do not work, its interest lies in finding the reasons. Where competitive markets have been replaced by government control, the interest of the Institute lies in documenting objectively the nature of the improvement or deterioration resulting from government intervention. The work of the Institute is assisted by an Editorial Advisory Board of internationally renowned economists. The Fraser Institute is a national, federally chartered non-profit organization financed by the sale of its publications and the tax-deductible contributions of its members, foundations, and other supporters; it receives no government funding.

For information about membership in The Fraser Institute, please contact the Development Department via mail to: The Fraser Institute, 4th Floor, 1770 Burrard Street, Vancouver, BC, V6J 3G7; via telephone: 604.688.0221 ext. 586; via fax: 604.688.8539; via e-mail: membership@fraserinstitute.ca.

In **Calgary**, please contact us via telephone: 403.216.7175 or, toll-free 1.866.716.7175; via fax: 403.234.9010; via e-mail: barrym@fraserinstitute.ca.

In **Toronto**, please contact us via telephone: 416.363.6575; via fax: 416.934.1639.

To order additional copies of Public Policy Sources, any of our other publications, or a catalogue of the Institute's publications, please contact the book sales coordinator via our toll-free order line: 1.800.665.3558, ext. 580; via telephone: 604.688.0221, ext. 580; via fax: 604.688.8539; via e-mail: sales@fraserinstitute.ca.

For media enquiries, please contact Suzanne Walters, Director of Communications via telephone: 604.714.4582 or, from Toronto, 416.363.6575, ext. 582; via e-mail: suzannew@fraserinstitute.ca

To learn more about the Institute, please visit our web site at www.fraserinstitute.ca.

The authors of this study have worked independently and opinions expressed by them are, therefore, their own, and do not necessarily reflect the opinions of the members or trustees of The Fraser Institute.

Editing and design: Kristin McCahon and Lindsey Thomas Martin
Printed and bound in Canada.

ISSN 1706-8983 (Print)
ISSN 1706-8991 (Online)

Date of issue: November 2003

Sommaire

Quebec Prosperity: Taking the Next Step examine le rendement économique du Québec, au Canada et par rapport aux États-Unis, ainsi que son effet sur la politique économique du Québec. La question-clé est à savoir la raison pour laquelle le rendement économique du Québec a été, de façon constante, en dessous de son potentiel : les Québécois sont plus pauvres et plus souvent au chômage qu'il le faudrait.

Nous examinerons la structure politique du Québec et son effet sur le rendement économique en utilisant, d'une part, la recherche sur la relation entre divers choix de politique, empirique et révisée par les pairs et, d'autre part, la prospérité et la création d'emplois. On trouve très souvent que les responsables des orientations politiques du gouvernement du Québec ont fait des choix politiques qui restreignent le potentiel économique, tout en augmentant le pouvoir et les ressources du gouvernement.

Cette étude se termine par des recommandations politiques qui pourraient engendrer un Québec plus prospère.

Rendement économique

Le Québec possède d'immenses avenues de développement économique. Il jouit de caractéristiques qui devraient, d'ordinaire, mener à un niveau exceptionnel de prospérité : situation centrale dans le marché le plus dynamique du monde, urbanisation, densité de la population et accès aux voies de transport, notamment une des plus grandes au monde, la Voie maritime du Saint-Laurent, qui rejoint le système des Grands Lacs.

Ces derniers quarante ans, et quel que soit le point de vue, le bilan économique du Québec a déçu.

- Le Québec possède de loin le niveau de prospérité par personne le plus bas, mesuré par le produit intérieur brut par tête, de toutes les provinces ou états industrialisés dont la population dépasse 6 000 000 de personnes.
- Le Québec a, de loin, le taux de chômage le plus élevé de toutes les grandes provinces ou états industrialisés.
- À la différence de la plupart des régions en retard au Canada, y compris le Canada atlantique, et de partout dans le monde, le Québec n'est pas parvenu à combler l'écart avec les régions plus prospères. En 1961, le niveau de prospérité par personne était à 90 % de la moyenne canadienne. En 2001, il était toujours à 90 % de la moyenne canadienne.
- Loin de rattraper, la création d'emplois au Québec est de façon constante plus basse que la création d'emplois en Ontario et que la moyenne provinciale au Canada. De 1991 à 2001, le nombre d'emplois au Québec a augmenté de 12,8 %, alors qu'il a été de 18,9 % en Ontario et de 17,3 % en moyenne au Canada.
- Le Québec ne parvient pas à attirer l'investissement approprié pour combler l'écart avec le reste du Canada. Par exemple, l'investissement commercial cumulé net au Québec est de 29 000 $ par personne, alors qu'il est de plus de 40 000 $ en Ontario et que la moyenne canadienne dépasse 38 000 $.

Le Québec est également victime d'un marché du travail peu flexible.

- Le niveau de syndicalisation au Québec est de loin le plus élevé des provinces canadiennes et des États-Unis. Ce niveau est de deux à 10 fois plus élevé que celui de la majorité des états américains et près de 50 % plus élevé qu'en Ontario. On a trouvé que de hauts niveaux de syndicalisation réduisent l'investissement et la création d'emplois.
- Les prestations de prolongation de l'assurance-emploi, fondée sur le taux de chômage régional, freinent

la création d'emplois dans certaines parties du Québec, comme c'est le cas dans le Canada atlantique.

- Au Québec, le salaire minimum est trop élevé par rapport à sa productivité. Cela empêche la création d'emplois pour les jeunes et d'autres nouveaux venus sur le marché du travail.

Taille de l'appareil gouvernemental

La taille de l'appareil gouvernemental constitue un élément-clé pour la croissance économique. De lourds impôts laissent aux personnes et aux affaires moins d'argent à investir, à créer des emplois et à réaliser la prospérité. Ainsi, des dépenses publiques élevées évincent d'autres mesures économiques en absorbant les emplois et les investissements qui pourraient bâtir une future richesse et créer des emplois durables. La littérature empirique à ce sujet est exhaustive et probante.

Fardeau fiscal

- Le Québec place le fardeau fiscal total le plus lourd — le fardeau fiscal global des gouvernements fédéral, provincial et local — sur ses citoyens de toutes les juridictions d'Amérique du Nord (en pourcentage de l'économie), à l'exception de l'Alaska, une anomalie due aux redevances pétrolières.

- L'écart de l'impôt total est particulièrement frappant lorsque l'on compare le Québec aux autres états et provinces industrialisés. Par exemple, on considère que le Massachusetts est un état aux impôts élevés, mais le fardeau fiscal du Québec est presque trois fois plus lourd. Le fardeau du Québec est plus de trois fois plus lourd que celui de l'Alberta et plus de 7 % plus lourd que celui de l'Ontario.

- L'écart fiscal est encore plus frappant quand on considère la fraction du fardeau fiscal imposé par les gouvernements provincial et local, étant donné que le régime fiscal fédéral est le même dans toutes les juridictions.[1] Le fardeau que le gouvernement québécois place sur ses citoyens est près de trois fois plus lourd qu'en Ontario et près de 50 % plus lourd qu'en Alberta.

Dépenses

- Les dépenses publiques totales (en tant que pourcentage de l'économie) au Québec dépassent celles de tout état américain ou province industrialisés. Les quatre provinces de l'Atlantique sont les seules dont les dépenses dépassent celles du Québec (les dépenses y sont lourdement subventionnées par divers programmes fédéraux), ainsi que le Manitoba.

- Au niveau infranational, les dépenses du Québec, à nouveau, dépassent seulement celles du Canada atlantique et du Manitoba. (Les gouvernements infranationaux du Canada et des États-Unis ne peuvent être comparés, voir la note 1.)

- Au nom du «développement économique», le Québec continue à subventionner les entreprises — souvent appelées «entreprises parasites» — plus que toute autre province canadienne. Il est prouvé que de tels principes sont inefficaces quand il s'agit de mesures de relance de la croissance économique. Cependant, ils demeurent des outils politiques efficaces, à utiliser pour récompenser ses amis et pour pénaliser ses ennemis. Ces principes coûtent environ 500 $ par an à chaque Québécois. Les réformes annoncées récemment pourraient radicalement changer cette situation et elles doivent être surveillées de très près.

Politique fiscale

L'ensemble des revenus fiscaux, discutés ci-dessus, et les régimes fiscaux sont tous importants. Les impôts ne sont pas tous égaux : le coût à l'économie de réunir des dollars de revenu additionnels varie d'impôt à impôt. Par exemple, l'Organisation de développement et de coopération économiques estime que les taxes de vente coûtent à l'économie 17 ¢ pour chaque dollar supplémentaire de revenu perçu, alors que l'impôt des sociétés coûte 1,55 $. Les taux marginaux d'imposition sont également importants, puisque les taux marginaux élevés découragent l'effort supplémentaire et l'innovation.

Les régimes fiscaux du Québec découragent l'effort, la prise de risques et l'investissement.

- Le taux d'imposition maximal du revenu des particuliers du Québec est de loin le plus élevé au Canada. À 24 %, il est de loin au-dessus de la moyenne qui est d'un peu plus de 15 % dans les autres provinces et considérablement au-dessus du taux en Ontario, qui est de 11,2 %, de 10 % en Alberta et de 14,7 % en Colombie-Britannique. Le taux maximal au Québec s'applique également aux revenus relativement faibles de toutes les autres provinces, à l'exception de l'Alberta qui jouit d'un taux uniforme.

- Le taux d'imposition des sociétés du Québec est à égalité avec celui du Manitoba, le deuxième plus élevé au Canada, après la Saskatchewan. Les entreprises du Québec sont irrecevables pour ce qui est du taux réduit pour les «petites et moyennes entreprises», à un niveau de revenu plus bas que partout, sauf dans les provinces de l'Atlantique.

- Le taux d'impôt des petites et moyennes entreprises du Québec, qui s'élève à 9 %, est de loin au-dessus de la moyenne des autres provinces, qui est de 5,3 %, et du taux de l'Ontario, qui est de 6 %.

- Le Québec s'appuie beaucoup trop sur l'impôt sur le revenu des sociétés pour percevoir des revenus. On l'a appelé l'«impôt le plus nuisible» au Canada. Grâce à cet impôt, le Québec recouvre le pourcentage le plus élevé de ses revenus de toutes les provinces, à l'exception de la Saskatchewan.

- Le Gouvernement impose 20 % des profits réalisés au Québec, par l'entremise de l'impôt sur le revenu des sociétés et de la taxe sur le capital, un pourcentage des profits plus élevé que dans n'importe quelle autre province. Les profits constituent et les moyens d'investir d'avantage et le stimulant pour effectuer de tels investissements.

Comparaisons internationales

Cette partie fournit une perspective internationale sur la tenue de l'économie au Québec et sur les principes à suivre pour l'améliorer.

- Le Québec, avec l'Île-du-Prince-Édouard à ses côtés, se range au bas de l'échelle pour ce qui est de la liberté économique en Amérique du Nord. Des tests statistiques raffinés ont prouvé que la liberté économique constitue l'élément-clé de la croissance et de la prospérité de l'Amérique du Nord.

- Les observations internationales montrent que les régions retardataires des nations développées se montrent enclines à combler l'écart avec les régions plus prospères de 2 à 3 % par an. Au cours des 40 dernières années. le Québec n'a pas du tout pu combler l'écart avec la prospérité moyenne du Canada.

- Le Québec n'a pas adopté les principes que d'autres régions retardataires ont utilisés pour rattraper et même dépasser les régions avancées.

Recommandations

Pour atteindre son potentiel économique — et fournir une vie plus prospère à ses citoyens, grâce à des opportunités d'emploi ou d'avancement améliorées — le Québec devrait franchir les étapes suivantes :

- Réduire les dépenses, avec le but immédiat de devenir concurrentiel avec la taille du gouvernement de l'Ontario et, à long terme, avec les états américains industrialisés.

- Réduire le fardeau fiscal des Québécois. Ici aussi, le but immédiat devrait être d'être concurrentiel avec l'Ontario, et celui, à long terme, de devenir concurrentiel avec les états américains.

- Réorganiser les régimes fiscaux pour utiliser des impôts économiquement efficaces et réduire l'usage d'impôts à mauvais rendement. Une bonne première étape serait l'élimination de l'impôt sur le capital social.

- Simplifier les régimes fiscaux en passant, par exemple, à un régime de taux uniforme, comme celui de l'Alberta.

- Augmenter la flexibilité du marché du travail. Les employés et les employeurs devraient jouir d'une plus grande liberté quand ils ont affaire l'un avec l'autre ou avec les syndicats.

Le Québec est capable de se transformer d'une province avec le plus mauvais rendement des grandes provinces et états industriels en un endroit des plus prospères de notre planète, produisant une nouvelle richesse et de l'emploi pour ses citoyens. Les changements de politique nécessaires à la création de cette transformation ne sont pas mystérieux et leurs résultats ne sont pas inconnus. Un énorme montant de recherches empiriques et révisées par des pairs examinent l'effet de divers choix de politique. Comme ce rapport le démontre, le Québec a choisi une mauvaise politique dans le passé. L'avenir apportera une bien plus grande prospérité.

Note

1 Le Québec assume la responsabilité de certains secteurs qui, dans les autres provinces, sont sous contrôle fédéral. Le Québec reçoit un « abattement fiscal» d'Ottawa pour compenser ces coûts supplémentaires. Lorsque l'on soustrait cet abattement fiscal de ce que le gouvernement dépense au Québec, on soustrait, en fait, les coûts financiers de ces responsabilités+, permettant ainsi une comparaison explicite avec les autres provinces. Cependant, des comparaisons explicites avec les gouvernements infranationaux du Canada et des États-Unis sont impossibles puisque ces deux nations partagent différemment les responsabilités entre leur gouvernement fédéral et les gouvernements infranationaux. Ainsi, les comparaisons explicites ne sont possibles que lorsque l'on considère ensemble tous les trois niveaux gouvernementaux, c'est-à-dire les gouvernements fédéraux, provinciaux ou des états, ainsi que les gouvernements locaux.

Executive Summary

Quebec Prosperity: Taking the Next Step investigates Quebec's economic performance, both within Canada and relative to US states, and how this is affected by Quebec's economic policies. A key question addressed is why Quebec's economic performance has consistently been lower than its potential: Quebec's people are poorer and more frequently unemployed than they need be.

Quebec's policy structure and its impact on economic performance are examined using empirical, peer-reviewed research on the relationship between various policy choices, on the one hand, and prosperity and job creation, on the other. Quite often it is found that policy-makers in Quebec's government have made policy choices that limit economic potential, while increasing the power and resources of government.

The study concludes with recommendations on policies that could produce a more prosperous Quebec.

Economic performance

Quebec has immense economic opportunity. It possesses attributes that would typically lead to extraordinary levels of prosperity: central location in the world's most dynamic market, urbanization, population density, and access to transportation routes, including one of the world's greatest, the St. Lawrence Seaway, which connects the Great Lakes and the Atlantic Ocean.

Quebec's economic record has disappointed from virtually all perspectives over the last 40 years.

- Quebec has by far the lowest level of prosperity, as measured by per-capita GDP, of any industrialized province or state with a population over 6,000,000.

- Quebec has by far the highest unemployment rate of any large industrialized province or state.

- Unlike most lagging regions in Canada, including Atlantic Canada, and around the world, Quebec has failed to close the gap with more prosperous regions. In 1961, Quebec's per-capita GDP was 90% of the Canadian average. In 2001, it was still 90% of the Canadian average.

- Far from catching up, job creation in Quebec is consistently lower than job creation in Ontario and the Canadian provincial average. From 1991 to 2001, the number of jobs in Quebec increased by 12.8%, compared to 18.9% in Ontario and 17.3% as the Canadian average.

- Quebec is failing to attract adequate investment to close the gap with the rest of Canada. For example, accumulative net business investment in Quebec is $29,000 per person, compared to just over $40,000 in Ontario and a Canadian average of just over $38,000.

Quebec also suffers from a inflexible labour market.

- Quebec's level of unionization is by far the highest among Canadian provinces and US states. Quebec's level of unionization is from two to 10 times higher than most US states and about 50% higher than in Ontario. High levels of unionization have been shown to reduce investment and job creation.

- Regionally extended Employment Insurance hobbles job creation in parts of Quebec as it does in Atlantic Canada.

- Quebec's minimum wage is too high relative to productivity. This inhibits job creation for young people and other new entrants in the job market.

Size of government

Size of government is a key factor in economic growth. Heavy taxes leave people and businesses less of their money to invest, create jobs, and build prosperity. Similarly,

high government spending crowds out other economic activity by consuming the labour and investment that could build future wealth and generate sustainable jobs. The empirical literature on these subjects is comprehensive and convincing.

Tax burden

- Quebec places the highest total tax burden—the combined tax burden of federal, provincial, and local governments—on its citizens of any jurisdiction in North America (as a percentage of the economy) except for Alaska, an anomaly caused by oil royalties.

- The total taxation gap is particularly striking when Quebec is compared to other large, industrialized states and provinces. For example, Massachusetts is considered a high-tax state but Quebec's tax burden is almost a third higher. Quebec's burden is more than a third greater than Alberta's and over 7% greater than Ontario's.

- The tax gap is even more striking when one looks at the portion of the tax burden levied by provincial and local governments, since the federal tax structure is the same across jurisdictions.[1] The burden Quebec's governments place on its citizens is a nearly a third heavier than in Ontario and nearly 50% heavier than in Alberta.

Spending

- Total government spending (as a percentage of the economy) in Quebec surpasses that in any US state or industrialized province. Quebec's spending is exceeded only by the four Atlantic Provinces, where spending is heavily subsidized by various federal programs, and Manitoba.

- At the sub-national level, Quebec's spending again exceeds spending only in Atlantic Canada and Manitoba. (Sub-national governments in Canada and the United States cannot be directly compared, as explained in note 1.)

- In the name of "economic development," Quebec has continued to subsidize businesses—often called "corporate welfare"—more than any other Canadian province. Such policies have proved to be ineffective in boosting economic growth. However, they remain potent political tools, used to reward friends and penalize enemies. These policies cost each Quebecer around $500 a year. Recently announced reforms may dramatically change this picture and these reforms should be closely monitored.

Tax policy

Both the overall tax take, discussed above, and the structure of taxes are important. Not all taxes are equal: the cost to the economy of raising an additional dollar of revenue varies from tax to tax. For example, the Organisation for Economic Development and Cooperation (OECD) estimates that sales taxes cost the economy 17¢ for each extra dollar of revenue raised while corporate income tax costs $1.55. Marginal rates are also important, since high marginal rates discourage extra effort and innovation.

Quebec's tax structure discourages effort, risk-taking, and investment.

- Quebec's top marginal personal income-tax rate is by far the highest in Canada. At 24%, it is well above the average of a little over 15% in the other provinces, and substantially above Ontario's rate of 11.2%, Alberta's of 10%, and British Columbia's of 14.7%. The top rate in Quebec also applies to lower incomes than in all other provinces except Alberta, which has a single rate.

- Quebec's corporate tax rate is tied with Manitoba for the second highest in Canada after Saskatchewan. Businesses in Quebec are ineligible for the reduced "small business" rate at a lower level of income than in all but the Atlantic Provinces.

- Quebec's small business corporate income tax rate of 9% is well above the average in the other provinces of 5.3% and Ontario's rate of 6%.

- Quebec relies far too much on the corporate capital tax to raise revenue. This has been called Canada's

"most destructive tax." Quebec collects a higher percentage of its revenue from this tax than any province except Saskatchewan.

- Government taxes away 20% of profits realized in Quebec through corporate income and capital taxes, a higher percentage of profits than in any other province. Profits are both the means for further investment and the incentive to make such investments.

International comparisons

This section provides an international perspective on Quebec's performance and on what policies might be employed to improve this performance.

- Quebec, along with Prince Edward Island, ranks at the bottom of the ratings for economic freedom in North America. Sophisticated statistical testing shows that economic freedom is a key driver of growth and prosperity in North America.

- International evidence shows that lagging regions in developed nations tend to close the gap with more prosperous regions by 2% to 3% a year. Over the past 40 years, Quebec has failed to close the gap with average prosperity in Canada at all.

- Quebec has not adopted policies that other lagging regions have used to catch up and even surpass advanced regions.

Recommendations

To live up to its economic potential—and provide a more prosperous life for its citizens with improved employment opportunities—Quebec should take the following steps.

- Reduce expenditures, with an immediate goal of becoming competitive with the size of government in Ontario and a longer-term goal of becoming competitive with industrialized US states.

- Reduce the tax burden faced by the people of Quebec. Here again, the immediate goal should be to become competitive with Ontario with the longer-term goal of becoming competitive with US states.

- Re-organize the tax structure to make use of economically efficient taxes and reduce the use of inefficient taxes. A good first step would be the elimination of the corporate capital tax.

- Simplify the tax structure, for example, by moving to a single-rate tax as Alberta has.

- Increase flexibility in the labour market. Employees and employers should have more freedom in dealing with each other and with unions.

Quebec has the ability to transform itself from the worst performing of the large industrial provinces and states into one of the most prosperous places on the planet, producing new wealth and employment for its people. The policy changes needed to create this transformation are not mysterious nor are their results unknown. An immense amount of peer-reviewed empirical research has examined the impact of various policy options. As this report shows, Quebec has made unfortunate policy choices in the past. The future could bring much greater prosperity.

Note

1 Quebec has assumed responsibility for certain areas that in other provinces are under federal control. Quebec receives an "abatement" from Ottawa to compensate for these extra costs. When this abatement is subtracted from government spending in Quebec it, in effect, subtracts the financial costs of these responsibilities, allowing direct comparison with other provinces. However, direct comparisons between sub-national governments in Canada and the United States are not possible, since the two nations divide responsibilities differently between their federal and sub-national governments. Thus, direct comparisons are possible only when all three levels of government, federal, provincial/state, and local, are considered together.

Introduction

Quebec is emerging from one of its most economically successful years ever. Economic growth was 4.3% in 2002. That was above Ontario's growth rate of 3.9% and the Canadian average of 3.4%. Employment growth was strong. Nearly 180,000 jobs were created in 2002, beating out Ontario's job growth of 104,000. However, the evolution of Quebec's unemployment rate presents a mixed picture. Although Quebec's unemployment rate declined in 2002, it remained substantially above the unemployment rate in Ontario and the average unemployment rate across Canada. Unemployment in Quebec fell marginally from 8.7% in 2001 to 8.6% in 2002. Ontario's unemployment rate rose from 6.3% in 2001 to 7.1% in 2002 while the Canadian average rose from 7.2% to 7.7%.

All jurisdictions experience ups and downs in relation to other jurisdictions. The key question is not whether a province is doing well in one year but rather how it has done over time and whether any change in policy or economic opportunity is likely to cause a break with past performance. Quebec's recent economic success is largely due to the Canadian dollar's low exchange rate relative to the US dollar, an advantage shared in particular with Ontario, and by pent-up demand in the housing market, which was especially strong in Quebec and is a key factor in Quebec's relatively strong performance (National Bank 2003: 13). But, the hot housing sector is a temporary factor, boosted by low interest rates that will lose steam as pent-up demand in Quebec is met. Nor, as recent currency movements show, can Quebec and Canada depend on an ever-declining exchange rate to boost economic activity.

This study takes the long-term view of how Quebec's economic policy has affected its economic performance. The picture over the last 40 years is not only less rosy for Quebec but also should be a cause for concern for the future if the policy mix that has been holding Quebec back for decades is left unreformed.

Quebec's economic performance over recent decades has disappointed. That is true from all possible economic perspectives: per-capita GDP, job creation and unemployment, investment, and the province's ability to hold on to its own people and attract immigrants. Quebecers are poorer and more unemployed than they need to be.

Research across Europe, Japan, and the United States shows that lagging regions, with just average economic policy,[1] catch up with more prosperous regions. Yet, Quebec has failed to catch up with the Canadian average over the last 40 years. While other lagging regions move forward, Quebec remains stalled. This is because Quebec's ability to grow economically and produce jobs and better living standards for its people has been held back by consistently bad policies that fly in the face of the best economic thinking and evidence.

In 1961, Quebec's per-capita GDP was 90% of the Canadian average, about the level it is today.[2] To focus on the last 20 years or so, Quebec's per-capita GDP in 1981 was 90.8% of the Canadian average and an almost identical 89.7% in 2002.

Comparisons between Quebec and Ontario—both with very similar economic potential—are also telling. In 1981, Quebec's per-capita GDP was 81.7% of that in Ontario. In 2001, it was 81.1%, virtually the same level as 20 years earlier. While counterfactual examples always should be taken with a grain of salt, if Quebec had simply achieved the convergence rates experienced by other lagging regions around the world, its per-capita GDP would have risen to about 90% of Ontario's per-capita GDP from 1981 to 2002. In that case, the average Quebec worker would have produced $6,800 more in goods and services in 2001.

That's with average convergence. However, jurisdictions can surpass this rate of convergence by implementing policies, discussed later in this paper, that are known from empirical research to increase growth—what might be called "best practice" policies. Until the mid-1980s, Quebec and Ireland followed almost identical economic policy paths – large government spending, high tax rates, inflexible labour markets, and rising deficits, despite the

high tax rates. Both suffered high unemployment, low or even negative growth, and high emigration.

Ireland dramatically broke this pattern in 1987. It slashed tax rates and government spending. A revolution in union thinking brought flexibility to the labour market with an official union policy promoting "wage moderation." When Ireland launched these reforms in 1987, it was much poorer than Quebec. Its per-capita GDP was 59% of Quebec's. Back in 1987, Irish workers too often were not working: unemployment was a remarkable 17.0%, compared to Quebec's rate of 10.2%.

Today, Ireland is a much richer place than Quebec, with much lower rates of unemployment. Ireland's per-capita GDP is 120% of Quebec's, more than double what it was 13 years earlier when the Irish reforms were launched. Put another way, in 1987, Ireland's per-capita GDP, translated into real Canadian dollars, was $17,426. (This is corrected for inflation to reflect the value of Canadian dollars in 2000.) At that time, Quebec's per-capita real GDP was $29,409, or nearly $12,000 more per capita than in Ireland. Now, Irish per-capita GDP is $37,805 compared to $31,775 in Quebec, nearly $6,500 less per person than in Ireland.[3]

Ireland's unemployment rate has fallen below 5%, less than a third what it was in 1987 when reforms were launched. Quebec's unemployment rate has also come down, but only to 8.6%, a drop of 1.6 percentage points compared to Ireland's reduction of 12.3 percentage points. Over the last few years, Ireland's unemployment rate has been so low it reflects workers moving between jobs more than a shortage of jobs.

More recent data from Ireland's Central Statistical Office (CSO)[4] shows that Ireland's unemployment rate continued to fall into the new millennium, dropping to 4% by the end of 2001. Ireland is now suffering from the general economic malaise in Europe and the unemployment rate rose to 4.5% in the fourth quarter of 2002 (Central Statistics Office Ireland, various years) Although 2002 was a particularly good year for Quebec, especially in job creation, Quebec's unemployment rate in 2002 was 8.6%. This paints a remarkable picture. Ireland, an historic economic laggard, now has an unemployment rate below 4.7% in bad times while Quebec, in good times, has an unemployment rate that's nearly double that of Ireland's.

Failed economic policies

Quebec's key economic failings remain its dependence on big government and its relatively inflexible labour market, the most unionized in Canada, with a militant and often ideologically motivated union leadership. All this is reminiscent of Ireland's union leadership prior to the 1987 reforms, after which union leaders stressed the need for flexibility and growing profits to attract new investment.

The residents of Quebec bear the greatest government burden—taxes and other government takings—in Canada as a percent of GDP. This leaves Quebec residents with less of their own money to spend and invest. High personal taxes diminish individual drive, innovation, and risk-taking since government takes a large share of any rewards while leaving the individual with the risk and any losses. High taxes also limit profits and thus reduce the incentive to invest and the means to invest. Investment is the key to boosting prosperity and creating the jobs that residents of Quebec need.

At the combined provincial and local level—the "sub-national" level—the amount of "own source" revenue Quebec collects from its own people and businesses is the highest in the nation as a percent of GDP at 26.2% in 2001/2002. The Canadian average is 22.3%; Ontario is 20.8%. Comparisons with US states are difficult since the split of constitutional duties between the federal government and the states and provinces differs in Canada and the United States.

Similarly, when revenues collected by all levels of government—federal, provincial and local, referred to here as the "all-government" level—are considered, Quebecers remain the most taxed people in Canada. All-government revenues in Quebec equal 43.4% of GDP compared to 40.4% for Ontario and the Canadian average of 39.7%. At the all-government level, comparisons are possible between Canadian provinces and US states. In the United States, Quebec's all-government revenues are about 50% higher than in the United States, where they average less than a third of GDP.

However, high taxes are not the only negative effect of large government on the economy of Quebec. Because of heavy government spending, Quebec business must compete against government whenever they hire some-

one, buy supplies, pay office rent, or make new investments. This too raises the cost of business and limits economic expansion.

Quebec spends more—and thus crowds out more economic activity—than key competitors in Canada, and much more than US states. At the provincial and local level, government spending in Quebec equaled 30.2% of GDP in 2001/2002 compared to the Canadian average of 25.7% and 22.2% in Ontario, as this study will show. To assure an appropriate comparison, this spending number does not include expenditures Quebec makes at the provincial level that are made in other provinces by the federal government. Quebec spending is also well above the Canadian average at the all-government level. In Quebec, it equaled 44.8% of GDP in 2000 compared to the Canadian average of 38.9% and 33.8% in Ontario.

Moreover, the Quebec government continues the failed economic policy of subsidizing favoured businesses. Such policies cost residents of Quebec dearly—about $500 a year for every Quebec resident—but there is no evidence they work economically (see, e.g., Fisher and Peters 1997). Despite this lack of evidence, business subsidies remain popular because they work politically. They give the government of the day the ability to reward friends and penalize enemies, either by withholding subsidies or by subsidizing competitors. Governments and politicians find this a valuable political tool and are often loath to eliminate what has been called "corporate welfare," despite the economic evidence that it is a waste of taxpayers' money that rewards the politically powerful and well connected. It is perhaps the least equitable of all government spending.

The policy of susidizing businesses have a number of toxic economic effects. All businesses pay taxes but they may well see their tax dollars go to subsidize less efficient competitors. As well, subsidization policies, combined with a large overall government sector, significantly change business incentives. Instead of seeking to produce goods and services the world wants to buy, business has an incentive to focus on political contacts in order to reap subsidies and rich government contracts, where quality and price may not be important factors. This can have a devastating effect on the ability of business to produce well-priced, high-quality goods and services, a perverse effect even reported in government-sponsored studies (see O'Farrell 1990). In other words, subsidies of business are not only inequitable and a waste of government money, they are likely to sabotage the very thing they are meant to promote—prosperity and economic growth.

Quebec's economic future

In one promising way, Quebec has proven itself virtually unique in the developed world. Quebec society has shown a remarkable ability to revolutionize itself with a speed that is truly astonishing. At the risk of oversimplifying, during the Quiet Revolution of the late 1950s and early 1960s, Quebec transformed itself virtually overnight from an inward-looking, largely complacent society to an outward-looking assertive society, from what was in many ways a church-dominated society to an overwhelmingly secular society, from one of the most socially conservative societies in the developed world to one of the most liberal. Many societies underwent similar evolutions but it is difficult to think of any that underwent such social changes more rapidly or more deliberately, with a greater awareness of the impact and direction of the changes that arose out of the intellectual ferment and discussion of the time.

Just as voices were heard throughout the 1950s pointing the way to the Quiet Revolution, so too are voices now heard in Quebec that question the received economic wisdom. And that leads us to another connection. The Quiet Revolution may have been unique for the speed at which social changes occurred but one other society—Ireland—has shown similar transformative power, though in the area of economic rather than social change. Perhaps Quebec can use its transformative abilities in the early years of this new century to follow the Irish example to create new prosperity and opportunity for the people of Quebec.

The shift to reliance on markets and individual initiative, and away from government economic dominance, need not be political or ideological. Any party or government can take up these policies because they are based on best practices in creating better lives, greater prosperity, and more employment opportunities. In Ireland,

they were implemented under a society-wide consensus, with support from parties right to left, and from unions, business, and government bureaucrats. Similarly, in the Netherlands, a former top labour leader and vice-chairman of Socialist International, Wim Kok, successfully battled for reductions in government spending, for gains in labour-market flexibility, for increased use of market mechanisms, and for reform of social programs to make them less generous and less accessible.[5]

What is remarkable, however, is that in nations like Ireland and the Netherlands policy-makers and political leaders, who had once fought against market reform and for larger government and more spending, were able to recognize that statist policies were impoverishing their people, limiting opportunity, and leaving far too many residents unemployed. It takes real courage to change course even when supported by overwhelming evidence. Leaders in many nations around the globe have shown such courage. The people of Quebec should expect no less, though great courage would be required because reforms always undermine the privileges of powerful special-interest groups that care little that their privileges damage the well-being of the general population.

Notes

1 What is meant here is economic policy that is no more, or less, growth enhancing than the average economic policy of more advanced areas in the region under consideration. For example, if a lagging and an advanced US state have identical policy frameworks, the lagging region should still close the gap with the advanced region by 2 to 3 percentage points a year. See Barro and Xavier Sala-i-Martin 1995.

2 StatsCan created a new GDP series that begins in 1981. As will be discussed later in this study, because of this GDP before and after 1981 cannot always be compared with precision.

3 The claim has occasionally been made that Ireland's prosperity is due to subsidies from the EU. In fact, EU development subsidies were rarely more than 2% of GDP, much smaller than fiscal transfers within Canada. If subsidies from the EU could explain Ireland's growth, then other regions in Europe receiving subsidies would experience similar growth. This is not the case.

4 See http://www.cso.ie/. The historical data on Ireland in this study is from the World Bank 2002.

5 For a description of the Irish and Dutch reforms, which followed quite similar paths, see McMahon 2000a.

Note on acronyms used for provinces and states

Many graphs in this publication compare Quebec to the other Canadian provinces or to Canada's other large industrial provinces (Ontario, Alberta, and British Columbia) and to eight large, industrial US states that geographically compete with Quebec (Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Ohio, and Pennsylvania). The table to the right shows the acronyms used on the horizontal axis of graphs to identify these provinces and states.

Canadian provinces

Alberta	AB	Nova Scotia	NS
British Columbia	BC	Ontario	ON
Manitoba	MB	Prince Edward Island	PE
New Brunswick	NB	Quebec	QC
Newfoundland	NF	Saskatchewan	SK

American states

Illinois	IL	Minnesota	MN
Indiana	IN	New York	NY
Iowa	IA	Ohio	OH
Michigan	MI	Pennsylvania	PA

Economic Performance

Recent developments

At first glance, Quebec's economic performance, particularly its most recent performance, seems promising. Economic growth was 4.3% in 2002. That was above both Ontario's growth rate of 3.9% and the Canadian average of 3.4%. Employment growth has been strong. Nearly 180,000 jobs were created in 2002, beating Ontario's job growth of 104,000. The evolution of Quebec's unemployment rate presents a mixed picture. It declined slightly in 2002, while the unemployment rate in Ontario and across Canada grew. However, Quebec's unemployment rate remained substantially above Ontario's and the Canadian average. Unemployment in Quebec fell marginally from 8.7% in 2001 to 8.6% in 2002. Ontario's unemployment rate rose from 6.3% in 2001 to 7.1% in 2002 while the Canadian average rose from 7.2% to 7.7%.

All of this came on top of a moderately good year in 2001. Through 2001, 36,800 jobs were created though this was not enough to keep up with labour force growth, leaving the province with a higher unemployment rate at the end of the year than at the beginning.[1] Economic growth in 2001 was also modestly good though far from spectacular for Quebec. Real economic growth equaled 1.1%, though this lagged Ontario's growth of 1.5%.[2]

A longer-term perspective

Quebec, like all other provinces, has temporary ups and downs. This is why it is important to take a longer-term view. This analysis of Quebec's economic performance is based on three broad measures of economic performance: income, labour markets, and investment. Quebec's performance is evaluated both absolutely and relative to that of other Canadian provinces and the US states. Most of the data series will go back 20 years. This is when StatsCan introduced the Financial Management System, (FMS) which provides consistent data for all the provinces. However, in some cases, charts will look further back to give the reader a longer historical perspective, by using alternative StatsCan sources of data, in particular, the Provincial Economic Accounts (PEA).

Both economic theory and empirical evidence show that lagging regions, other things being equal, catch up to more proseperous regions (Baumol et al. 1994; Barro and Sala-i-Martin 1995). Quebec is a laggard among laggards. It is failing to catch up at anything close to the expected rate of convergence. Its rate of convergence is not only slower than that found in the United States, Europe, and Japan but is also slower than the rate of convergence shown by Atlantic Canada, which itself is well under the world average. Yet, Quebec, in location and resources, holds immense advantages. This suggests that all things are not equal and, as this study will explore, that Quebec is not being held back by any lack of opportunity but rather by consistently bad policies that limit opportunity and growth.

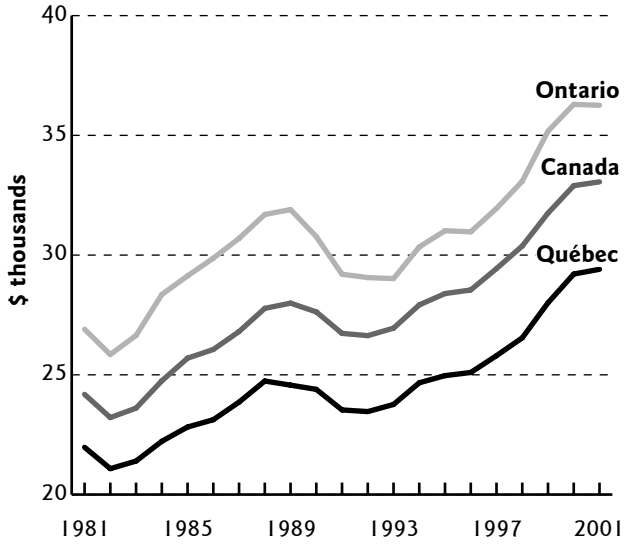
1 Income

Two measures are employed to evaluate Quebec's achievements in increasing the incomes of its residents: gross domestic product (GDP) and personal disposable income. Gross domestic product is a broad measure of income in that it measures the total value of goods and services produced in a specific jurisdiction over a specific time period. Personal disposable income is a similar measure more narrowly defined: it measures the income received by individuals after the payment of direct taxes. This study focuses on per-capita measures of GDP and personal disposable income, both in terms of value and changes over time.

Gross Domestic Product

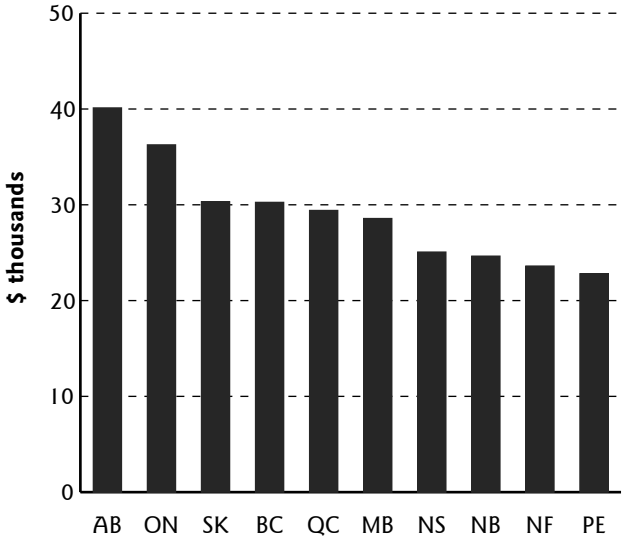
Economic Figure 1 presents the trend of real per-capita GDP in Quebec and Canada since 1981. Quebec's real (inflation-adjusted)[3] per-capita GDP has increased 33.8%

Economic Figure 1: Quebec, Ontario and Canada—Real Per-Capita GDP ($1997)



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 2: Canadian Provinces—Rank by Per-Capita GDP in 2001 ($1997)

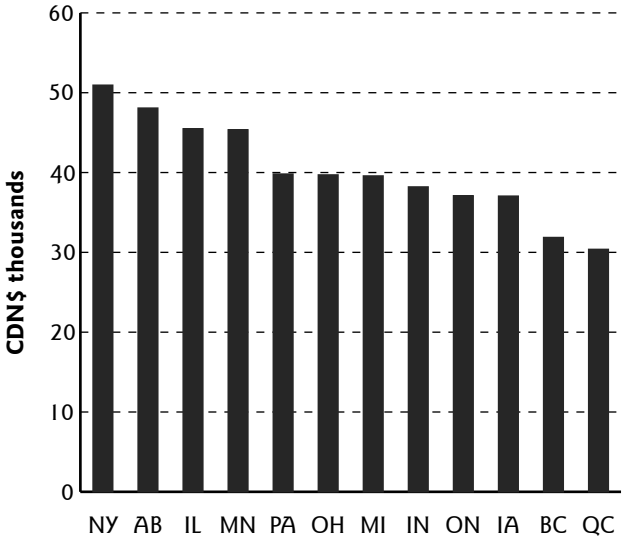


Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

since 1981, from $21,974 to $29,407 in 2001. On a per-capita basis, the Canadian economy has grown faster, by 36.7% over the same period while Ontario's economy has grown by 34.8%. While it may appear that Quebec is close to keeping pace, these numbers suggest Quebec is underperforming considerably. As has been noted, both economic evidence and theory show that lagging regions should catch up with advanced regions, typically narrowing the gap by 2% to 3% a year. Yet, Quebec has failed to catch up at all over the last 20 years. Quebec's per-capita GDP in 1981 was 90.8% of the Canadian average and an almost identical 89.7% in 2002. Comparisons between Quebec and Ontario—both with very similar economic potential —are also telling. In 1981, Quebec's per-capita GDP was 81.7% of that in Ontario. In 2002, it had risen slightly but only to 83.6% of Ontario's.

Economic Figure 2 shows that Quebec is poorer on a per-capita basis than the other large industrialized provinces but is richer than some of the smaller predominantly rural provinces. Economic Figure 3 is similar to the previous figure except that it compares Quebec to a select group of Canadian provinces and American states, Canada's other large industrial provinces (British Columbia, Alberta, and Ontario) and eight large, industrial US states that geographically compete with Quebec and

Economic Figure 3: Selected Canadian Provinces and US States—Rank by Per-Capita GDP in 2000 ($nominal)



Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Economic Analysis; Bureau of Labor Statistics; Organisation for Economic Cooperation and Development; calculations by the authors.

Ontario (Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Ohio, and Pennsylvania). The rankings are for 2000 rather than 2001, as state-level data for 2001 were not available at the time of publication. In addition, nominal values are used rather than real values due to differences in deflator series between Canada and the United States.[4] Purchasing Power Parity exchange rates were employed to convert US dollars to Canadian to account for differences in the prices of goods and services between the two countries.[5]

Quebec's relative performance drops significantly—in fact to last place—once it is compared to other large provincial economies and nearby industrial US states. More indicative of Quebec's overall performance is Economic Figure 4, which shows the nominal per-capita GDP rankings for all Canadian provinces and American states for 2000. Quebec, although it is industrialized with a large urban population in the centre of North America's economic activity, ranks 52nd, ahead of only a handful of small, rural, states and provinces.

Personal disposable income

Personal disposable income, a measure of the amount of income available after the payment of direct taxes, is a more narrow measure of income performance. Economic Figure 5 presents the trend of real per-capita personal disposable income in Quebec and Canada since 1981. The growth in personal disposable income in Quebec has been less robust than that of GDP, the broader measure of income, but this is also true for Canada as a whole, demonstrating the increasing amount of income the government taxed away for its purposes over this time. While per-capita GDP across Canada increased by about a third since 1981, per-capita disposable income grew by only 17.0% over the same period in Quebec and by only about 11.3% in Ontario with a Canadian average of 12.8%.

Economic Figure 6 presents the provincial per-capita personal disposable income rankings for 2001. Like the previous GDP measure, Quebec falls into the middle of the provinces. Alberta leads the country with per-capita personal disposable income valued at $23,933. Economic Figure 7 presents the per-capita personal disposable income rankings for the select group of Canadian provinces and American states for 2000.

As was the case for per-capita GDP, the performance of Quebec and, indeed, of the Canadian provinces in general is low relative to the American states. The four large industrialized Canadian provinces included in the rankings contained in Economic Figure 7 occupy the bottom four rankings, indicating that the per-capita personal disposable incomes of the four Canadian provinces fail to exceed any of the same values in the group of US states, including the states that Quebec exceeded when per-capita GDP was compared. Quite simply, lower US tax rates leave more disposable income in the hands of Americans than Canadians are able to retain, even if economic activity is roughly equivalent (see Economic Figure 8, page 16). Only Alberta exceeds even a single US state in disposable income and that's one of the very poorest of states, Mississippi. All Canadians should be concerned that Canada's star economic performer exceeds only one very poor state in disposable income. Quebecers should be even more concerned given that Quebec's performance lags much further behind.

Conclusion

Over the last several decades, Quebec has had the worst economic performance of any major industrial state or province. Despite its urban population and favourable geographic position, it does far worse than its neighbours and competitors. On a per-capita GDP basis, it does better than only a handful of primarily rural states and provinces that, unlike Quebec, are typically isolated from the central economic regions of North America.

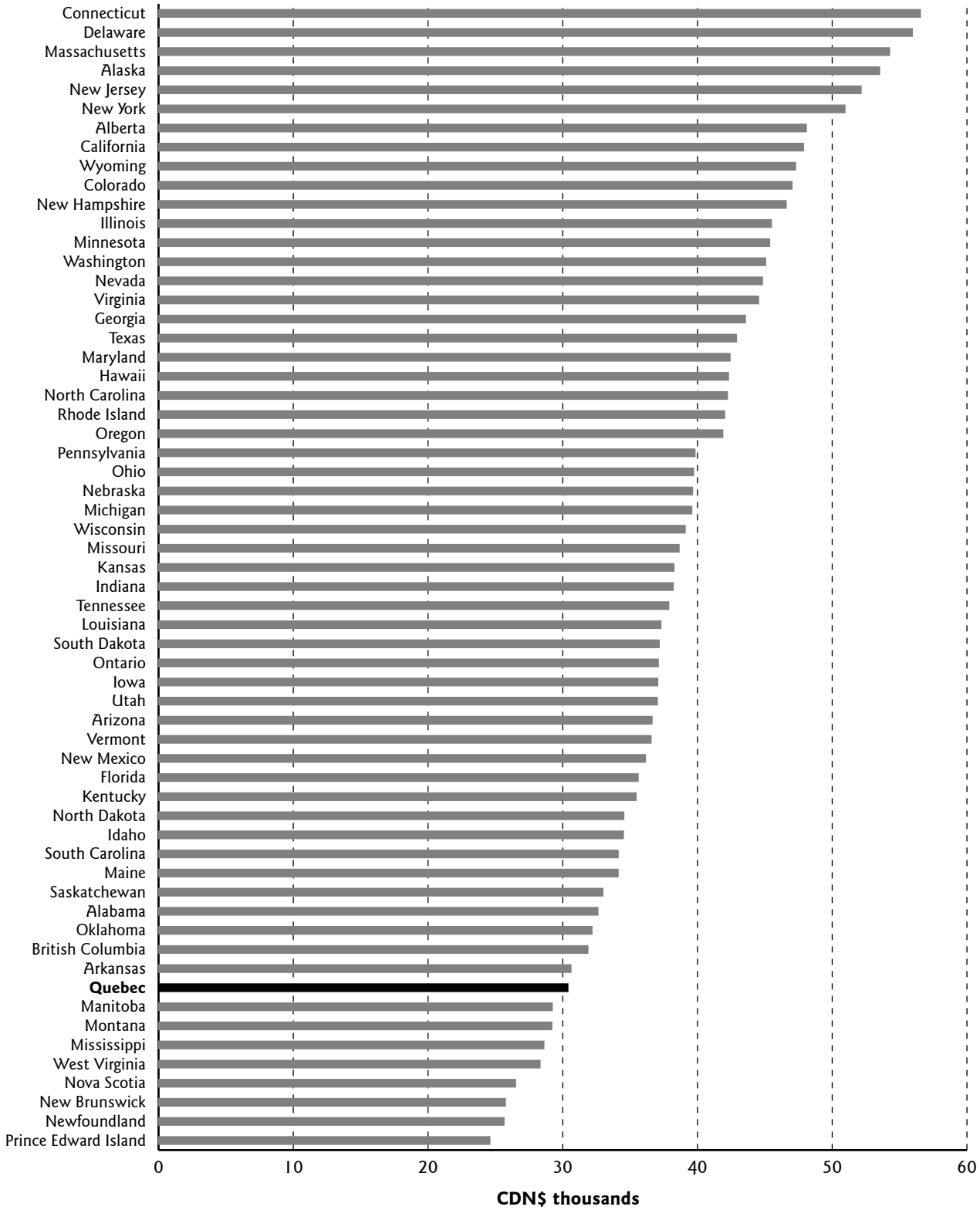
2 Labour market

Although 2002 was a good year for job creation in Quebec, its unemployment rate remains well above the national average and its participation rate is comparatively low. Taking the longer-term view, over the last 30 years, all aspects of Quebec's labour markets prove disappointing.

Growth in employment, job creation, and unemployment rates

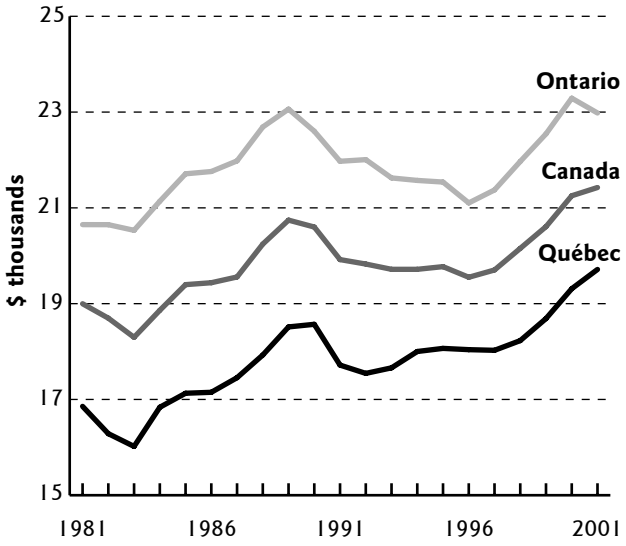
Quebec's performance with respect to both employment and unemployment disappoints. Economic Figure 9 presents employment data for Quebec and Canada,

Economic Figure 4: Canadian Provinces and US States—Rank by Per-Capita GDP in 2000 ($nominal)



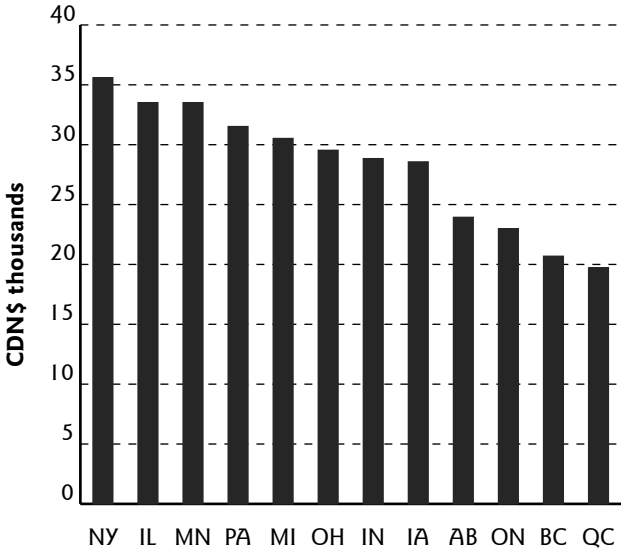
Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Economic Analysis; Bureau of Labor Statistics; Organisation for Economic Cooperation and Development; calculations by the authors.

Economic Figure 5: Quebec, Ontario and Canada—Real Per-Capita Personal Disposable Income ($2001)



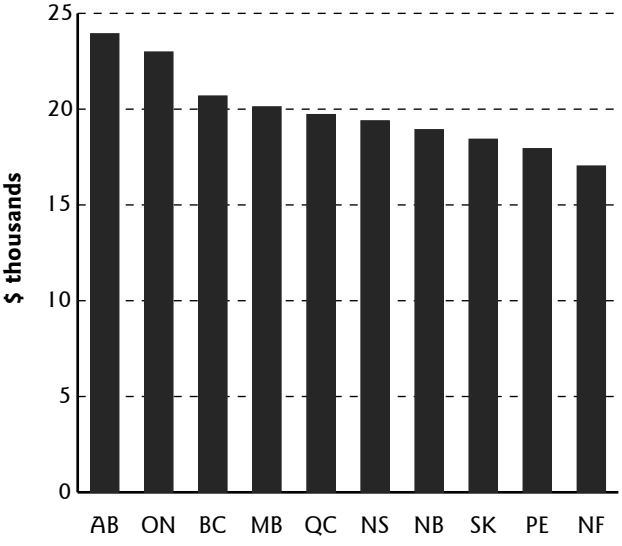
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 7: Selected Canadian Provinces and US States—Rank by Per-Capita Personal Disposable Income in 2001 ($2001)



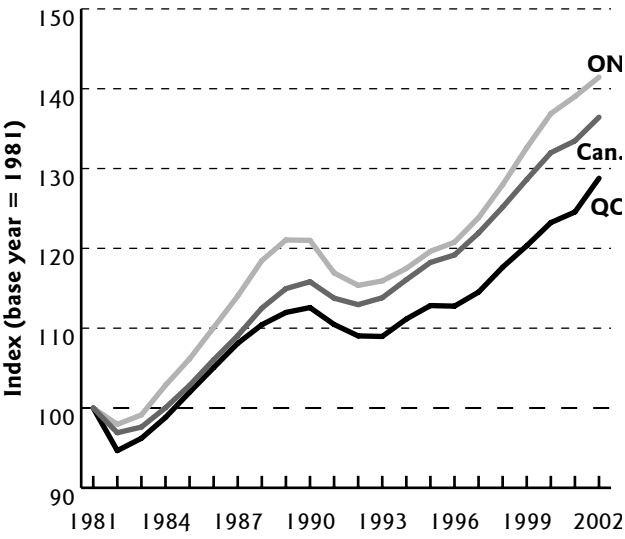
Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Economic Analysis; Bureau of Labor Statistics; Organisation for Economic Cooperation and Development; calculations by the authors.

Economic Figure 6: Canadian Provinces—Rank by Per-Capita Personal Disposable Income in 2001 ($2001)



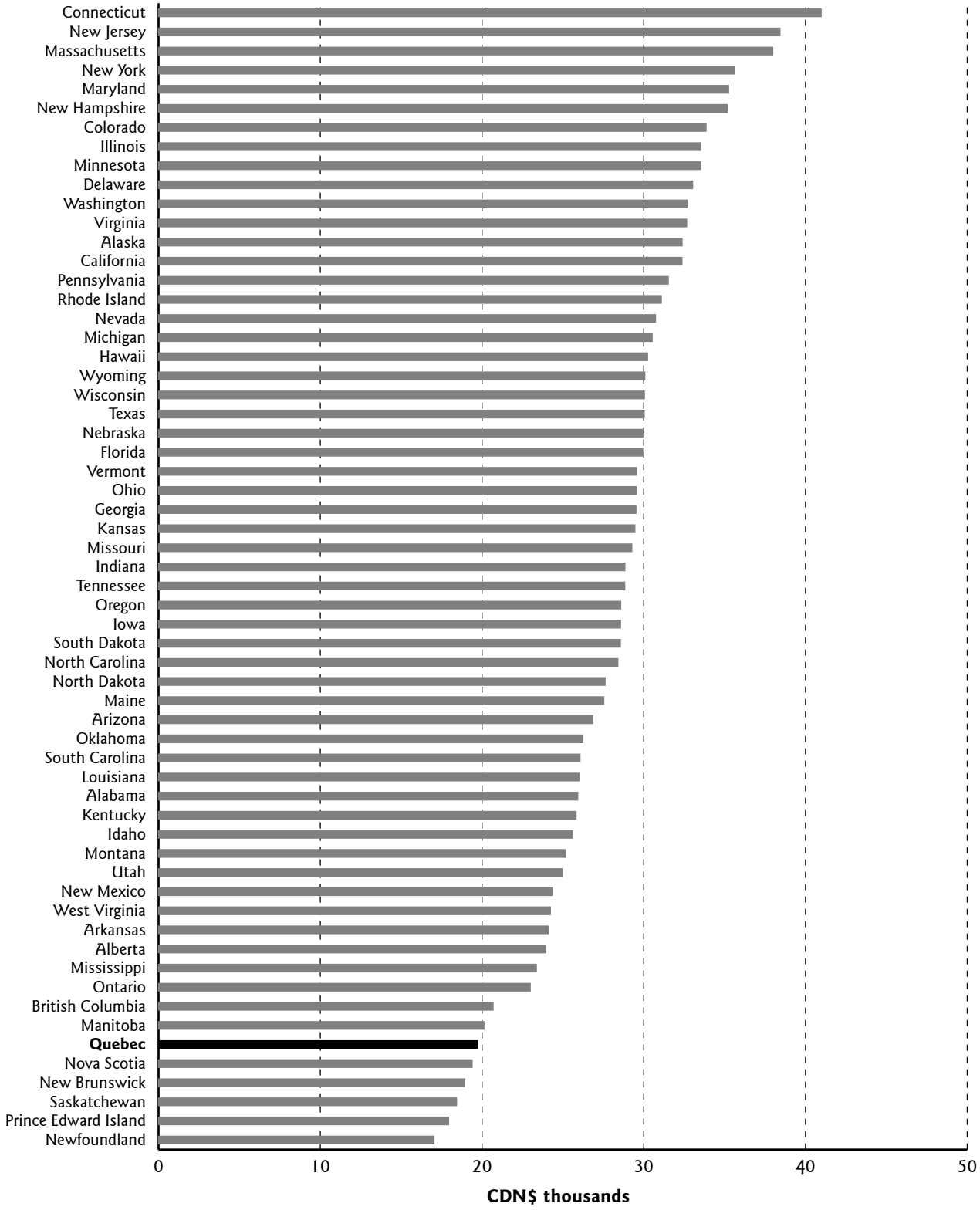
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 9: Quebec, Ontario and Canada—Employment, 1981–2002 (Index 1981 = 100)



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 8: Canadian Provinces and US States—Rank by Per-Capita Personal Disposable Income in 2001 ($2001)



Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Economic Analysis; Bureau of Labor Statistics; Organisation for Economic Cooperation and Development; calculations by the authors.

constructed as an index of the number of individuals employed in 1981. The value of the index in 1981 is equal to 100 and, if employment increased by 10.0% from, say, 1981 to 1982, the index value would be 110 in 1982.

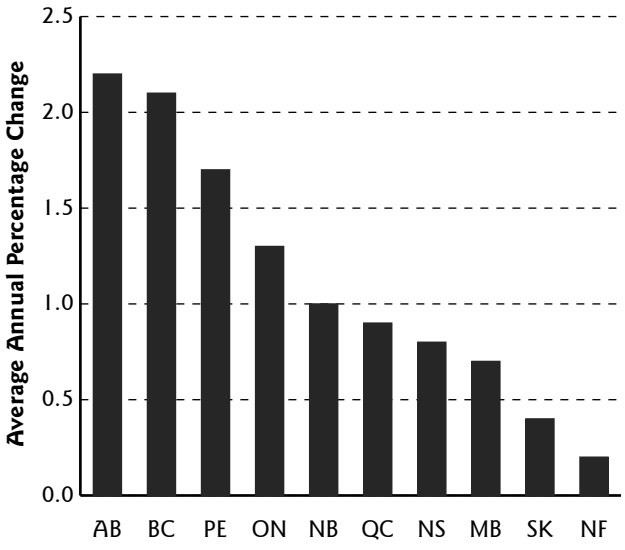
In Quebec, over the full period from 1981 to 2001, the index rose to 128.8, indicating that employment in Quebec increased by 28.8%. This was much slower than the rate of employment growth in Ontario and across Canada on average. In Ontario from 1981 to 2001 employment grew by 41.4%. Employment across Canada increased by 36.4%.

Economic Figure 10 presents average rates of employment growth for the Canadian provinces for the most recent decade, 1991 to 2001. Quebec's job growth is not only slower than other large provinces, it even lags behind some predominately rural provinces. Economic Figure 11 compares Quebec with Ontario and Canada over sub-periods through the last two decades. Quebec has lagged in every period. Economic Figure 12 compares the employment growth of Quebec with a select group of Canadian provinces and American states from 1991 to 2001. Quebec has one of the worst records for job creation among these states and provinces. A similar story emerges from Economic Figure 13 (page 19), which compares Quebec to all Canadian provinces and US states.

Economic Figure 14 shows that Quebec's unemployment rate has been consistently much higher than Canada's and Ontario's. Economic Figure 15 suggests that Quebec is in the middle of the pack of Canadian provinces but, once again, it is worth noting that the provinces that do worse than Quebec are rural and outside the main economic centres of North America. This point is reinforced in Economic Figure 16, which shows that Quebec's unemployment rate is higher than all large, industrialized provinces and states that compete with Quebec. As Economic Figure 17 (page 20) shows, except for the Atlantic Provinces, Quebec has the highest unemployment rate in North America, almost double the average rate for large industrial provinces and states.

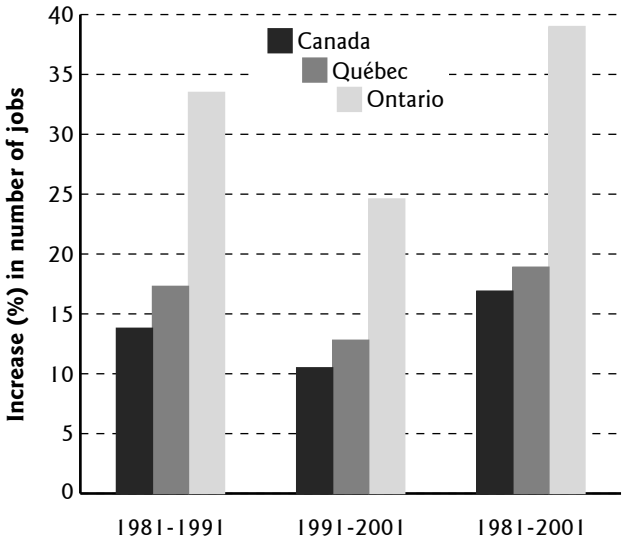
This raises the question: Why is Quebec's job creation and unemployment record so poor? The inflexible structure of Quebec's labour market provides a significant part of the answer.

Economic Figure 10: Canadian Provinces—Average Growth in Employment, 1991–2001



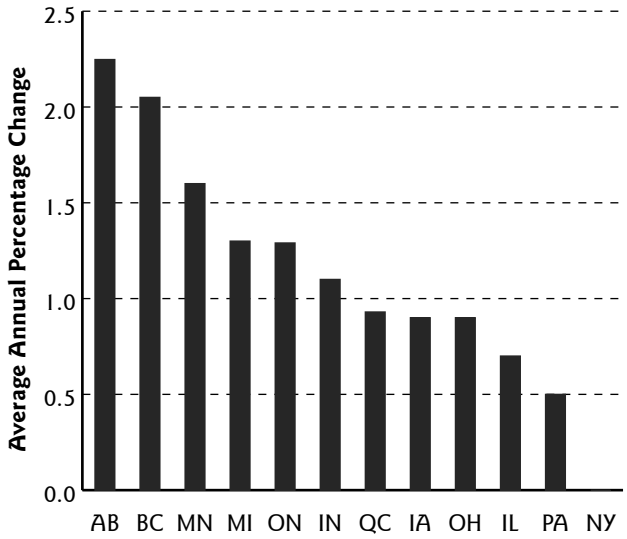
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 11: Quebec, Ontario and Canada—Growth in Job Creation



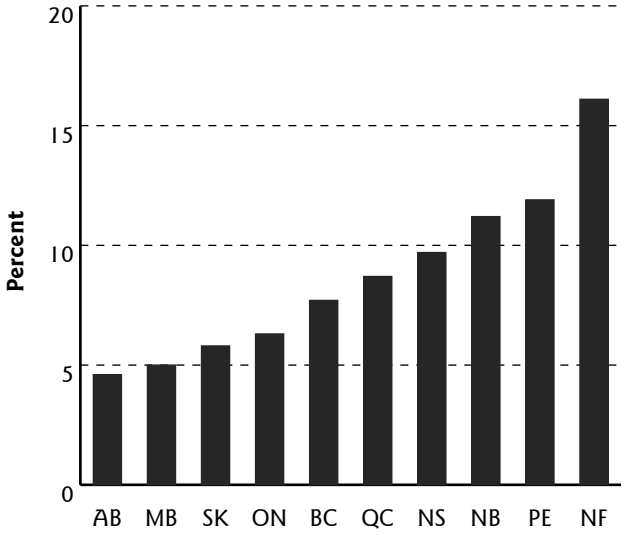
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 12: Selected Canadian Provinces and US States—Average Annual Growth in Employment, 1991–2001



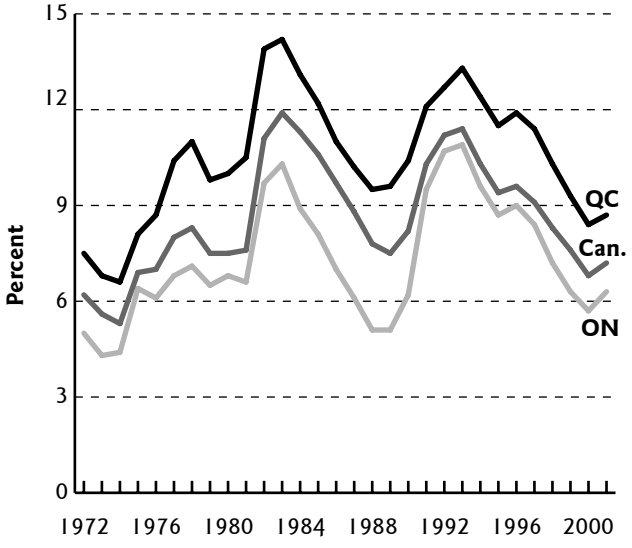
Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 15: Canadian Provinces—Rank by Employment Rate in 2001



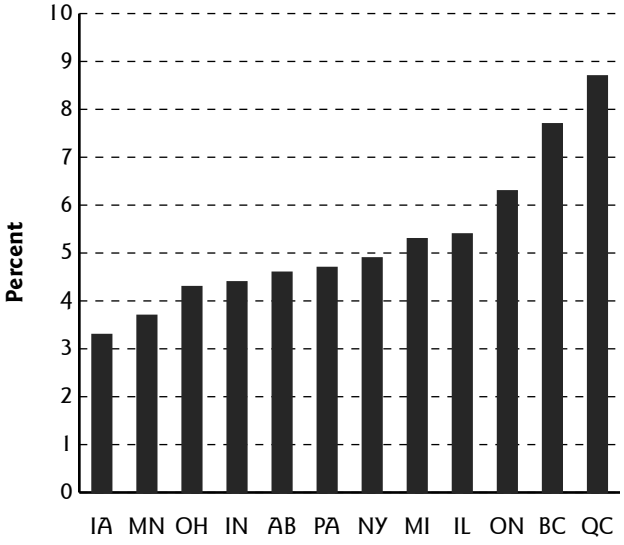
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 14: Quebec, Ontario and Canada—Unemployment Rate, 1972–2001



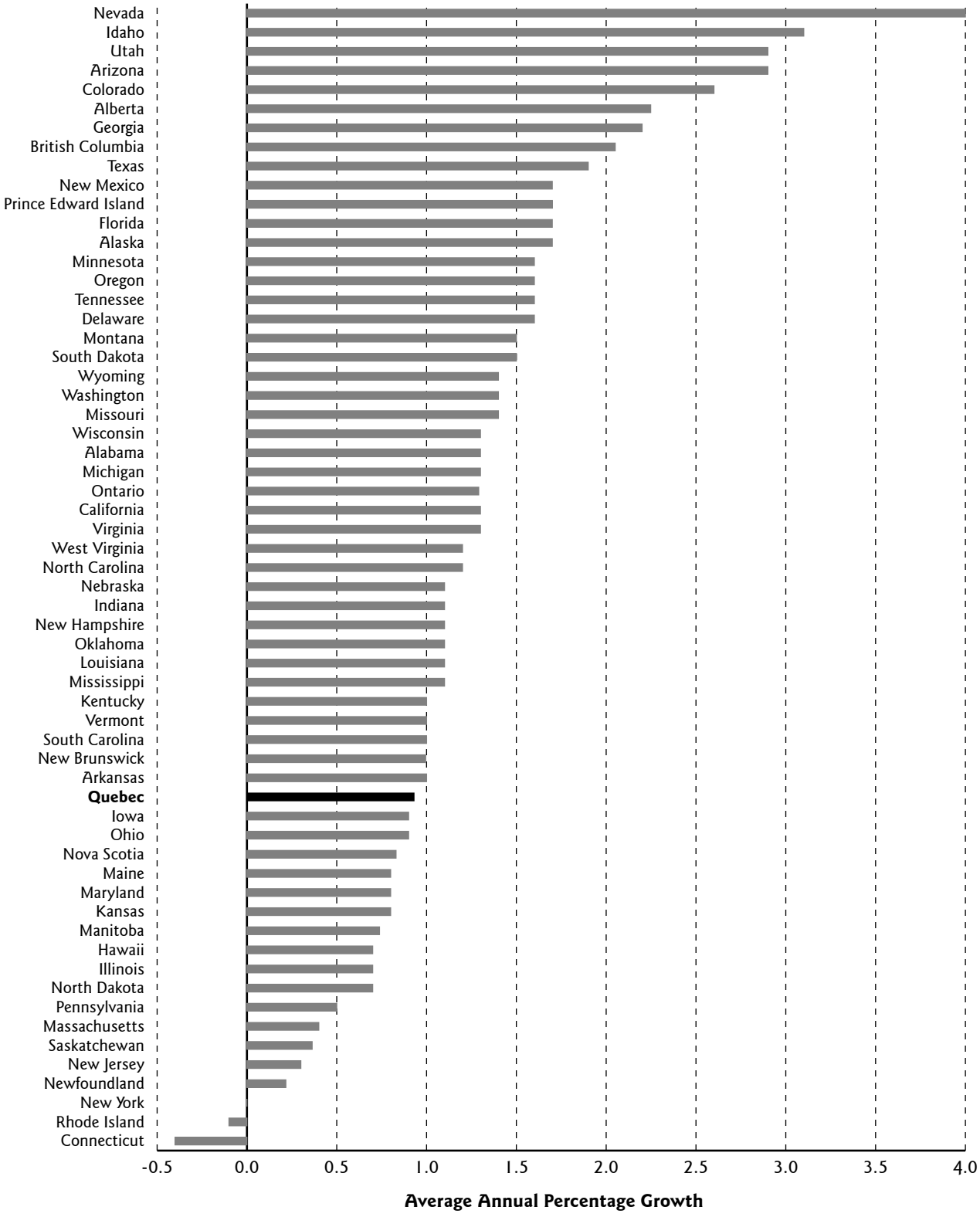
Sources: Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Economic Figure 16: Selected Canadian Provinces and US States—Rank by Unemployment in 2001



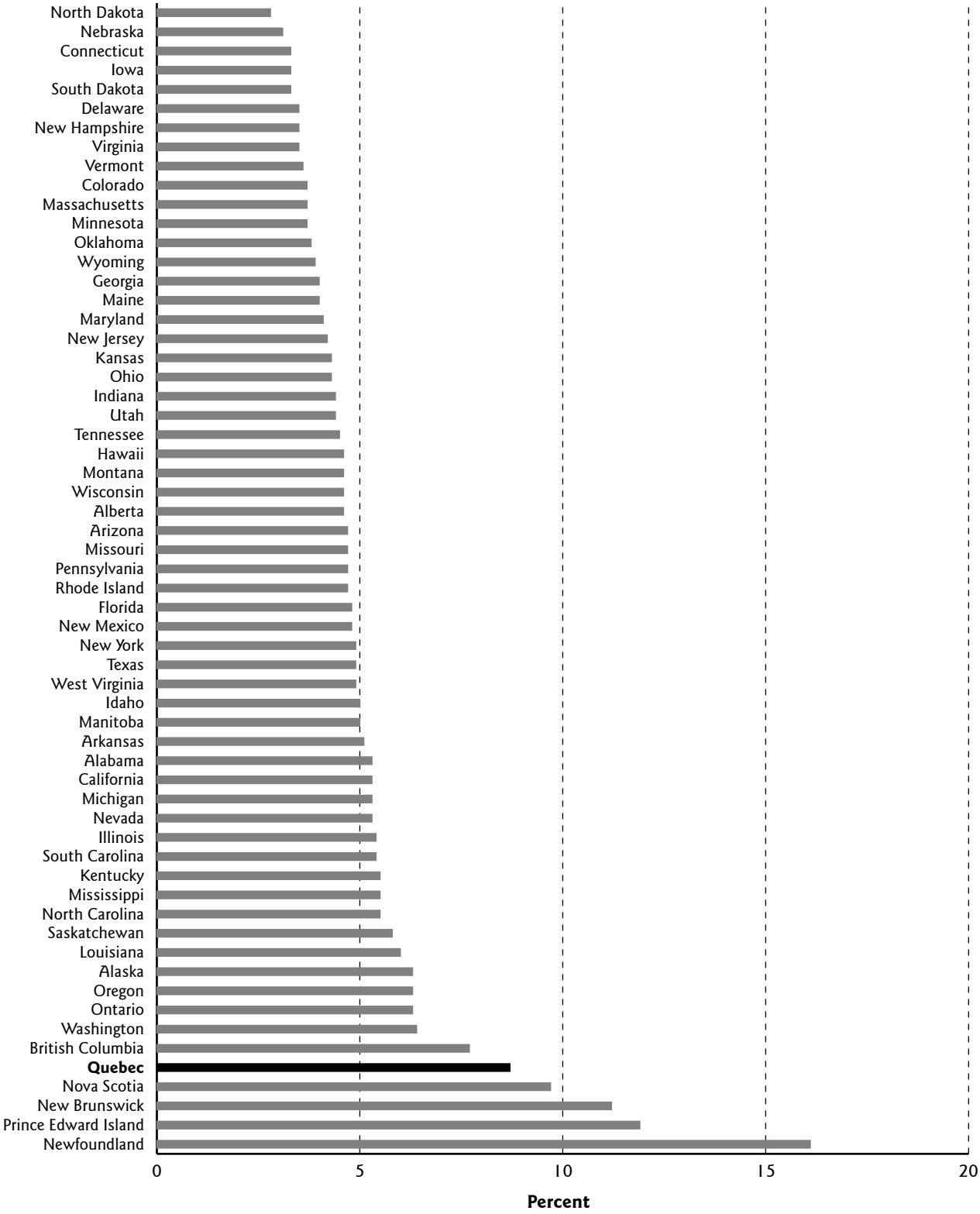
Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 13: Canadian Provinces and US States—Average Annual Growth in Employment, 1991–2001



Sources: Statistics Canada, Provincial Economic Accounts; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 17: Canadian Provinces and US States—Rank by Unemployment Rate in 2001



Sources: Statistics Canada, Provincial Economic Accounts; Labour Force Historical Review 2001; Bureau of Labor Statistics; calculations by the authors.

Union density

Union density (the percentage of the workforce that is unionized) in Quebec is well above the national average and much greater than in Ontario, Quebec's key economic competitor. This boosts Ontario's attractiveness for investment compared to Quebec. Far from protecting "good" jobs, aggressive unions can deprive the economy of some of the best, most highly paid, jobs available in any economy. High degrees of unionization slow economic and job growth.

Hirsch (1997), in a review of research on unionization, noted that the evidence indicates that unions tend to increase wages but not productivity.[6, 7] Hirsch also concluded that unions reduce profitability, investment in physical capital and research and development[8] as well as reducing growth of employment. He found, for instance, that unionized firms have profits that are 10% to 20% lower than the profits of similar non-unionized firms. Hirsch (1991) found that the market value and earnings of unionized firms in the United States are 10% to 15% lower than non-unionized firms.

Hirsch described the wage premium as a tax on capital that effectively lowered the net rate of return on investment.[9] Many studies have shown this leads to less investment in physical and innovative capital, leading to slower growth in sales and employment (Baldwin 1983; Grout 1984; Hirsch and Prasad 1995; Addison and Chilton 1997; and Hirsch 1997). For example, Metcalf (2003) examined unionization in the United States, Canada, the United Kingdom, Japan, Germany, and Australia and found that unionization reduces investment by one fifth compared with the investment rate in a non-union workplace for North America and parts of Europe.

A more recent study published by the World Bank collaborates the findings of earlier studies. Aidt et al. (2002), in a review of the literature on unions and their effects on economic performance, concluded that union members and other workers covered by collective agreements receive, on average, wage premiums over their non-unionized counterparts in developed and developing countries. This wage premium was estimated to be 15% in the United States and 5% to 10% in other industrial countries. Further, Aidt et al. found that net profits, investment rate (physical capital), and spending on R&D tend to be lower in unionized firms than they are in non-unionized firms even though unionized firms tend to adopt new technology as fast as non-unionized firms.

Some unions, however, have come to recognize the tremendous damage this can do the economy and the hopes and prosperity of individuals and families. They have discovered that these wage premiums are short-term and come at the cost of more substantial long-term wage gains. In both Ireland and the Netherlands through the 1980s, union leaders began focusing on a policy of wage moderation in order to increase profits.

They argued that in any given year unions could obtain wages high enough to reduce profits and thus reduce both the means for further investment, the money realized in profits, and the incentive for further investment, the hope for future profits. Lack of investment would in turn stifle job growth and reduce or eliminate future productivity gains. Weak investment could even reduce productivity and, thus, wages over the long-term, if the existing capital structure deteriorated due to lack of profitable investment opportunities.

Productivity growth drives wage growth. Without it, wages stagnate. When productivity grows, employers can afford to increase workers' pay; when it shrinks, they either have to reduce workers pay or go out of business, destroying jobs. In other words, union militancy today may increase wages today but at the cost of much greater future loses in both wages and job creation. In both Ireland and the Netherlands, wage growth stagnated or even slipped during times of union militancy and resumed stronger growth after unions had focused on wage moderation (see McMahon 2000a, chapters 2 and 3).

Equally important, unemployment fell rapidly. As Cor Inja, chief labour economist of the FNV, the largest Dutch labour organization, says:

> We [the union movement] didn't immediately accept the relation between wages and job creation. But, you know, enterprises can't operate without a profit, and we saw big enterprises had to close their doors without a profit. We had to bring back the total number of people working. We learned [the relation between wages and profits] at a fairly late stage of the development. In the 70s, unemployment started to rise and

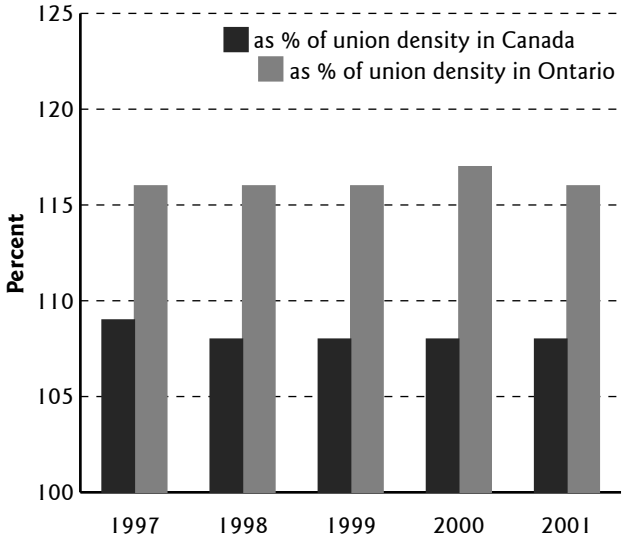
> we acted not early in 1982. You may need a crisis to achieve this understanding. (Conversation with one of the authors, quoted in McMahon 2000a: 135)

This helps explain Quebec's relatively low level of income and high unemployment, given, as we shall see, the extraordinary level of unionization in the province, under unions that would certainly not endorse the views of Irish and Dutch labour organizations on the need for moderate wage demands in order to generate increased profits and thus investment, in turn boosting job creation and future wage gains.

As Economic Figure 18 shows, union density among civil servants in the public sector in Quebec is almost 10% above the Canadian average and over 15% above the Ontario average. This increases the cost of government and increases the burden of taxation on all residents, including those who earn much less than the average civil servant. A high level of public sector unionization is not equity enhancing. Even worse, Quebec's relative union density in the private sector is much above the Canadian and Ontario average, driving away investment in sectors that are sensitive to unionization. Quebec's level of private sector unionization is nearly 40% above the Canadian average and nearly 60% above Ontario (see Economic Figure 19).

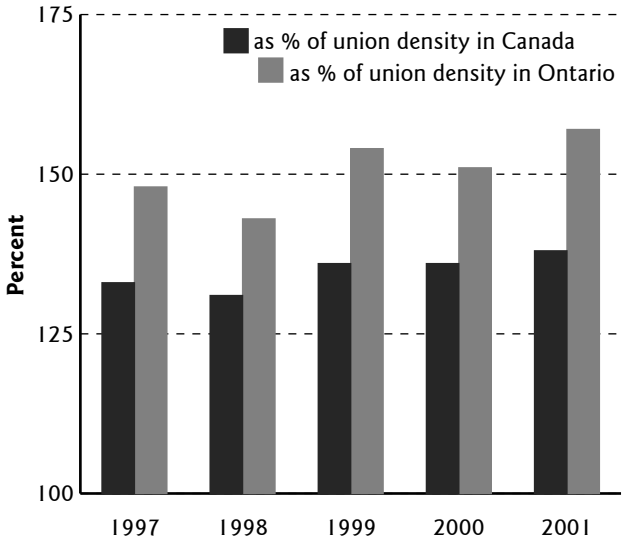
Quebec's high rate of unionization is also an historical fact. Relative to other provinces, it further increased through the 1980s and appears to be growing again. Economic Figure 20 shows Quebec's relative overall union density for private and public sectors combined.[10] Economic Figure 21 shows the level of unionization across Canada. It should come as no surprise that weak economic performers, with high rates of unemployment, like Quebec and Newfoundland, have the greatest levels of unionization while strong economic performers, with low levels of unemployment, like Ontario and Alberta, have the lowest level of unionization. Economic Figures 22 and 23 (page 24) show the extraordinary level of unionization in Quebec compared to elsewhere in North America. This provides a significant part of the explanation of Quebec's extraordinarily poor economic performance for an urban, industrialized jurisdiction.

Economic Figure 18: Density of Unions in Quebec's Public Sector as a Percent of that in Ontario and Canada, 1997–2001



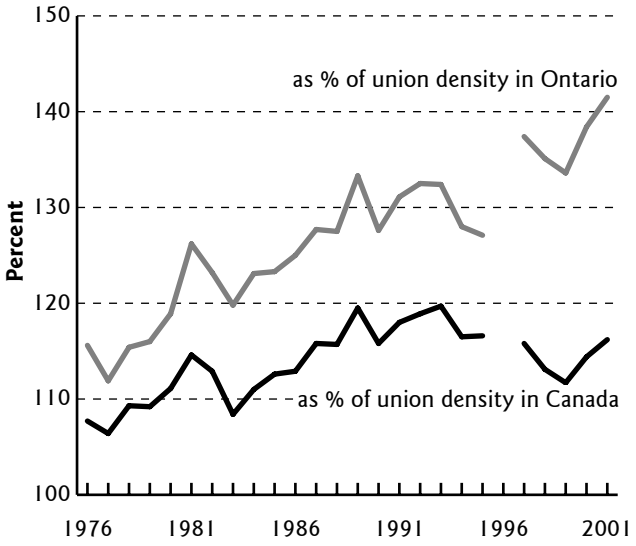
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review 2001, Cansim II; calculations by the authors.

Economic Figure 19: Density of Unions in Quebec's Private Sector as a Percent of that in Ontario and Canada, 1997–2001



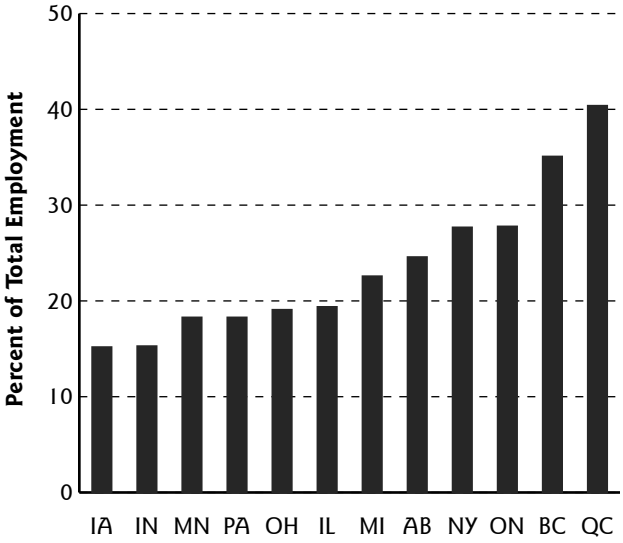
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review 2001, Cansim II; calculations by the authors.

Economic Figure 20: Density of Unions in Quebec as a Percent of that in Ontario and Canada, 1976–2001*



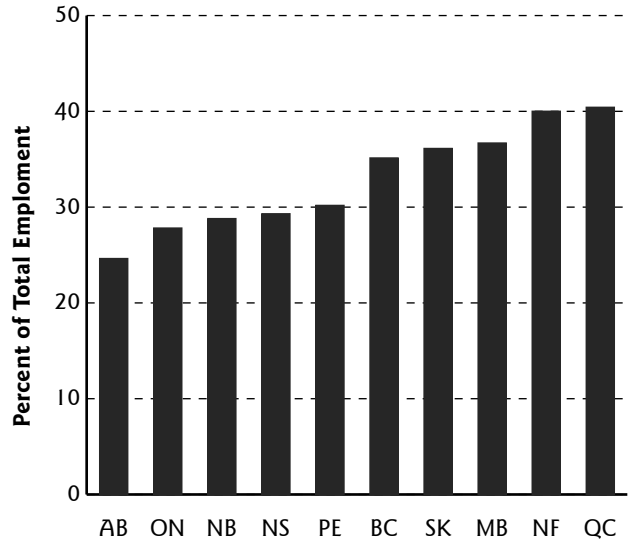
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review 2001, Cansim II; calculations by the authors.
Note *: Statistics Canada did not collect data for 1996, causing a break in the series.

Economic Figure 22: Selected Canadian Provinces and US States—Rank by Unionization as a Percent of Total Employment in 2001



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review 2001; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 21: Canadian Provinces—Rank by Unionization as a Percent of Total Employment in 2001



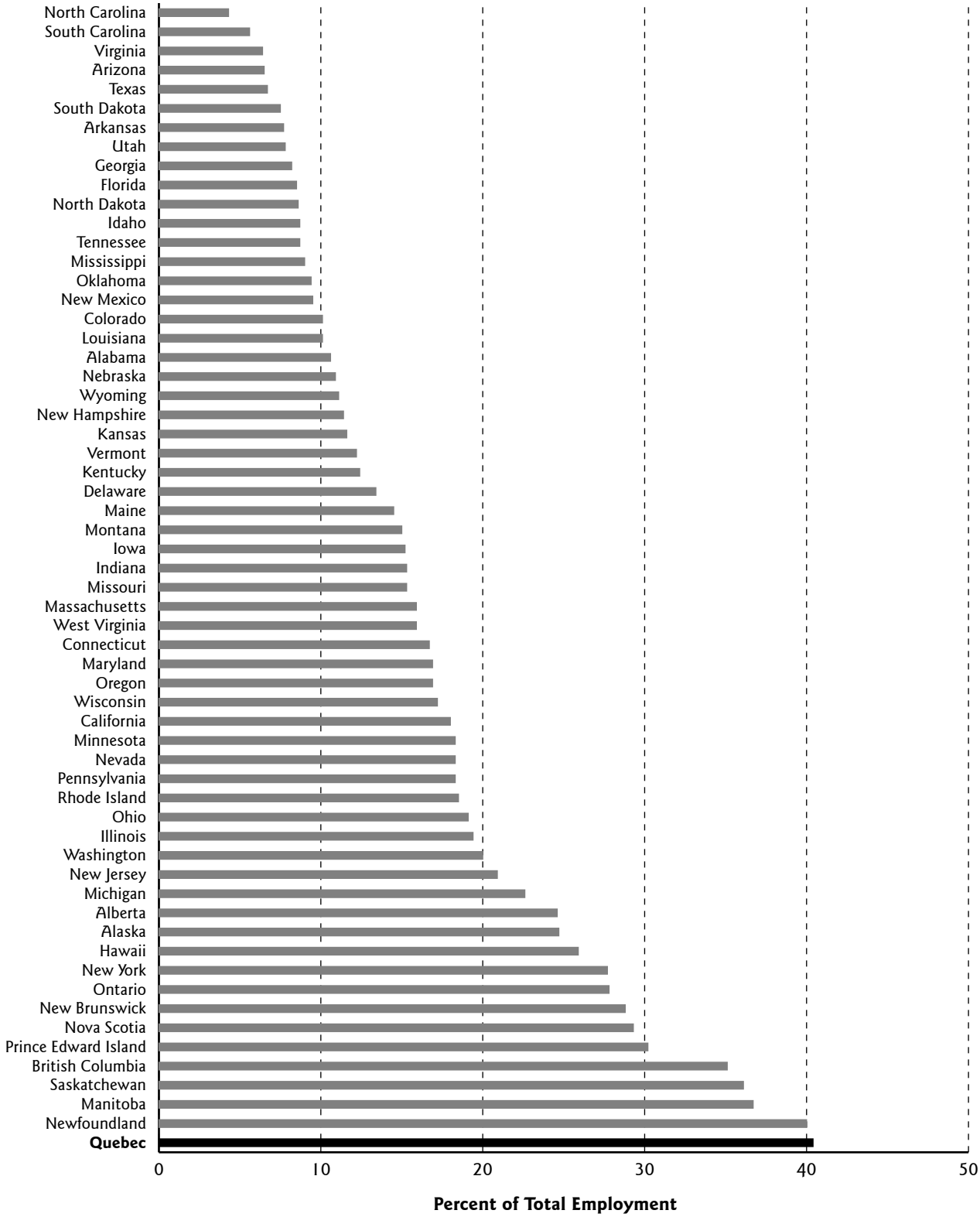
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review 2001; calculations by the authors.

Employment in the public sector

Large public sector employment can be another drag on growth. Before examining the data on Quebec, we need first to undertake a quick review of the literature on the impact of public sector employment.

There are several fundamental differences between private-sector businesses and government entities. Kornai (1992) identified budget constraints as one of the major and unchangeable differences between private-sector business enterprises and government. This is because government budget constraints are "soft" since it is impossible for government to be de-capitalized. Private-sector businesses, on the other hand, face "hard" budget constraints since losses can lead to a decrease in capital and ultimately to bankruptcy.[11] The hard resource constraints of the private sector and the real risk of bankruptcy and failure forces the private sector to react to consumer demands and preferences. In addition, it allows for the reallocation of capital from areas of low priority and low return on investment to those of higher priority and with higher returns, thus ensuring the efficient

Economic Figure 23: Canadian Provinces and US States—Rank by Unionization as a Percent of Total Employment in 2001



Sources: Statistics Canada, Provincial Economic Accounts, Labour Force Historical Review 2001; Bureau of Labor Statistics; calculations by the authors.

allocation of resources. The public sector, with its softer budget and resource constraints face no such competitive pressure nor do they face the risk of bankruptcy and flight of capital.

Another essential difference is that governments are preoccupied with fulfilling social goals and objectives rather than pursuing economic or business objectives (Megginson and Netter 2001). This often leads to the inefficient allocation of resources. Megginson and Netter (2001) found that government businesses tend to develop with less capital and thus are more labour intensive than their private-sector counterparts. The under-capitalization of government entities has negative implications for both labour and total factor productivity. Ehrlich (1994) found that a shift from state to full private ownership can increase the long-run annual rate of total factor productivity (TFP)[12] by 1.6% to 2.0% and the rate of unit cost can decline by 1.7% to 1.9%. In other words, government entities maintained both lower total factor productivity and higher unit costs.

Another important difference, one that particularly affects employee incentives and consumer prices, is that government entities tend to operate in a monopoly environment created by protective government regulations that preclude competition whereas private-sector businesses normally operate in highly competitive markets.[13] The monopoly environment within which the public sector generally operates results in significantly diminished pressures to serve consumers, react to market demands, and offer competitive prices. In fact, the general characteristics of a monopoly are poor customer service, products of lower quality, and higher prices.

Mueller (2000) found that public-sector employees in Canada tend to be paid a wage premium compared with their private-sector counterparts.[14] Gunderson (2000) found that the public-sector wage premium was roughly 9.0%. Bender (1998) concluded that the wage premium of public-sector workers ranged between 5% and 15% in Canada and 5% and 20% in the United States. This should be of paramount concern since research indicates that the public sector maintains lower levels of productivity.

The public-private split in employment is an important aspect of labour market performance as the incentives, productivity, and performance of labour activity in the private sector is different from that present in the public sector. The reasons for the differences include lower threat of competition, possible presence of protectionist policies, higher unionization rates, and the presence of vastly different incentives. Thus, the overall productivity of the labour market will be different depending upon how much employment is in the public sector and how much in the private.

Quebec's level of public-sector employment, compared to other provinces and states, is similar to its level of spending, compared to other jurisdictions, as will be seen in the next section. In Canada, Quebec's level of public employment is higher than the other large industrialized provinces and much higher again than similar US states (see Economic Figures 24 and 25). Overall, among the states and provinces Quebec ranks 47th, ahead of typically small and predominantly rural states and provinces, with the exception of Louisiana, perhaps the worst performing of the larger states economically (see Economic Figure 26, page 27).[15]

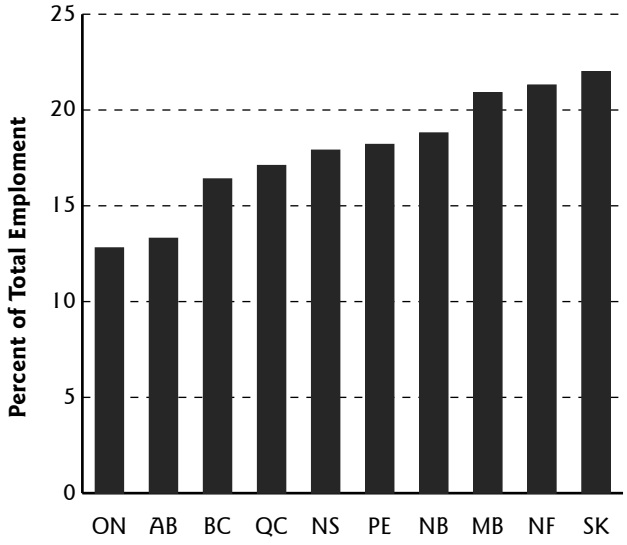
Minimum wage

Two other factors need to be addressed briefly in examining Quebec's labour market. The first is Quebec's high minimum wage, which most harms students, first-time job seekers, those re-entering the job market, and the unskilled who need work experience to advance up the earnings ladder. Quebec's minimum wage will prevent many from getting on the first step of that ladder.

Economic Figure 27 measures the annual income earned by someone working at the minimum wage as a ratio of per-capita GDP. Since per-capita GDP is a proxy for the average productivity in a jurisdiction, this ratio takes into account differences in the ability to pay wages across jurisdictions.

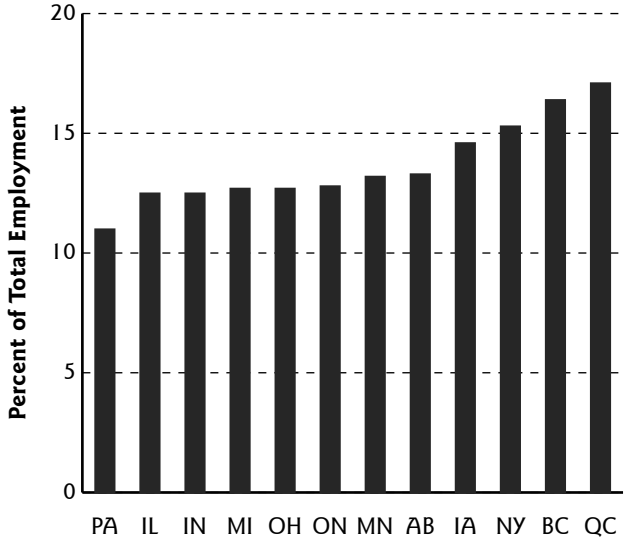
Quebec has typically had a high minimum wage compared to the rest of Canada when minimum wage is examined as a percentage of average per-capita GDP. Because of an increased understanding of the damage high minimum wages can do, particularly to the most vulnerable in society, minimum wages as a ratio to GDP have declined since 1981 in virtually all jurisdictions. However, Quebec has only barely kept pace with these declines and maintains a high minimum wage barrier to employment.

Economic Figure 24: Canadian Provinces—Rank in 2001 by Employment in the Public Sector as a Percent of Total Employment



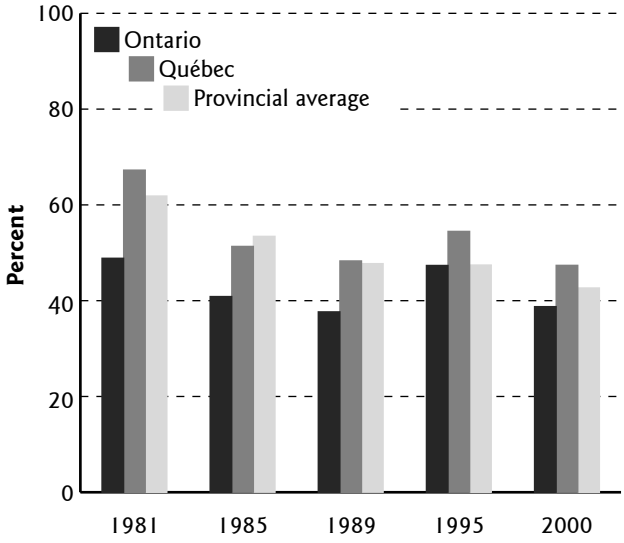
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Economic Figure 25: Selected Canadian Provinces and US States—Rank in 2001 by Employment in the Public Sector as a Percent of Total Employment



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; Bureau of Economic Analysis; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 27: Quebec, Ontario and Provincial Average—Minimum Wages as a Percent of Per-Capita GDP



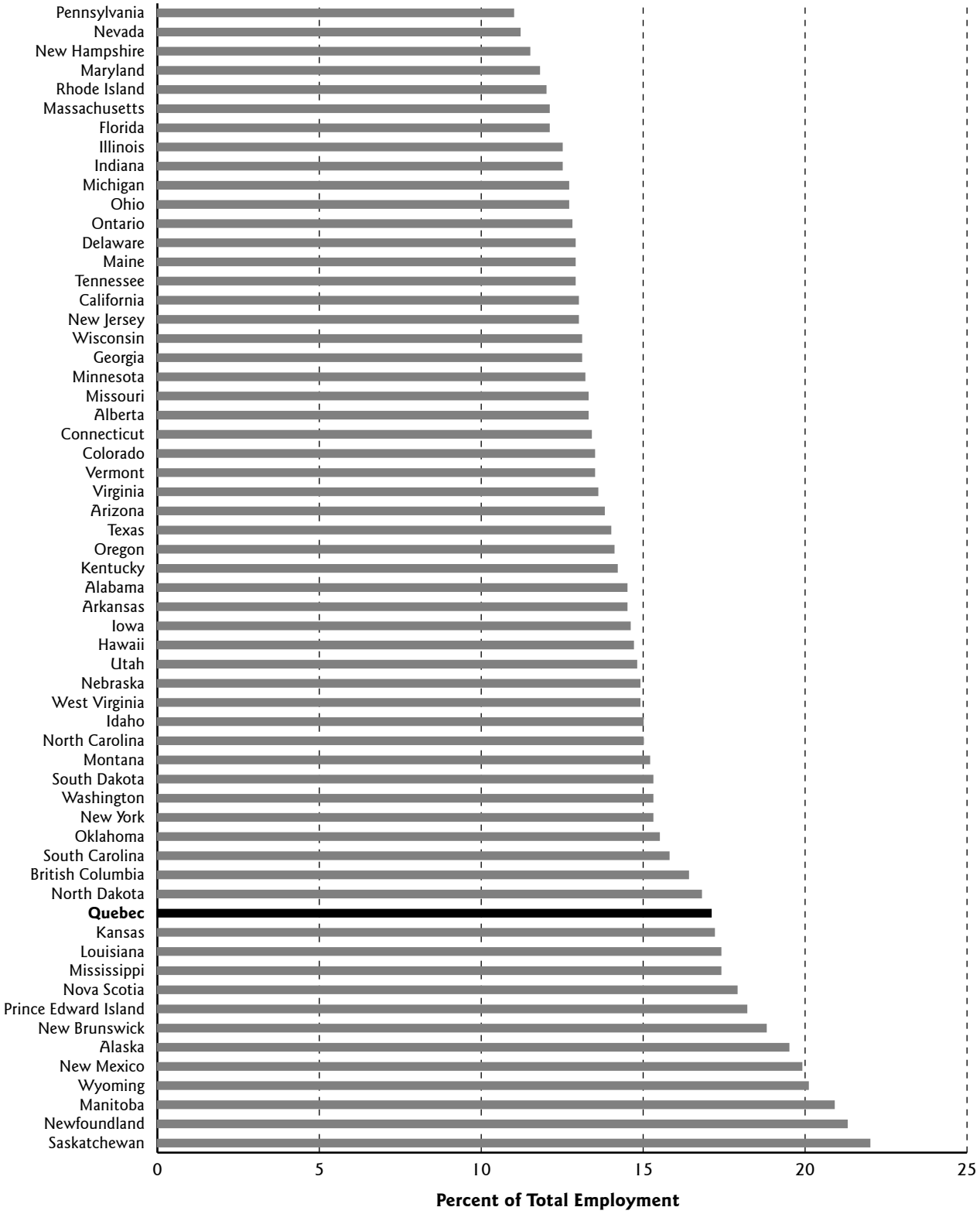
Sources: Human Resources Development Canada, Database on Minimum Wages.

High minimum wages are typically promoted as improving equity but their perverse affects actually worsen it. Few people hired at the minimum wage stay at that wage rate except students in summer jobs. Instead, as people gather skills and experience, their wage rates rise. High minimum wage rates make it less economical for employers to hire low-skilled people and job entrants, depriving them of the opportunity to add skills (see Law 1998 for a review of the literature on minimum wages).

Employment Insurance

Finally, Quebec like Atlantic Canada appears to suffer from the perverse effects of the federal Employment Insurance (EI) program. There are actually two EI programs. The first is the one in operation across most of Canada. This program has rules that make it difficult for many people to collect EI payments. Another sort of program operates in much of Quebec and Atlantic Canada. This "regionally extended" program makes it easy for people to collect EI payments—in some cases, for most of the year, every year. In many communities, EI has become a way of life, though much more so in Atlantic Canada than in Quebec.

Economic Figure 26: Canadian Provinces and US States—Rank in 2001 by Employment in the Public Sector as a Percent of Total Employment



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; Bureau of Economic Analysis; Bureau of Labor Statistics; calculations by the authors.

Economic Figure 28 shows a rapid increase in what were then called "Unemployment Insurance" (UI) payments in Quebec through the 1970s and 1980s relative to the rest of Canada and Ontario. As can be seen, after the introduction of regionally extended UI in 1971, UI payments rose rapidly in Quebec relative to the rest of Canada. (They rose even faster in Atlantic Canada but that's another story.) Economic Figure 29 shows a rapid wage inflation in Quebec relative to the rest of Canada after UI was made more generous and "regionally extended" in 1971.

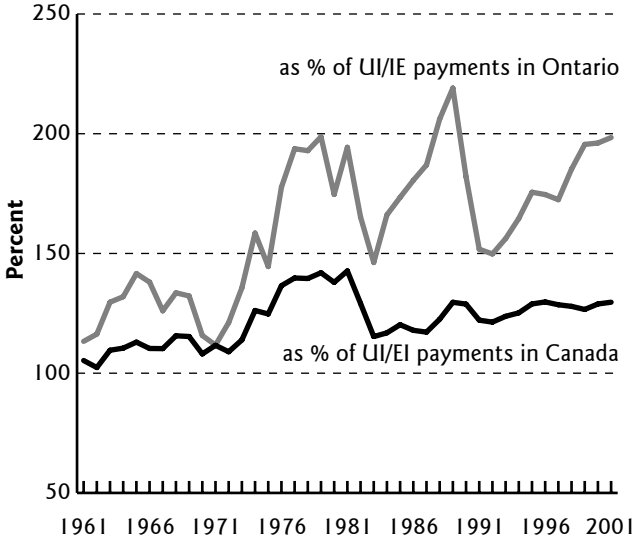
Such wage inflation will happen naturally when the economy is growing quickly or unemployment is shrinking rapidly. An examination of Quebec's GDP and employment growth in this period will show that neither justified any increase in relative wages in Quebec. In fact, increasing unemployment in Quebec compared to the rest of Canada should have reduced relative wages in Quebec.

So why was there a rapid increase in wages in Quebec through the 1970s relative to the rest of Canada? First, let us note that a similar phenomenon occurred in Atlantic Canada over the same period of time following the introduction of regionally extended UI. Employers were forced to compete against easily accessible and generous UI payments. To some extent, that forced up wages as employers had to bid against UI to find employees.[16] But, more importantly the changes to the UI program caused many lower paying jobs to disappear. As workers found it more remunerative to declare themselves unemployed than to accept year-round work, employers simply found themselves unable to fill positions at rates of pay they could afford. These jobs evaporated into thin air.

Moreover, generous UI blocked job creation. Employers, who suddenly found themselves unable to hire at rates they could afford to pay, had to stop expanding and stop creating jobs. Many businesses shrunk or disappeared. Through this period, unemployment in Quebec increased dramatically as did Quebec's employment gap with the rest of the country.

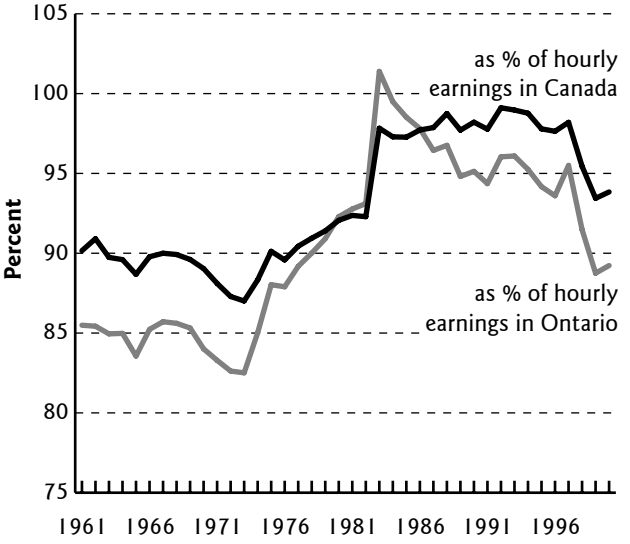
Economic Figure 30 shows that the gap between the level of unemployment in Quebec and that in Canada on average and Ontario grew rapidly following the introduction of regionally extended UI. It fell through the mid-1990s when reforms were made to correct some of the

Economic Figure 28: Per-Capita UI/EI Payments in Quebec, 1961–2001, as a Percentage of Payments in Ontario and Canada



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 29: Average Hourly Earnings in Quebec, 1961–2000, as a Percentage of Hourly Earnings in Ontario and Canada



Sources: Statistics Canada, Labour Force Historical Review, Cansim II; calculations by the authors.
Note: Prior to 1983, the data covers only the manufacturing sector; after 1983 the data covers all sectors except education.

worst problems with the program, which was renamed "Employment Insurance." More recently, these reforms were undone. It will be important to see in coming years whether this backtracking from the reform of EI leads once again to a widening unemployment gap between Quebec and the rest of Canada.[17]

Quebec's ability to create jobs for residents of Quebec is frittered away by an unusually high minimum wage, union density more typical of a couple decades ago than now, and a perverse federal EI program.

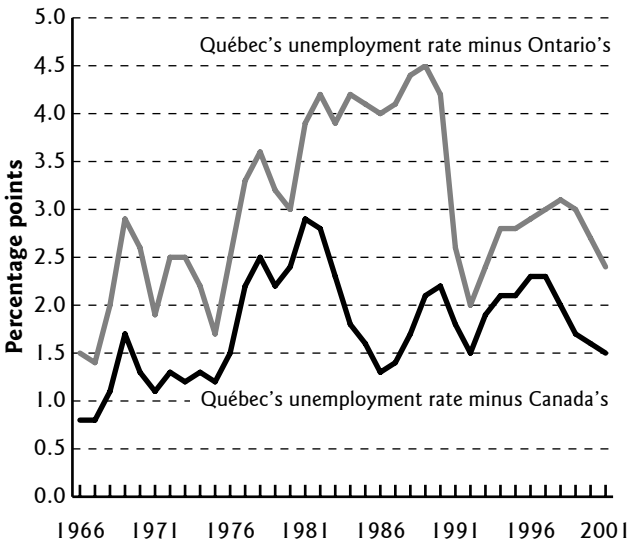
Profits and investment

Economic Figure 31 shows that profits are relatively low in Quebec compared to Ontario and to the Canadian average—and they have been historically low. This is hardly surprising given the preceding discussion of Quebec's inflexible labour markets and the following discussion of Quebec's heavy taxation load, both of which reduce profits.

Past and current profits, of course, help provide the means for investment. Future profits are the incentive for investment. Healthy investment results in strong capital formation or, more accurately, net capital formation. Capital depreciates over time. The key question is whether new investment is sufficient to replace depreciating capital and add to the existing capital stock. Investment in plants, machinery, equipment, and new technologies offers the potential to create new jobs and boost worker productivity and, ultimately, real wages. It is also a barometer of future economic prosperity since such investments provide the foundation for future production.

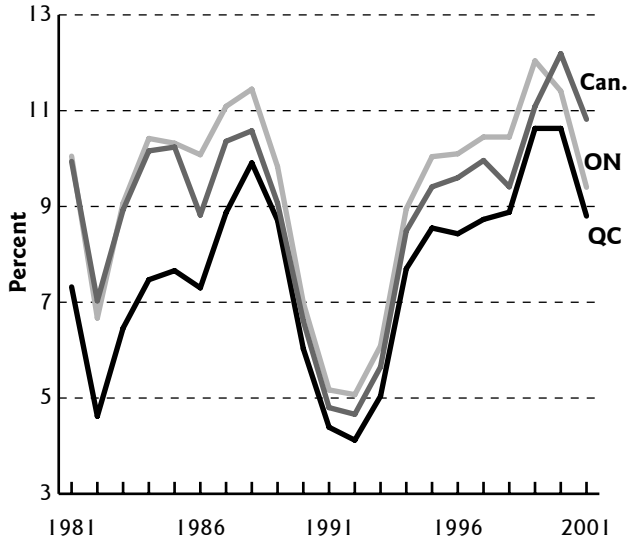
As Economic Figure 32 shows, average net capital formation in Quebec has under-performed the Canadian average and capital formation in the other large provinces. Economic Figure 33 shows the cumulative effect of under investment. In overall accumulated investment, Quebec is substantially behind the Canadian average and all of Canada's large urbanized provinces. This last point is important. Rural economies, which are typically based on primary industries such as agriculture or fishing, often have relatively low levels of investment. However, for urban industrialized economies, the size of investment, and investment growth, is crucial for maintaining and building wealth and employment. Quebec lags far behind here.

Economic Figure 30: Quebec, Ontario, and Canada—Difference between Unemployment Rates, 1966–2001



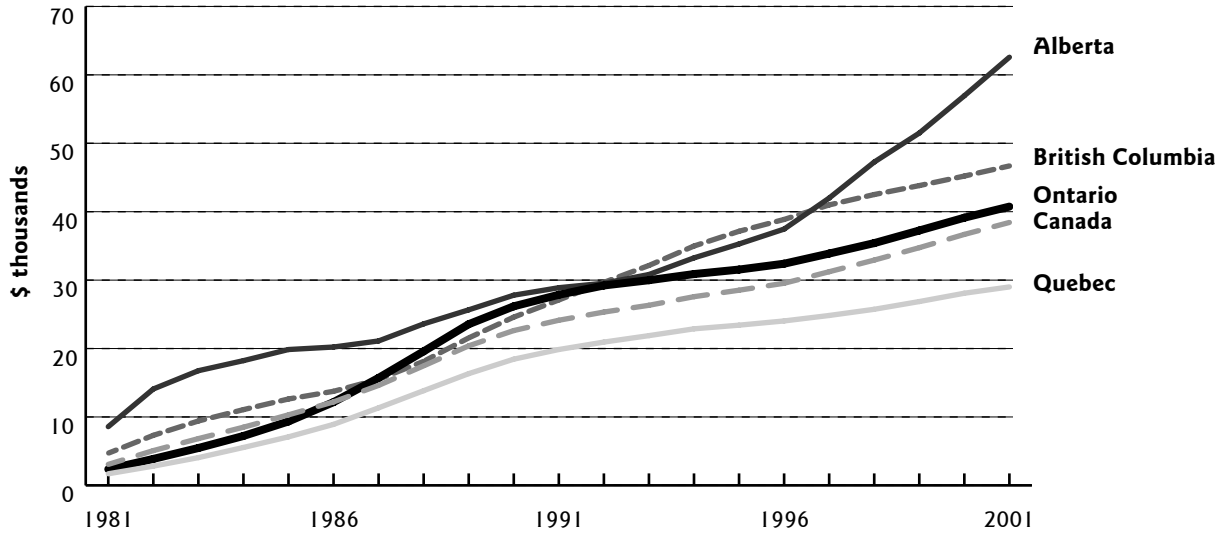
Statistics Canada, Provincial Economic Accounts; Statistics Canada, Labour Force Historical Review, Cansim II; calculations by the authors.

Economic Figure 31: Quebec, Ontario, and Canada—— Profits as a Percent of GDP, 1981–2001



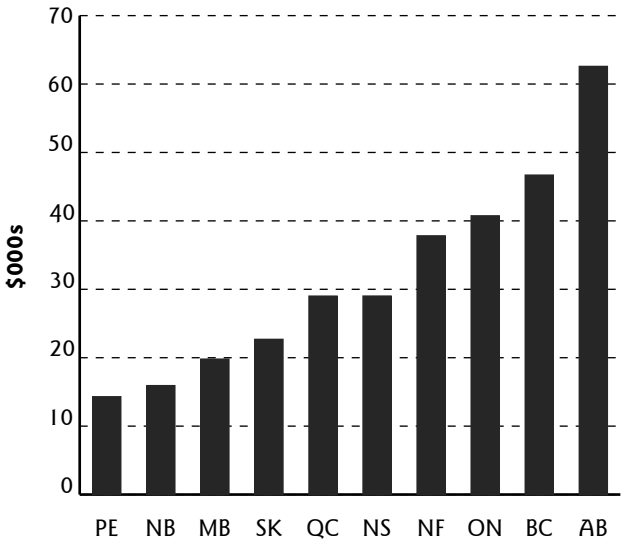
Source: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 32: Canada and Selected Provinces—Real, Accumulated, Net Capital Formation per Capita, 1981–2001



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Economic Figure 33: Canadian Provinces—Accumulated, Net, Business Investment ($1997) per Capita, 1981–2000



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

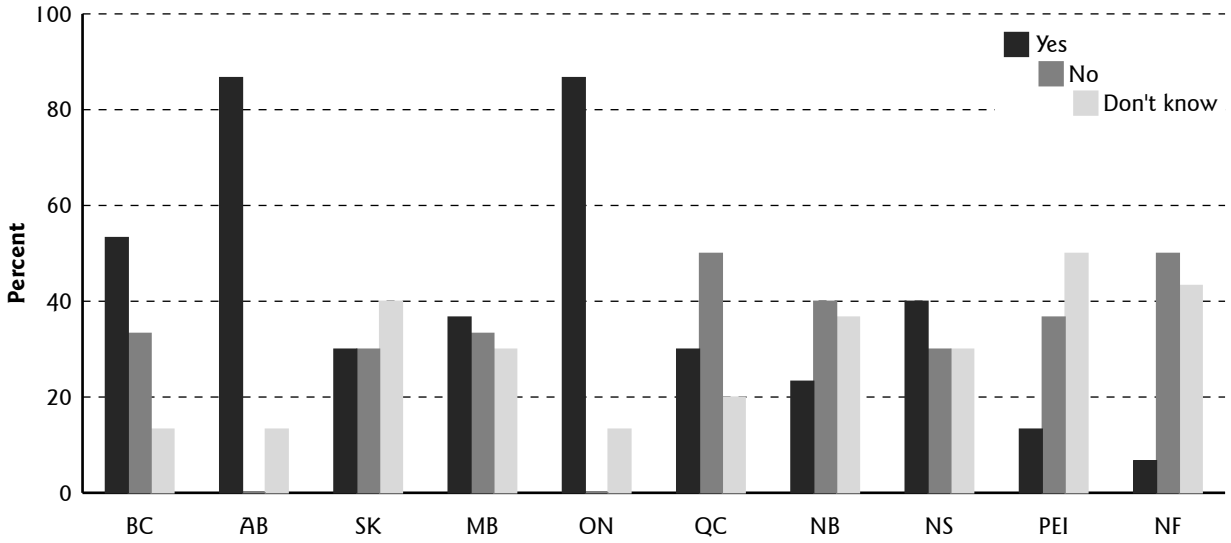
Quebec's weak investment growth and low capital levels overall are reflected in The Fraser Institute's *Survey of Senior Investment Managers in Canada*. Each year, the Institute asks Canada's leading pension and investment managers about investment climate across Canada. As part of the survey, these managers express their opinion about whether each province's investment climate is positive or negative.

As can be seen in Economic Figure 34, Quebec rates behind its major competitors in Canada in positive response but ahead of smaller provinces. The negative responses throw an even more interesting light on how policy in Quebec compares to the rest of the nation in relation to investment: Quebec is tied with Newfoundland for the highest number of negative responses among all the provinces.

Conclusion

Regardless of the economic data being examined, Quebec performs below the Canadian average; performs even more poorly against similarly urbanized and industrialized provinces; and performs dismally when compared to the economies south of Quebec's border. This has not produced the sense of crisis that Cor Inja, chief labour

Economic Figure 34: Are the Proper Economic Policies Present?



Sources: Clemens 2002a: 30, Figure 2.

economist for the FNV, the largest federation of unions in the Netherlands, suggested is necessary for reform in some instances. Yet, it should. There is no good reason why Quebecers should be so much poorer and unemployed than they need to be.

Notes

1 Labour force information in this and preceding paragraph from Statistics Canada, CANSIM II, table 282-0087.

2 Statistics Canada, CANSIM II, table 384-0002 and Catalogue no. 13-213-PPB.

3 All figures are presented in 1997 dollars. Note that the real GDP figures are provided by Statistics Canada using a more detailed and comprehensive deflator series than the commonly used Consumer Price Index (CPI).

4 Real GDP values from the United States are provided in 2000 dollars while Statistics Canada's real GDP series is provided in 1997 dollars. The simplest manner in which to present the combined rankings for Canada and the United States, given the scope of this paper, was to present 2000 nominal per-capita GDP values. It should be noted that this tends to inflate estimates of per-capita GDP in jurisdictions like Alberta and Alaska, which benefited from a spike in oil and gas prices.

5 Note that had actual exchange been used, the differences between the US states and Canadian provinces would have been even larger than they are using the PPP exchange rate.

6 Kuhn (1998) came to similar conclusions, arguing that unions raised wages by 15% in Canada and the United States. This reduced corporate profits and, ultimately, impeded re-investment.

7 Studies have found rather wide variation across industries with respect to unionization and productivity: see Clark 1984; Hirsch 1991a; and Hirsch 1997. For industry-specific studies, see Allen 1986a and 1986b; Clark 1980a and 1980b; and Mitchell and Stone 1992.

8 Connolly et al. (1986) found that unionization decreased the returns to, and levels of, investment in research and development. This, they argue, has negative implications for economic efficiency and economic growth in the long run.

9 Fallick et al. (1999) found that union certification reduced a firm's ratio of investment to capital by 0.04%, a significant amount, the following year.

10 Because of a change in the way the series were calculated, no data is available for 1996, nor are the data

prior to 1995 separated out to distinguish between union density in the public and private sectors.

11 Similarly, Bartel (1999) found that public-sector enterprises are inefficient because of soft loans.

12 For a discussion of productivity, see Law 2000.

13 Bartel (1999) argues that public-sector enterprises that have been shielded from import competition are inferior performers.

14 Mueller found that the premium was highest for federal employees followed by local and provincial government employees. He argued that determining the level of government where the premiums are the highest has important implications for public policy. In this case, cutting spending at the federal level would be more useful than cutting spending at the provincial and local level because it is at the federal level that the wage premiums are the highest (Mueller 2000).

15 See McMahon 2000a: 163–74.

16 See McMahon 2000b.

17 The negative impact of UI and EI has been considerably stronger in Atlantic Canada than in Quebec. See McMahon 2000b: chapter 5.

Size of Government

There are two sides to fiscal policy: government spending and government revenues. Too often, we discuss spending as if it were a function of tax revenues when the reality is that spending drives taxation. In this section, we give an overview of the research into the *optimal* size of government, its attendant economic effects, and the benefits to Quebec of having government of optimal size. We also present empirical evidence for a number of measures of the size of government in Quebec and compare the performance of the province to the Canadian national average and the performance of other Canadian provinces and American states.

Size of government and economic growth

Studies of single countries

Philip Grossman (1988) investigated the size of the American government and its effect on economic growth using data for 1929 to 1982. He hypothesized that government spending would initially contribute positively to overall economic growth but that the decision-making processes of government would lead to incremental expenditures that result in an inefficient quantity of public goods. Grossman's analysis confirmed his hypothesis that there was indeed a negative relationship between growth in government and the rate of economic growth (Grossman 1988).

Richard Vedder and Lowell Gallaway investigated the size of the US government and its effects on economic growth for the Joint Economic Committee of the US Congress. Among their many findings were that large transfer payments had negative consequences for economic growth, that the moderate downsizing of the federal government between 1991 and 1997 had resulted in increased rates of economic growth, that the marginal effect of government activities is negative, and that further down-sizing of government would enhance economic growth (Vedder and Gallaway 1998). In fact, Vedder and Gallaway recommended reducing the size of the US government to 17.45% of GDP in order to gain sizable and permanent increases in GDP (Vedder and Gallaway 1998).

Edgar Peden and Michael Bradley attempted a comprehensive examination by measuring the effect of the size of government on economic output and productivity using US data between 1949 and 1985. They concluded that the "level of government activity in the economy has a negative effect on both the economic base [GDP] and the economic growth rate [GDP growth]" (Peden and Bradley 1989: 239). They further concluded that increases in the size of government relative to the overall size of the economy had long-lasting negative effects on GDP growth. Finally, they found that "permanent increases in the share of output devoted to the government result in a significant erosion in productivity" (241). Peden and Bradley concluded that the size of government, "beyond the optimal point" (243) resulted in lower GDP, lower rates of GDP growth, and significant deterioration in productivity. In a supplemental study, Peden attempted to quantify the optimal size of government in the United States using data from 1929 to 1986. He found that the size of government that most facilitated growth of productivity over this period was approximately 17% of GDP (Peden 1991).

Gerald Scully of the University of Texas (Dallas) investigated the aggregate tax burden that maximized the rate of economic growth in the United States. Using data for the years 1949 to 1989, Scully concluded that the overall tax burden that maximized growth for the United States was between 21.5% and 22.9% (Scully 1995).[1]

The Fraser Institute's Senior Fellow, Herbert Grubel, and co-author Johnny C.P. Chao investigated the size of government in Canada that maximized rates of economic growth between 1929 and 1996. They concluded that, between these years, government that consumed approximately 34% of GDP maximized GDP growth (Chao and Grubel 1998).

William Mackness examined government spending in Canada and concluded that the optimal level of government spending was in the area of 20% to 30% of GDP, substantially below the levels currently maintained by government (Mackness 1999).

Cross-sectional studies using data from several countries

Harvard economist Robert Barro investigated a wide variety of variables in an attempt to determine their affect on economic growth. He found that government consumption—that is, expenditures by government not deemed to be public investment such as education and defence—"had no direct effect on private productivity … but lowered saving and growth through the distorting effects from taxation or government-expenditure programs" (Barro 1991: 430). He further found a "significantly negative association" between government consumption relative to the economy (government as a percent of GDP) and GDP growth (430).

Gerald Scully explored the relationship among tax rates, tax revenues, and economic growth for 103 countries. He found, in general, that economic rates of growth were maximized when governments took no more than 19.3% of GDP (Scully 1991). His conclusion was that "increases in the size of the government share of the economy adversely affect economic growth and the allocation of resources … [and] that the rise in the size of the government has had a substantial depressing effect on economic growth (Scully 1989: 161).

Kevin Grier and Gordon Tullock examined economic growth among OECD countries between the years 1951 and 1980. They concluded that "government growth is negative and significant" in its effect on economic growth (Grier and Tullock 1989: 274).

Zsolt Besci of the Federal Reserve Bank of Atlanta investigated the effects of regional differences in taxation in the United States. He concluded that the relative marginal tax rates had a statistically significant negative relationship with relative state growth (Besci 1996).[2]

Richard Vedder investigated the effect of state and local government spending on rates of economic growth in the American states. Vedder concluded that increased government spending, particularly when this included increased spending on income assistance, had a significantly negative effect on the growth rate of a state's GDP (Vedder 1993).

Recently, Stefan Folster and Magnus Henrekson (2001) examined the effects of government spending and taxation in "rich" countries upon economic growth. Folster and Henrekson limit their study to rich countries due to differences in the composition of government spending between rich and poor countries.[3] Covering the period from 1970 to 1995, Folster and Henrekson find a robust negative relationship between government expenditure and economic growth. In addition, they conclude that a 10% increase in government expenditure as a percent of GDP is associated with a decrease in the economic growth rate by 0.7 to 0.8 percentage points (Folster and Henrekson 2001).

Similarly, Dar and AmirKhalkhali (2002) concluded that total factor productivity growth and the productivity of capital are weaker in countries where the size of government is larger. They specifically looked at 19 OECD countries between 1971 and 1999 and found that those countries with smaller governments enjoyed efficiencies resulting from fewer policy-induced distortions (e.g. burden of taxation), greater market discipline, which fosters more efficient use of resources, and the absence of crowding-out effects that weaken incentives for capital investment.[4]

Bruce Benson and Ronald Johnson looked at the impact of taxes on future capital formation across different countries using time-series data. They concluded that movement upwards in the relative tax rates resulted in downward movement in the relative amount of investment. In other words, higher tax rates resulted in lower capital formation in the future. Based on this negative relationship, Benson and Johnson concluded that "taxes negatively affect economic activity" (Benson and Johnson 1986: 400).

Most recently Alesina et al. (2002) investigated the effects of large changes in government fiscal policy on business investment. Among their findings, they concluded that increases in public spending (an increase in the size of government) resulted in increased private-sector labour costs that reduced business profits and investment. Specifically, a 1-percentage point increase in government spending relative to GDP resulted in a decrease in the investment-to-GDP ratio of 0.15 percent-

age points and a cumulative fall of 0.74 percentage points after 5 years.[5] In addition, they found that increases in taxes reduced profits and investment but that the magnitude of the effects was smaller than that resulting from the increase in expenditures. Finally, and perhaps most convincing of the powerful relationship between the size of government and economic growth, is their conclusion that fiscal stabilizations that led to economic growth consisted mainly of spending cuts while those associated with down-turns were characterized by tax increases.

There is strong and mounting evidence that there is a relationship between the size of government and a country's, a province's, or a state's economic performance. Intuitively, this makes a great deal of sense as we all acknowledge that there are critical services that must be provided, financed, or regulated by government. The question addressed in a majority of these studies is how large the government's role should be, given an objective of efficiently allocating resources and maximizing economic growth. The indication from an overwhelming majority of the studies available is that most countries, including Canada, have surpassed the optimal size of government.

Size of government and social progress—high cost for small results

The spread of government into the areas of social welfare and increased subsidization of income that began in the 1960s was rationalized as achieving greater social progress. Advocates of bigger government argued that society could bear higher tax burdens in order to achieve more social progress. The data is overwhelming, however, that increased government does not lead to increased rates of economic growth but to quite the opposite. However, many still cling to the notion that we as a society are willing to give up some economic growth in order to achieve greater social progress. Unfortunately, the high cost of big government, in terms of both direct taxation and the attendant reduction in economic growth has not been matched by advancements in social progress.

Vito Tanzi and Ludger Schuknecht, economists with the International Monetary Fund (IMF), carried out a series of studies of the size of government and social progress. They concluded that countries with "small" governments generally do not show worse indicators of social and economic well-being than countries with "big" government—and often they achieve an even better standard. Countries with "small" governments can provide essential services and minimum social safety nets while avoiding the disincentive effects upon growth, employment, and welfare caused by high taxes and large-scale redistribution (Tanzi and Schuknecht 1998: 70). They found that, in countries with governments whose expenditures exceed 50% of GDP, social progress is not materially (i.e. to a statistically significant degree) greater than it is in countries with smaller governments, those whose expenditures are less than 40% of GDP. In fact, Tanzi and Schuknecht found that social progress is no greater in countries with medium-sized governments (those with expenditures between 40% and 50% of GDP) than it is in countries with smaller government (Tanzi and Schuknecht 1995, 1997a, 1997b, 1998a, 1998b).

Another important study on social progress completed by Gerald Scully buttresses the findings of Tanzi and Schuknecht. Professor Scully examined data from 1995 for 16 indicators of social progress, including literacy, infant mortality, life expectancy, caloric consumption, access to health care, infrastructure, political freedom, civil liberties, and economic freedom, across 112 countries. He concluded that there was little or no difference in social outcomes among counties in which governments spent less than 40% of GDP and those that spend in excess of 50% of GDP (Scully 2000b). Another striking conclusion reached by Scully is that government spending ceases to yield any further social progress, as measured by the 16 social indicators, at 18.6% of GDP for advanced countries (Scully 2000b). There is some variance among countries: for instance, the rate at which government spending ceases to provide any marginal benefits in Canada is 19.5% of GDP.

Conclusion

The evidence regarding the size of government and economic growth is clear: optimally sized government achieves higher rates of economic growth, higher levels of productivity, greater capital formation, and ultimately greater prosperity. Also, the notion that societies trade-off a small amount of economic growth in order to achieve greater levels of social progress is factually incorrect. In fact, increasing evidence demonstrates that

small-sized governments providing the critical services required of government achieve the same or even greater levels of social progress than large or even medium-sized governments.

Size of government in Quebec

Although total provincial government spending is one of the most readily used and accessible measures of government spending, it has a number of serious shortcomings. First, it does not account for population growth. If government spending grows at a rate less than population growth, then government spending on a per-capita basis is actually declining. Second, provincial government spending fails to account for the decentralization of spending or revenue responsibilities to municipalities and regions since a provincial government may reduce its own spending while increasing municipal spending by down-loading responsibilities to cities and regions. Third, total provincial government spending does not account for the size of the economy since the overall burden of government depends upon how much income the government spends relative to the total amount of income available in the economy. The following measures of the size of government in Quebec attempt to overcome these shortcomings.

Using per-capita figures is clearly an improvement on the use of aggregate numbers but it still does not account for the burden government spending places on the economy as a whole. The best measure available of the size of government is government spending as a percent of the economy. High levels of per-capita spending are not necessarily indicative of a high level of government intrusion in the economy. For example, it is possible for two jurisdictions to spend the same amount per capita but consume measurably different amounts of the economy due to differences in per-capita income. If one jurisdiction is significantly wealthier than another, it has the ability to spend the same amount of money on a per-capita basis while not consuming nearly the same proportion of the total economy due to the larger size of its economy.[6] Indeed, much of the research pertaining to the size of government discussed in the early part of this section measures the size of government according to the share of the economy consumed by government spending.

Provincial and municipal spending has to be considered together. Here, this is called sub-national government. The municipalities are legal creations of the provinces and each of the provinces gives its municipalities differing responsibilities. Thus, comparing provincial spending by one province with that of another often produces misleading results since municipalities perform duties in some provinces that provincial governments undertake in other provinces, and vice versa. Thus, provincial and municipal spending and revenues must be considered together, as is done here.

Another complicating factor in considering taxation and expenditure at the sub-national level in Quebec is that Quebec administers some programs that in other provinces are administered by the federal government. Because of this, the federal government pays Quebec an "abatement" each year to compensate for these extra costs. To compare Quebec's spending to that of the other provinces accurately, the Quebec abatement must be subtracted from Quebec expenditures at the sub-national level. That is the practice followed in this report.

Anticipating the next section on government revenues, another key item to note is that neither the sub-national nor the all-government revenue numbers will match the corresponding expenditure numbers in individual provinces. On the federal level, this is obvious for Canada or any other nation. What the federal government collects in taxes in one particular area will not necessarily match what it spends in that area. Richer areas will provide relatively more taxes than poor areas and account for a relatively smaller portion of spending. The same separation in spending and revenues occurs also at the sub-national level in Canada. This is because Ottawa transfers a considerable amount of money to the provinces, particularly the poor provinces, driving a wedge between the own-source revenue each province collects and the amount it spends.

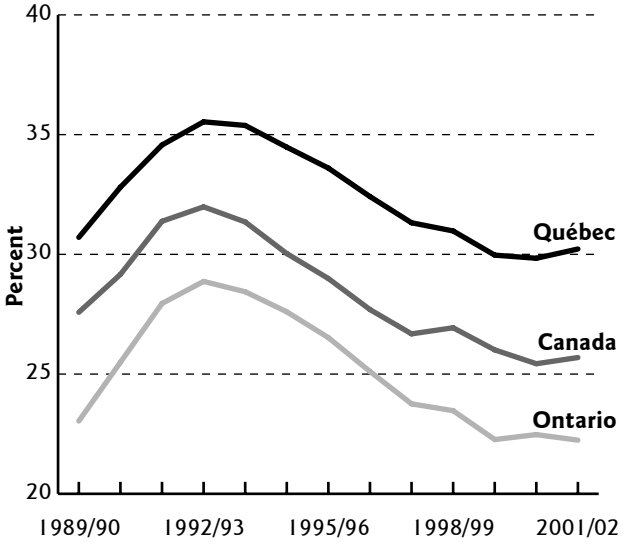
Although, as we shall see, at both the all-government level—federal + provincial + local—and sub-national level—provincial + local—governments in Quebec collect the highest percentage of the provincial economy in tax and other government revenues, other provinces have even higher levels of spending as a percentage of the provincial economy. Net federal transfers are much higher to Atlantic Canada than to Quebec. Because of

this, the highest levels of spending in Canada, at both the sub-national and all-government levels, are found in the Atlantic Provinces even though the revenues governments collect from their citizens in these provinces equal a smaller percent of GDP than the revenues collected from the citizens of Quebec.

Nonetheless, Quebec's level of spending is extremely high, particularly compared to its main economic competitor, Ontario. The data source on government activities that permits the most accurate comparisons between government is found in the Statistics Canada's Financial Management System (FMS) data. The FMS data are made consistent across provinces by StatsCan statisticians. Spending Figure 1, using FMS data, compares sub-national government spending in Quebec with that in Ontario and with the Canadian average. From the beginning of this series in the fiscal year 1989/90, Quebec spent considerably more than either Ontario or the Canadian average. Spending in Quebec in 2001 equaled 30.2% of GDP compared to 22.2% in Ontario. Put another way, spending in Quebec was almost two-fifths greater than in Ontario as a percent of GDP. Spending Figure 2 examines spending in 2001 among all provinces. Quebec is biggest spender of all the large industrialized provinces, despite British Columbia's spending spree of the last few years, which caused considerable economic damage in the province but is now being brought under control.

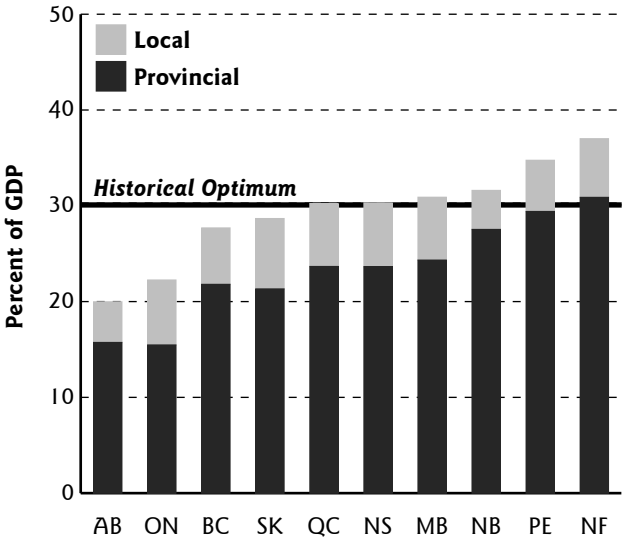
However, in examining Quebec, historical data can help understand key elements in the province's economic evolution. Historical series, dating back to 1961, are only available through the Provincial Economic Accounts (PEA), presented in Spending Figure 3. Unfortunately, these data are not fully comparable from province to province, since they are based on the provinces' own accounting systems, which can be inconsistent with each other. Moreover, StatsCan has changed some of the definitions in PEA data but calculated changes back only to 1981, raising questions of comparability between data before and after 1981. Thus, PEA historical data must be taken with a grain of salt. However, Spending Figure 3 at least provides some basis for comparison among the provinces. Perhaps the most interesting revelation is that Quebec's move to big government spending, relative to the rest of Canada, is fairly recent, dating to the early 1970s.

Spending Figure 1: Quebec, Ontario, and Canada—Total Provincial and Local Spending as a Percent of GDP, 1989/90–2001/02



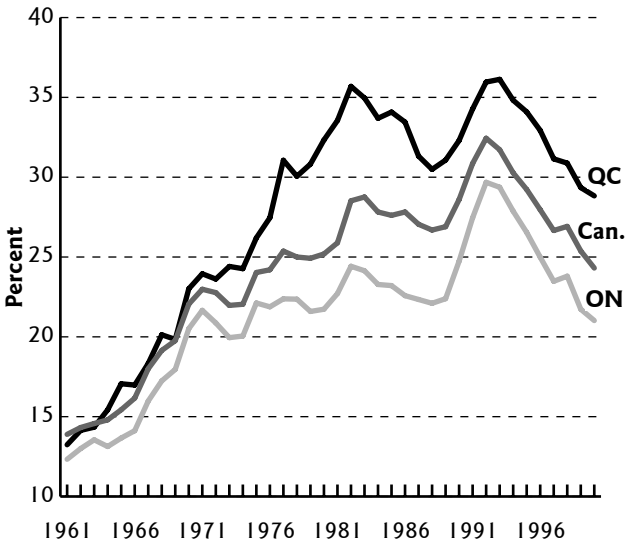
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Spending Figure 2: Canadian Provinces—Rank by Consolidated Local and Provincial Government Spending as a Percent of GDP, 2001



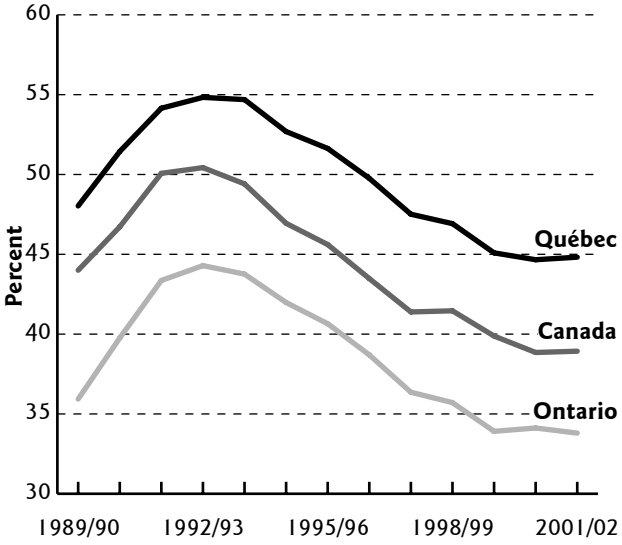
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Spending Figure 3: Quebec, Ontario, and Canada—Total Provincial and Local Spending as a Percent of GDP, Historical Data, 1961–2000, from Provincial Economic Accounts



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Spending Figure 4: Quebec, Ontario, and Canada—Total Government Spending as a Percent of GDP, 1989/90–2001/02



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

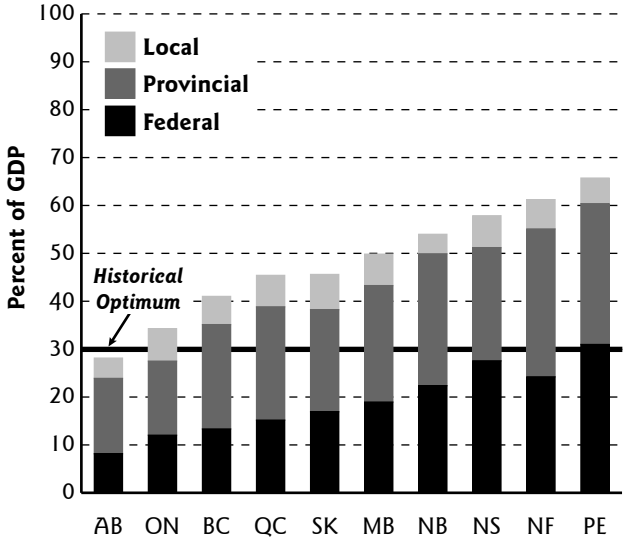
A similar story holds true at the all-government level. Spending Figure 4 shows all-government spending in Quebec, Ontario, and across Canada. Readers will quickly note how similar the pattern is to the pattern in Spending Figure 1, though Spending Figure 4 shows a higher level of spending since it includes federal spending. Similarly, Spending Figure 5 compares Quebec to all the other provinces, showing Quebec in the same relative position as in Spending Figure 2—again the big spender compared to other large industrial provinces. Spending Figure 6 provides an historical perspective, similar to Spending Figure 3. This again shows that Quebec's big spending habits have arrived recently.

Comparison with the size of government in the United States

Spending Figure 7 presents the consolidated spending as a percentage of GDP for large industrial US states and Canadian provinces in 2000. This shows that Quebec is a substantially higher spender than the industrial US states it competes against.

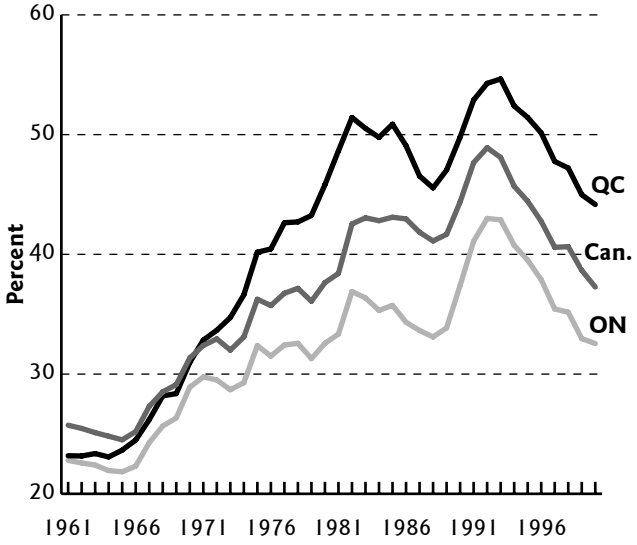
Spending Figure 8 (page 40) presents rankings for the size of government for all Canadian provinces and all

Spending Figure 5: Canadian Provinces—Rank by Local, Provincial, and Federal Consolidated Government Spending as a Percent of GDP, 2001



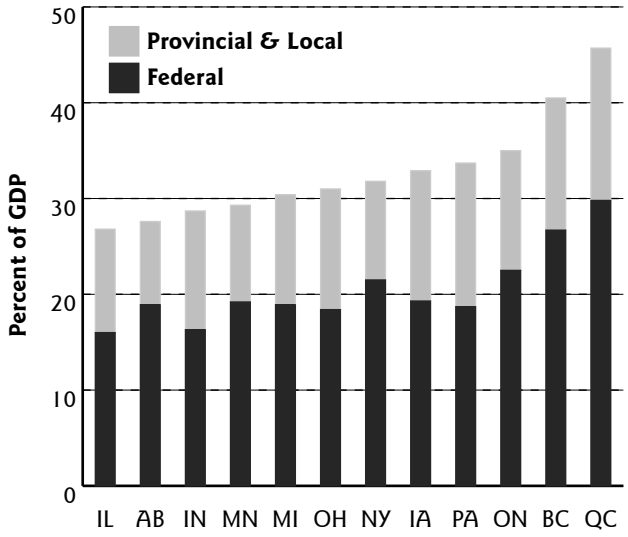
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Spending Figure 6: Quebec, Ontario, and Canada—Total Government Spending as a Percent of GDP, Historical Data, 1961–2000, from Provincial Economic Accounts



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Spending Figure 7: Selected Canadian Provinces and US States—Rank by Provincial/Local and Federal Consolidated Government Spending as a Percent of GDP, 2000



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; Bureau of Economic Analysis; US Census Bureau; Moody 2001; calculations by the authors.

US states for 2000: Quebec ranks 55th, well behind all US states and large provinces. The only Canadian province to perform well is Alberta, which ranks 11th, while the other Canadian provinces do not fare well: seven of the 10 Canadian provinces rank in the bottom 20%. In fact, the bottom six rankings are all Canadian jurisdictions, including Quebec.

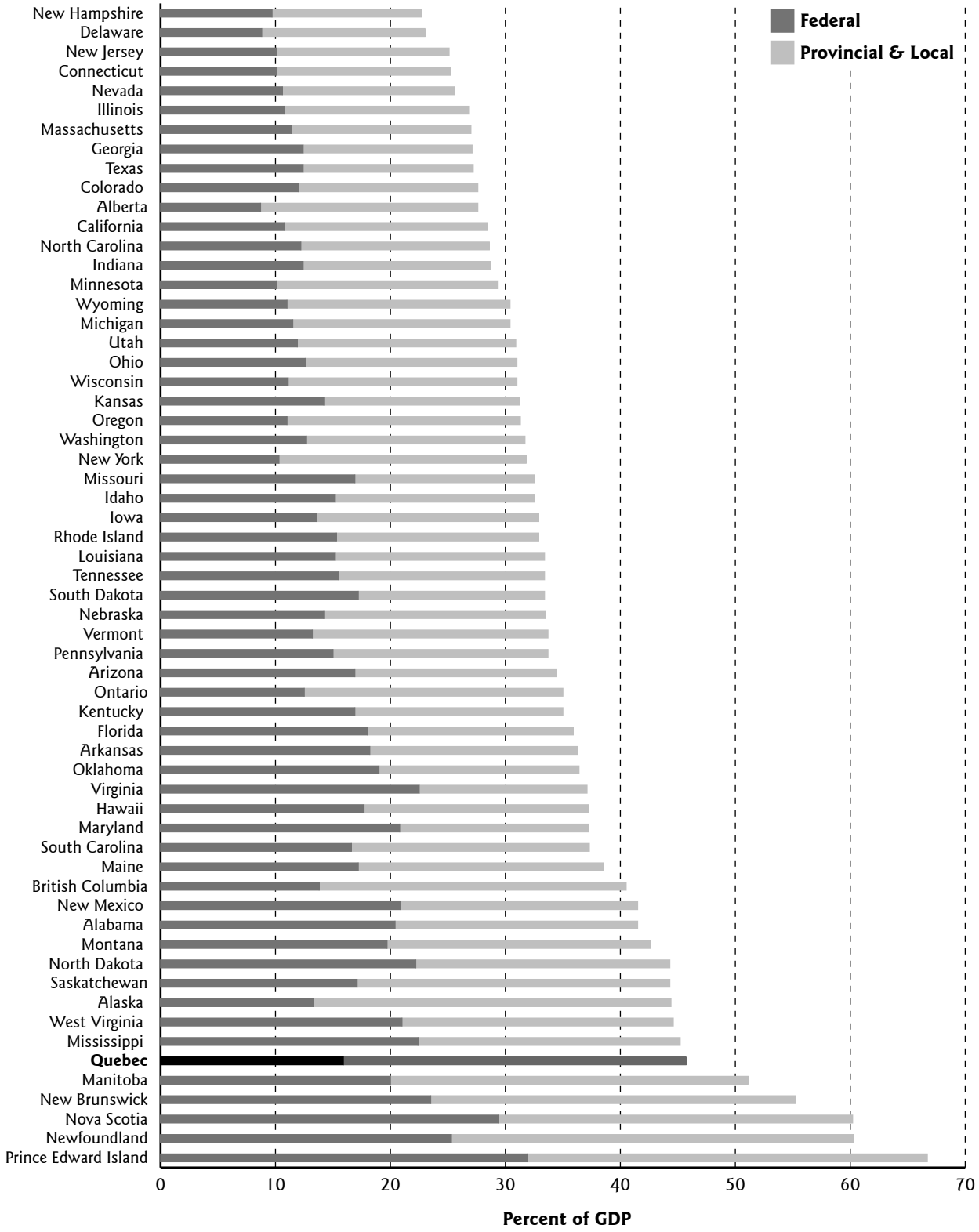
As the literature discussed in this section suggests, those jurisdictions that move towards government of optimal size, as many US states have, will enjoy higher rates of economic growth, higher levels of capital formation, and generally more economic prosperity. One of the accordant benefits is that these governments can provide relatively high levels of per-capita spending without burdening the economy with a large government sector. The key to this win-win scenario is economic growth. That is, by expanding the economic pie faster than other jurisdictions, governments that enjoy economic growth are able to take a smaller slice of the overall pie but provide comparable, if not superior, goods and services because of the size of the slice. In other words, a smaller slice of a larger pie is a much better bargain than a larger slice of a much smaller pie.

Optimal size of government

Estimates of the optimal size of government for Canada range between roughly 20% and 34% of GDP, depending on the study and the time frame analyzed.[7] Incorporating for analytical purposes a 30.0% threshold for the size of government (illustrated by the horizontal line in Spending Figure 2), results in some interesting observations. First, only four provinces (Alberta, Quebec, Saskatchewan, and British Columbia) maintain consolidated provincial and local government sectors that consume less than 30.0% of provincial GDP. Second, four provinces (Quebec, New Brunswick, Nova Scotia, and Manitoba) are relatively close to the optimal threshold of 30.0% of GDP. The remaining provinces (Prince Edward Island and Newfoundland) are well above the 30.0% optimal threshold for the size of government.

One critical piece of information about the size of government that is missing from the rankings presented in Spending Figures 1 to 3 is spending by the federal

Spending Figure 8: Canadian Provinces and US States—Rank by Provincial-Local and Federal Consolidated Government Spending as a Percent of GDP, 2000



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; Bureau of Economic Analysis; US Census Bureau; Moody 2001; calculations by the authors.

government, which collects roughly 45% of all revenues and is, therefore, involved in the spending or transferring of roughly 45% of all government resources. It is, therefore, critically important to include a measure of federal government spending by province in the calculation of the size of government. Spending Figures 4 to 8 augment the rankings presented in the previous figure by including federal government spending by province.

The addition of federal government spending pushes all of the provinces except Alberta above the optimal threshold of 30%. Alberta still maintains the smallest total government sector at 28.1% of GDP. Prince Edward Island, on the other hand, has a total government sector of 65.7% of GDP. Four provinces are above 50.0% of GDP in total government spending, with another three provinces within 5-percentage points of 50.0% of GDP in government spending. Quebec, with spending at about 45 % of GDP, is the biggest spender of the large provinces.

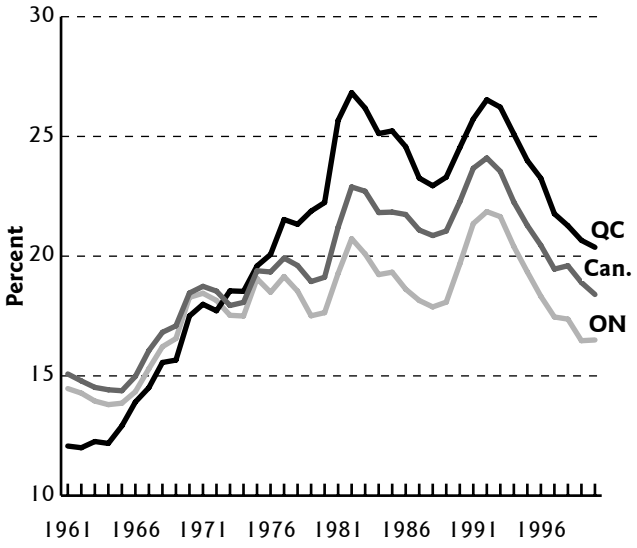
Government consumption

One of the toxic effects of government spending is what economists call "crowding out." What this means is that government activity "crowds out" private-sector activity that would otherwise have occurred. This happens because government bids against the private sector for scarce resources. Imagine, for example, that government opens a number of new offices in some city. Other things being equal, this forces up rents. Businesses that might have been thinking of expansion are hit with additional costs for their existing facilities as their leases expire, plus higher rents for any expansion. This can cause the company to scale back or cancel any expansion. Added expenses can also damage, sometimes fatally, fundamentally healthy businesses going through a rough spot. This can cause bankruptcy, though more typically it just means slower growth and less job creation.

Crowding out has extremely negative economic effects. Since private-sector activity provides the tax base to fund activity in the government sector, the more private-sector activity is crowded out, the higher taxes must be to raise an equivalent level of revenue. This can begin a vicious cycle where high taxes and high expenditures slow growth, which causes the government to keep taxes high, or raise them, which then slows growth even further. This is a key factor in why Quebec's economic performance has been so disappointing over the last 40 years. But, the flip side is the magic behind what economists have called the "virtuous circle." Tax and spending cuts spur growth, which increases tax revenues, which then leads to further tax cuts (that is, if governments remain fiscally disciplined), which boost growth, and so on. This was the magic, which led Ireland to its economic pot of gold, as discussed elsewhere in this report.

Government consumption spending has the largest direct "crowding out" effect. Here, government is using the taxpayers' resources to divert production to its own needs, crowding out other activity. Quebec much exceeds the level of government consumption found in Ontario and elsewhere in Canada[8] (see Spending Figure 9). Government consumption refers to the resources government consumes for its own use. Government consumption has been found to be particularly damaging for growth (Barro and Sala-*i*-Martin 1995). This does not mean that government transfers, as opposed to government consumption, are themselves good. Transfers may have a less direct "crowding out" effect but, at least as important, they can negatively affect incentives—as an employment insurance system discourages work or corporate subsidies promote rent-seeking—and create deeply damaging economic effects.

Spending Figure 9: Quebec, Ontario, and Canada—All-Government Consumption as a Percent of GDP, 1961–2000



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

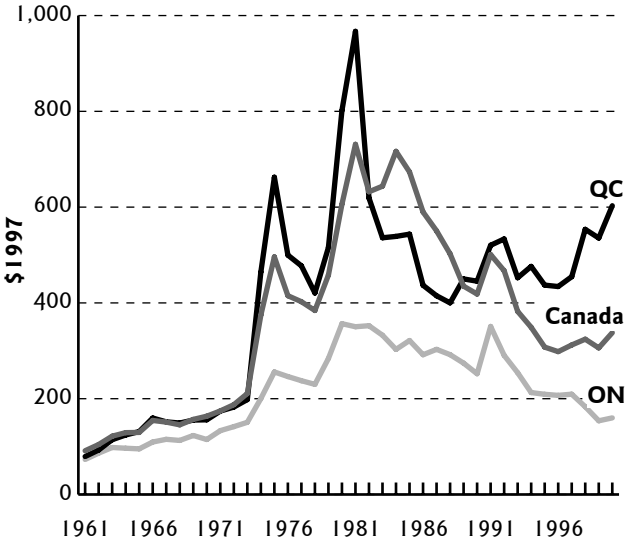
Subsidies to business

These types of problems—along with Quebec's statist attitude and the level of government interference in the economy—are further revealed in Spending Figures 10 and 11, which show inflation-adjusted (1997 dollars) subsidies to business on a per-capita basis. Spending Figure 11 shows that while subsidies to business have always been somewhat lower in Ontario than in Quebec, the differences between Ontario, Quebec, and the Canadian average were small throughout the 1960s. With the beginning of the National Energy Program (NEP), under which Ottawa subsidized oil prices and energy exploration and development, and active "economic development" strategies in the 1970s, including regional agencies specializing in subsidies to business enterprises, subsidies to business rose across the nation.

However, the most interesting aspect of Spending Figure 10 concerns the evolution of subsidies in 1990s, long after the NEP went out of business. Here, Quebec clearly breaks from Ontario and the Canadian average. Quebec, like other jurisdictions, reduced subsidies at the all-government level through most of the first half of the 1990s but then, unlike other jurisdictions, started increasing subsidies again in the mid-1990s. Given the economic evidence on the lack of success of such subsidies,[9] this reflects an ongoing failure of economic policy in Quebec. Because of the convincing nature of this evidence, it is hardly surprising that other provinces have cut back on subsidies. What is surprising is that Quebec has not. Moreover, these numbers do not tell the full story of Quebec's involvement in various subsidy and economic-development schemes, which also includes debt guarantees and various partnerships through, for example, the *Société générale de financement*, and other interventions from government and quasi-government agencies like *Investissement Quebec* and *Caisse de depôt et placement du Quebec*.[10]

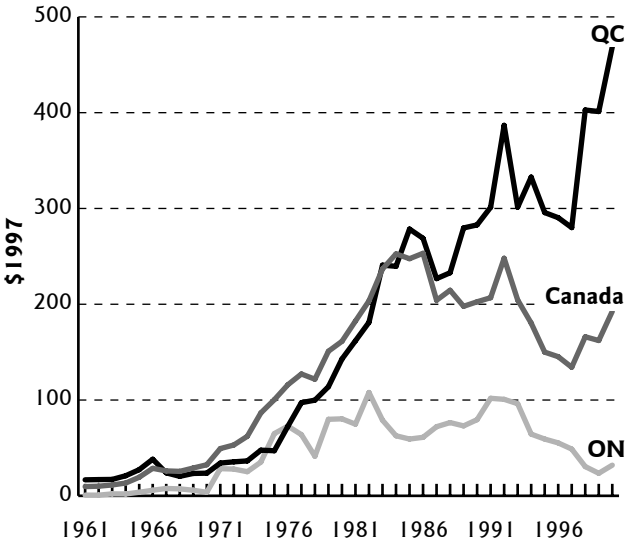
This failure of policy is even more graphically illustrated in Spending Figure 11, which shows only subsidies from provincial and local governments. This shows that the divergence between Quebec and the Canadian average is entirely due to activity at the provincial level. At the all-government level in constant 1997 dollars, businesses in Quebec were receiving subsidies worth $603 for every person living in Quebec, compared to a national

Spending Figure 10: Quebec, Ontario, and Canada—Per-Capita Transfers to Business, by All Levels of Government ($1997)



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Spending Figure 11: Quebec, Ontario, and Canada—Per-Capita Transfers to Business, by Provincial and Local Governments ($1997)



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

average of $337 dollars, a gap of nearly $266 per person. Business subsidies in Ontario equaled only $160 per person, $443 per person less than in Quebec.

At the sub-national level, businesses were receiving $469 dollars in subsidies for every person in Quebec, compared to a Canadian average of $193 per person and just $32 in Ontario. Quebec's economic record compared to that of Ontario certainly suggests, as both empirical and economic literature would indicate, that subsidies are, at best, a waste of money and, at worst, do economic damage. Every person in Quebec could have had a tax break of $500—each family of four a tax break of about $2,000—if subsidy money were given back to taxpayers rather than handed on to, typically, politically well-connected businesses in Quebec.

This is a real economic problem. It has long been an economic truism that governments are unable to pick winners and losers but Quebec hasn't given up trying. Such policies cost residents of Quebec dearly but, as noted, there is no evidence they work economically. Despite this lack of evidence, subsidies to business remain popular because they work politically. They give the government of the day the ability to reward friends and penalize enemies, either by withholding subsidies or by subsidizing competitors.

The policy of subsidizing business has a number of toxic economic effects. All businesses pay taxes but some will see their tax dollars go to helping their less efficient competitors. That's not fair and it can damage or destroy a healthy business that competes against a less efficient, but better subsidized competitor. In the end, this leaves the economy worse off. The competitive firm is weakened while the uncompetitive firm survives, at least as long as the subsidies continue.

As well, subsidization policies, combined with a large overall government sector and high government consumption, change business incentives. Instead of seeking to produce goods and services the world wants to buy, business has an incentive to focus on political contacts in order to reap subsidies and rich government contracts, where quality and price may not be important factors. This is another channel through which subsidies can promote inefficiency in favour of political connections. This can have a devastating effect on the ability ob business to produce well-priced, high-quality goods and services, a perverse effect even reported in government sponsored studies.[11]

In other words, the Quebec government's practice of subsidizing business rather than lowering taxes is not only inequitable—no one has ever argued that subsidies to business are an equitable use of tax money—but it suppresses economic growth through at least three channels. The subsidies keep taxes unnecessarily high, which penalizes all business, they may reward inefficient but politically well-connected businesses at the cost of damaging more efficient businesses, and they distort business incentives away from productivity and competitiveness in the market place.

Conclusion

The reasons for Quebec's weak economic performance, reflected in a lagging level of prosperity, the province's inability to converge with wealthier neighbours, weak job creation, and high unemployment, are becoming clearer. This section has reviewed a number of the Quebec government's economic policies that have been shown to reduce growth including high levels of overall government expenditures well beyond any reasonable estimate of the optimal size of government, large government consumption that crowds out of other economic activities, large public-sector employment, and a whole menu of subsidies to business. The next chapter will explore the immense burden of taxation borne by Quebecers, by far the heaviest burden placed on any taxpayers in North America.

Notes

1 Scully further concluded that (beyond the optimal) the excess aggregate tax burden had resulted in roughly $30 trillion in lost output in the United States between 1949 and 1989 (Scully 1995).

2 L. Jay Helms investigated the effect of government expenditures on growth in the US states and found that states that increased taxes or fees to finance transfers experienced reduced growth in state income (Helms 1985).

3 In OECD countries, less than one fifth of all government expenditure is allocated to programs such as education, infrastructure, and R&D, which are deemed to have positive growth effects, while the rate in many developing countries is greater than 50%. Thus, over 80% of government expenditure in the rich countries of the OECD is spent on programs that do not have any positive effects on economic growth (Folster and Henrekson 2001).

4 They also note that there are critical functions provided by government and that the composition of government activities is equally as important as the aggregate size of government.

5 The observed effects of increases in government spending were even more pronounced when the increases occurred in the government wage bill: an increase of one percentage point in government spending on salaries and wages resulted in a decrease in the ratio of investment to GDP of 0.48 percentage points and 2.56 percentage points cumulatively over five years.

6 This is the case for Canada and the United States. Spending per capita on its citizens by the United States is almost as great as that of Canada but it consumes a much smaller portion of its economy.

7 There is a strong theoretical argument to be made that the optimal size of government in Canada and, indeed, in most western countries has declined over the last century as markets and technologies have developed.

8 The discussion of government consumption and business subsidies is based on PEA data. FMS data do not break out such spending categories. As noted, PEA data reflect the way each province's own accounts classify spending while FMS data develops consistent classifications for all provincial governments.

9 See, for example, Fisher and Peters 1997.

10 The Caisse de dépôt et placement du Quebec has had a long history of intervention in the Quebec economy for various political or public-policy reasons. However, after large losses in 2002, management promised a move away from such activities. See, for example, Shaking up Quebec Inc., *Globe and Mail* (May 12, 2003: A12 for a concise overview.

11 See O'Farrell 1990, sponsored by the Nova Scotia Department of Industry, Trade and Technology and the Atlantic Canada Opportunities Agency.

Tax Policy

Government spending ultimately drives taxes, both current and future. As the previous section concluded, there is much work for Quebec to undertake to reduce the size of government and to focus its resources better. The reduction in spending required to move Quebec closer towards optimal government indicates further opportunity for tax relief. The question then becomes what taxes to reduce or eliminate. This section focuses on answering those questions by reviewing tax policy in Quebec, the size and scope of revenues in Quebec, and the structure of taxation in the province.

Government revenues

Tax Figures 1 to 8 compare the percent of the economy various levels of government collect as revenue in Quebec. It quickly becomes apparent that Quebec has the most tax-burdened residents in all of Canada, both at the sub-national level, including provincial and local governments, and at the all-government level, including in addition the federal government. It also becomes clear the government burden faced by Quebec residents and businesses far surpasses the burden faced in the large industrial states and provinces that Quebec competes with.

Before looking more closely at these numbers, several points need to be made in order to compare Quebec with the rest of Canada. The first is obvious. Although the same rates of federal taxation apply across Canada, poorer provinces will have less of their economy taxed away by the federal government than richer provinces. Federal taxes targeted to income, either personal or corporate, have higher rates for higher levels of income. Even taxes that have a single rate, like the GST, will tend to collect more money in richer regions, where economic activity will be greater—in the case of the GST, more consumer sales. Thus, Quebec's high tax burden at the all-government level reflects not a heavier federal tax burden but rather a much heavier provincial and local tax burden, a burden so heavy it more than compensates for lighter tax burden Quebec's relative poverty would create.

Because of the Quebec abatement, which is designed to cover additional costs Quebec faces compared to other provinces due to the additional programs Quebec administers, on the revenue side, "own source" revenue, which excludes federal transfers including the abatement transfer, is the appropriate data stream. This reveals the burden Quebec places on its own residents relative to other provinces in Canada, excluding the Quebec abatement.

Own-source revenue is used for an important reason. Measures of total revenue can be misleading. These include large federal transfers to the provinces and do not reflect the burden of taxation any particular province places on its citizens. For example, total revenue would suggest that provincial and local governments in Newfoundland collected the largest share of any province of its GDP in taxes and other government levies, exceeding 35% of GDP compared to Quebec at under 30%. Yet, when "own source" revenue is studied it becomes clear that local and provincial governments in Quebec put the largest burden on their citizens of any province in Canada, at 26.2% of provincial GDP compared to 22.7% in Newfoundland. This is because a much larger part of spending in Newfoundland is funded by taxpayers elsewhere in Canada through federal transfers to Newfoundland than is the case with Quebec.

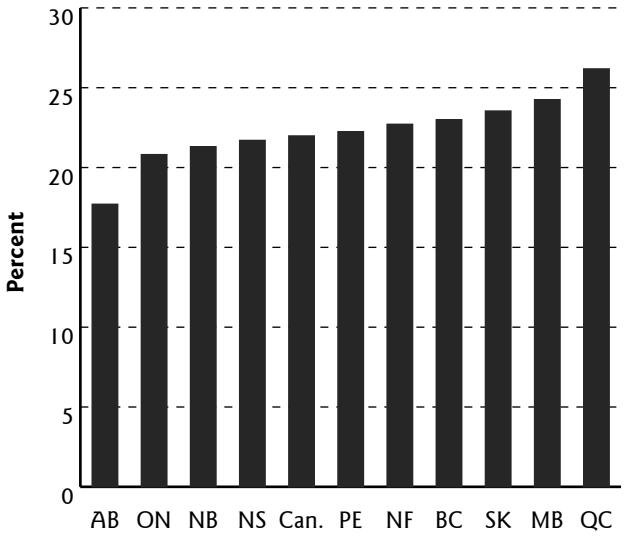
Tax Figures 1 to 3 capture "own source" provincial and local revenue as a percent of GDP. Tax Figure 1 shows that the tax burden imposed by Quebec is significantly heavier than that of Ontario or the average burden across Canada. In the fiscal year 2001/02, Ontario's government burden equaled just under 21% of GDP compared to just over 26% in Quebec. In other words, Quebecers faced a burden from provincial and local governments that was about a quarter heavier than the burden in Ontario.

Tax Figure 2 shows that two provinces stand outside the Canadian mainstream in the level of tax burden created by provincial and local governments. The successful Alberta economy has a substantially lower burden than the other provinces, with a significant gap separating it from Ontario, which has the second lowest burden. At the other end of the scale, the lagging Quebec economy has a significantly greater burden than the second most burdened province, Manitoba. However, Tax Figure 3 shows that Quebec's high tax attitude is relatively recent, dating only back to the 1970s.

Unfortunately, it is not possible to compare directly sub-national tax burdens in the United States with those in Canada because, as noted earlier, states and provinces differ in their responsibilities. However, it is possible to compare the burdens placed by all levels of government in both nations. Prior to making those comparisons, it is worthwhile to examine Tax Figures 4 to 6, which capture the all-government burden placed on the various provinces.

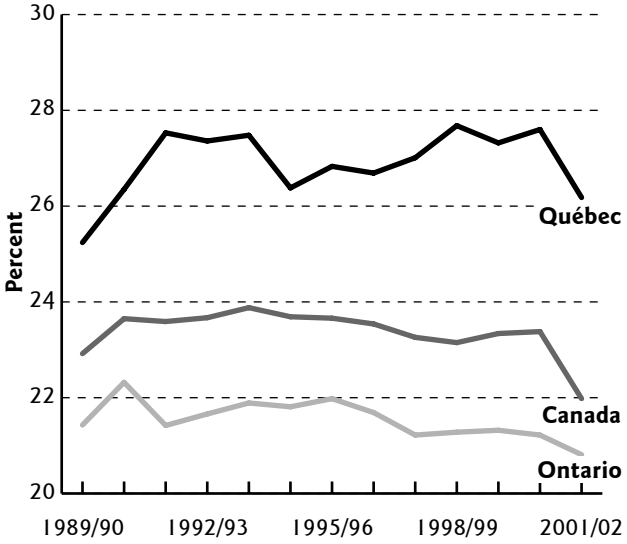
The story is very similar to that presented in Tax Figures 1 to 3 on the sub-national burden. Quebec is again considerably above Ontario and the Canadian average (Tax Figure 4). Tax Figure 5 demonstrates that, once

Tax Figure 2: Canada and the Provinces—Provincial and Local Own-Source Revenue in 2000 as a Percent of GDP



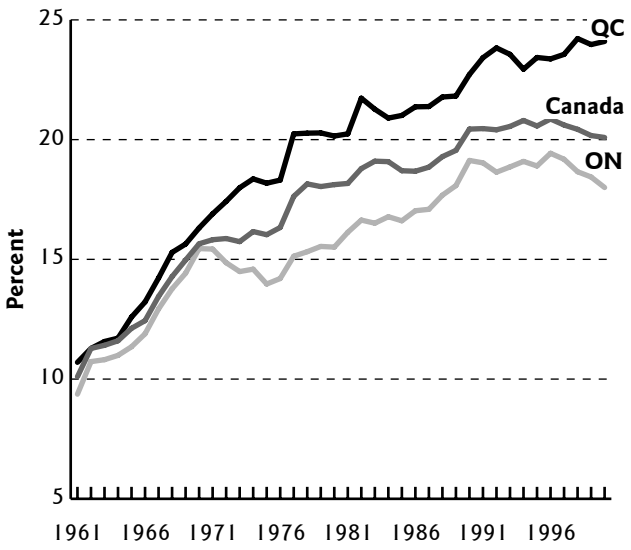
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Tax Figure 1: Quebec, Ontario, and Canada—Provincial and Local Own-Source Revenue as a Percent of GDP, 1989/90–2001/02



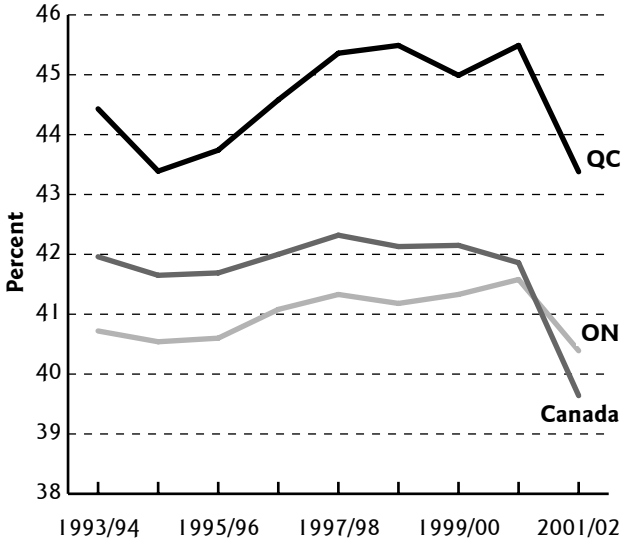
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Tax Figure 3: Quebec, Ontario, and Canada—Provincial and Local Own-Source Revenue as a Percent of GDP, Historical Data, 1961–2000



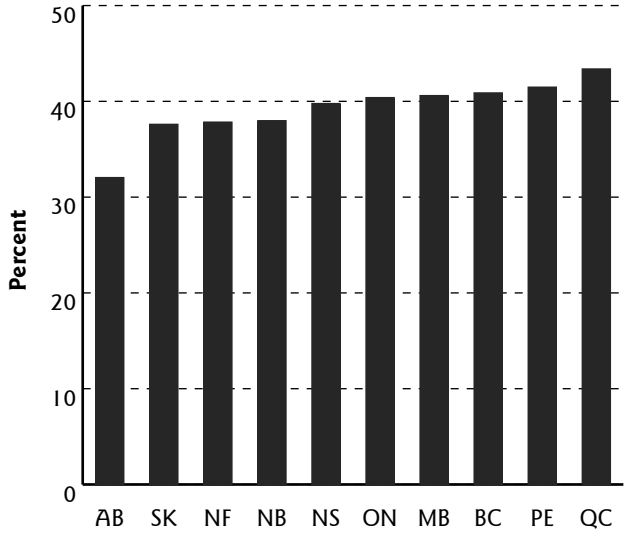
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 4: Quebec, Ontario, and Canada—All-Government Revenue as a Percent of GDP, 1993/94–2001/02



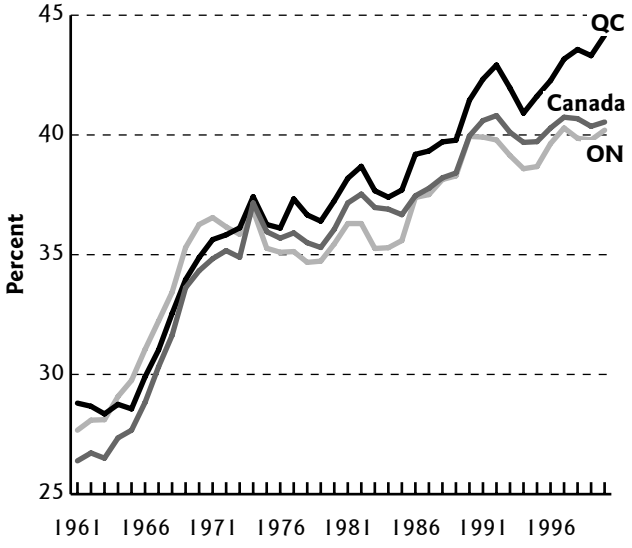
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Tax Figure 5: Quebec, Ontario, and Canada—All-Government Revenue in 2001 as a Percent of GDP



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Tax Figure 6: Quebec, Ontario, and Canada—All-Government Revenue as a Percent of GDP, Historical Data, 1961–2000, from Provincial Economic Accounts



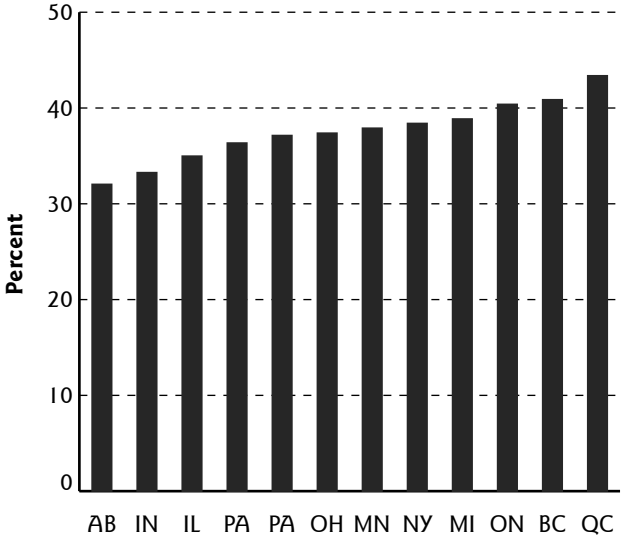
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

again, Quebecers face the greatest burden in Canada and Albertans the lightest. The historic evolution is laid out in Tax Figure 6.[1]

However, Tax Figure 7 and Tax Figure 8 (page 49) show an even more disturbing picture for Quebec. Tax Figure 7 shows that Quebec faces a substantially higher tax burden than the large industrial states and provinces it competes against. British Columbia comes in second place after a decade of bad policy in Canada's western-most province. It may be worth taking a couple of moments at this point to make a few comments about British Columbia's recent experience in relation to Quebec or, more accurately, as an object lesson for Quebec. Through much of the 1990s, British Columbia adopted a "Quebec-like" approach to economic policy, increasing the size of government, boosting the power of the unions, and attempting government management of the economy.

This strategy pushed British Columbia to a "Quebec-like" economic status, from British Columbia's traditional position as one of Canada's richest provinces to a "have-not" province receiving equalization, like Quebec. British Columbia provides useful lessons for Quebec in

Tax Figure 7: Selected Canadian Provinces and US States—All-Government Revenue in 2000 as a Percent of GDP



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; US Bureau of Economic Analysis; US Census Bureau; calculations by the authors.

two ways. Firstly, it shows the damaging impact of the type of policy Quebec is following. While a considerable amount of international evidence demonstrates how high taxes and spending can retard economic growth and job creation, the example of neighbours can help bring home the point. Secondly, British Columbia has changed policy course and, like Ontario, will again leave Quebec behind unless Quebec also changes economic course.

Tax Figure 8 shows how much of an outlier Quebec is within North America. It has a significantly heavier burden than all jurisdictions except for Alaska, where government coffers are fed by rich stream of resource revenues. The high proportion of revenues collected by governments in Quebec, regardless of level considered, suppresses economic growth. It leaves residents of Quebec less of their own money to spend and invest. High personal taxes diminish individual drive, innovation, and risk taking since government takes a larger share of any rewards while leaving the individual with the risk and any losses. High taxes also limit profits and thus reduce the incentive to invest and the means to invest. Investment is the key to boosting prosperity and creating the jobs the residents of Quebec need.

Optimal tax policy

Ideally, tax policy would focus on raising a sufficient amount of revenue to cover government expenditures in the least distortionary manner. That is, tax policy would aim solely to supply enough monies for government to provide necessary and demanded goods and services while at the same time minimizing the amount of economic distortion. All too often, the tax system is set up to achieve objectives other than raising revenues and this results in unnecessary distortions and other detrimental consequences.

Personal income taxes

The next part of the study analyses and compares five key taxes: personal income tax (PIT), corporate income tax (CIT), corporate capital taxes (CCT), sales taxes, and property taxes.

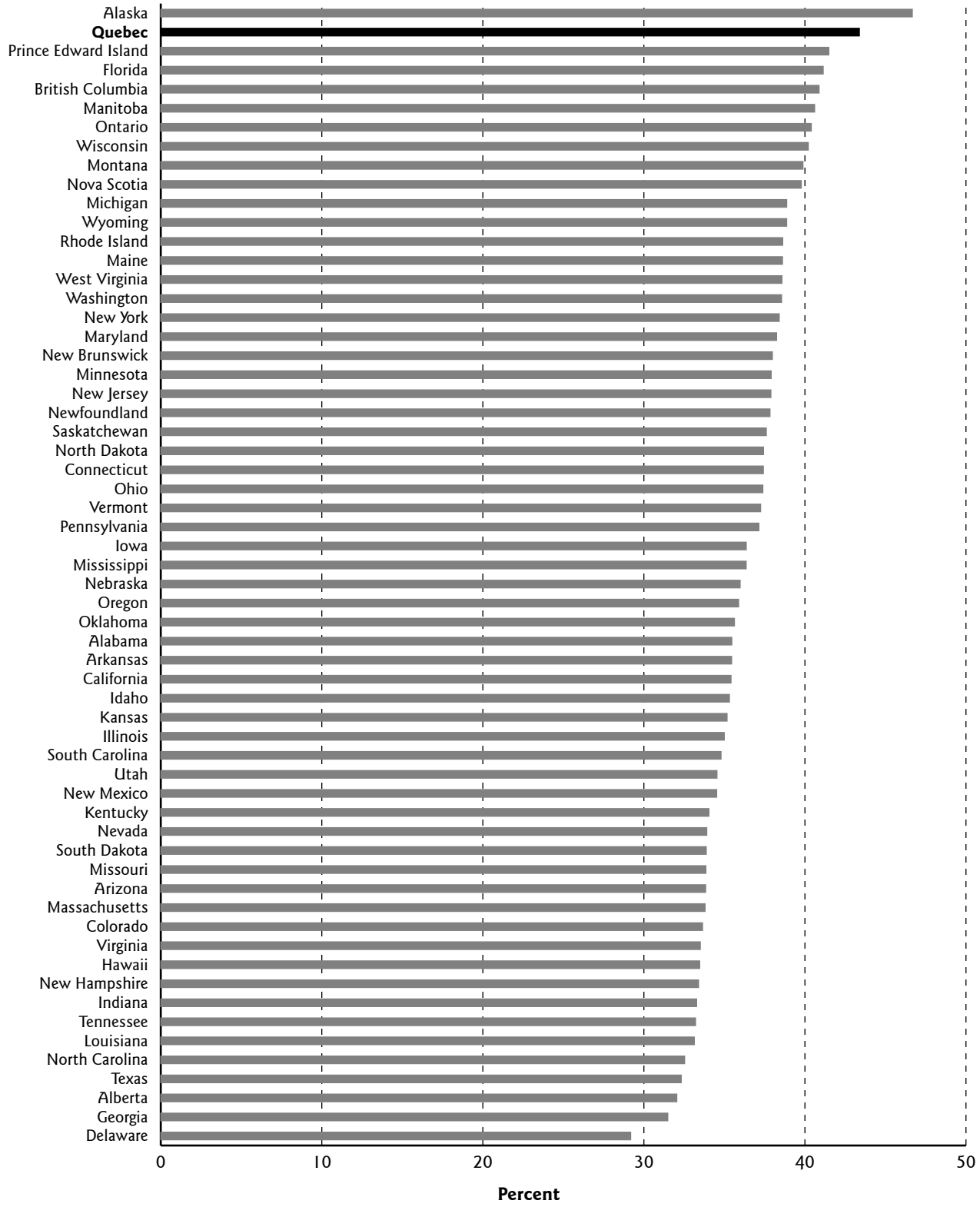
Quebec suppresses personal initiative with a heavy personal income tax and, especially, high marginal tax rates. Although marginal PIT rates have come down across Canada, Quebec's remain considerably higher than those in Ontario and across Canada on average. Even worse, despite declines, Quebec's top marginal PIT rate is higher now than the average rates were in Canada and Ontario 20 years ago.

Tax Figure 9 shows the historical evolution of rates. Tax Table 1 shows rates in 2002 and it also includes information on income-tax surcharges. Quebec once again has by far the highest top marginal PIT rate. This is unchanged even when surcharges are added into the mix. Nova Scotia, Prince Edward Island, and Newfoundland have surcharges but these add only about 1.5 percentage points to the top marginal rate. However, surcharges in Ontario raise the top marginal rate from 11.2% to 17.4%, still well below Quebec's highest marginal rate of 24%.

Compounding problems created by Quebec's high marginal rate is the fact that Quebec has the second lowest threshold in Canada at which the highest marginal rate is paid (Tax Table 1). That means more taxpayers at lower incomes pay the highest rate more often than elsewhere in Canada. The only province with a lower threshold is Alberta, which has a single rate tax of 10% for all incomes above $13,339 annually.

High marginal tax rates are often defended on equity grounds, that the most affluent should pay the most.

Tax Figure 8: Canadian Provinces and US States—All-Government Revenue as a Percent of GDP in 2000



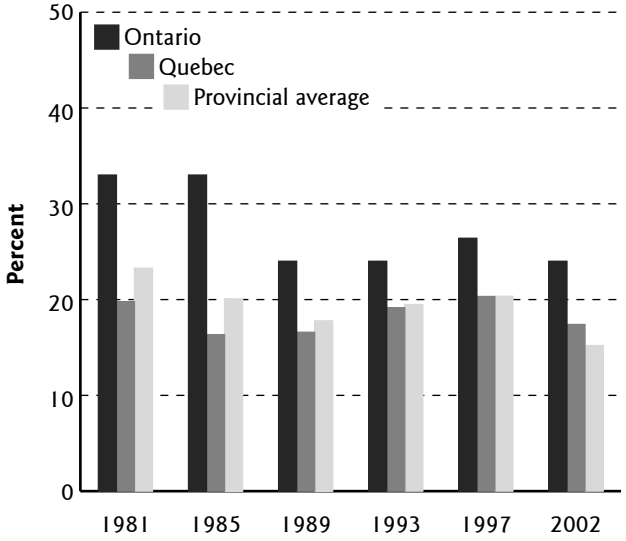
Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; US Bureau of Economic Analysis; US Census Bureau; calculations by the authors.

This principle is broadly accepted and would remain a feature of the tax structure even under various flat-tax plans, like the single rate tax now in existence in Alberta. Obviously a high-income family paying 10% of its income would contribute more to government than a low-income family paying 10 percent. The equity principle is further developed in flat-tax regimes since they typically have high exemptions, which relieve many poor individuals and families from any income tax.

While the principle of equity is important, taken to extremes, as is the case in Quebec, it leads to damaging economic consequences, which adversely affect rich and poor alike, with the worst effects visited on the poor, who suffer more than the rich—who merely become slightly less rich—because the poor are most adversely affected by the loss of jobs and opportunity that results from high taxes.

On one hand, high rates discourage investment and initiative. Individuals get to keep less of their own money and thus they are less likely to risk the money they have in new investment since government will take a high share of any gains. High marginal tax rates also create incentives for a society's best and brightest to move elsewhere. Both factors, migration and low investment, leave residents of Quebec more impoverished and both weaken job creation, harming the most vulnerable in society who most need the new jobs that individual initiative can create.

Tax Figure 9: Quebec, Ontario and Provincal Average—Top Marginal Personal Income Tax Rate, various years.



Sources: Canadian Tax Foundation, *Finances of the Nation*, various editions.

Nor do such tax rates merely affect the economy. They can have broad consequences for the society and culture. Even the most unlikely of people can become tax refugees. Famous Swedish director Ingar Bergman temporarily left Sweden because of its high tax rates. The Rolling Stones, the workingman's band, left England in 1969 because of the bruising British taxes before Mar-

Tax Table 1: Personal Income Tax Information (2002)

BC	AB	SK	MB	ON	QC	NB	NS	PEI	NF
Top Statutory Personal Income Tax Rate									
14.7	10.0	15.5	17.4	11.2	24.0	17.8	16.7	16.7	18.0
Number of Statutory Tax Brackets									
5	1	3	3	3	3	4	3	3	3
Threshold for Top Statutory Personal Income Tax Rate									
86,785	14,160	60,000	65,000	63,786	53,405	103,000	59,180	61,510	59,180
Top Statutory Personal Income Tax Rate Including Surtaxes									
14.7	10.0	15.5	17.4	17.4	24.0	17.8	18.3	18.4	19.6
Threshold for Top Statutory Personal Income Tax Rate Including Surtaxes									
86,785	14,160	60,000	65,000	67,685	53,405	103,000	81,045	61,510	60,175

Sources: 2002/03 Provincial Budgets; Ort Deborah L. and David Perry. Provincial Budget Roundup, 2002. Canadian Tax Foundation; Finances of the Nation 2002, Canadian Tax Foundation.

garet Thatcher became prime minister. They became tax refugees, a source of inspiration for the title of their album "Exile on Main Street." One wonders how many of Quebec's most talented people, who now live outside Quebec, would quietly move back to the provinces if taxes were reformed.

The damage from high marginal rates does not stop there. People also leave high tax jurisdictions because they suppress opportunity, a factor every bit as important as the money for ambitious, innovative people.

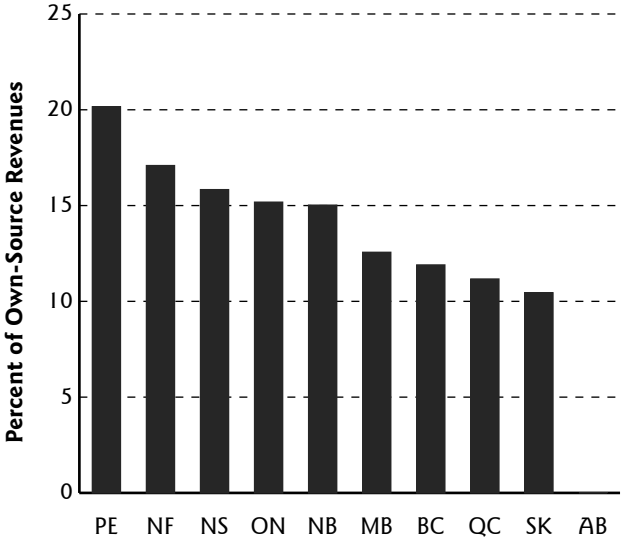
Consumption taxes

Quebec has a comparatively low sales tax. As Tax Table 2 and Tax Figure 10 show, Quebec is tied with British Columbia for the sixth lowest rate of sales tax in Canada and collects a similar percentage of revenue from the sales tax. Only the three Prairie Provinces have lower sales taxes. However, as will be discussed in the following section, sales taxes are among the least economically damaging of taxes. Quebec's relative under-use of the sales tax combined with its over-use of tremendously damaging taxes like the capital tax weaken the province's economic potential. However, this contains some good news as well. Merely by shifting the tax burden away from harmful taxes and towards the sales tax, Quebec could improve economic efficiency in a revenue neutral manner.

Business taxes

Uncompetitive business taxes can be truly damaging, suppressing opportunity across the economy. Who ultimately pays the taxes levied on business? There is a general perception that business taxes are borne by businesses themselves or by the wealthy. The reality is quite different. The burden of business taxes ultimately falls on individuals. The Carter Commission, one of Canada's most important inquiries into taxation, concluded that businesses ultimately do not bear the burden of taxation. Rather, they simply pass the taxes on to customers in the form of higher prices, to shareholders and owners in the form of lower returns, and to employees in the form of lower wages.

Tax Figure 10: Canadian Provinces—Sales Taxes as a Percent of Own-Source Revenues, 2001/2002



Sources: Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Ultimately, then, business taxes are borne by individuals, albeit indirectly. Tax Table 3 contains business income-tax rates for all of the provinces. It shows good news and bad news for Quebec. Quebec has by far the most punishing tax rates for small business, the highest tax rate of all provinces. It is tied for the lowest threshold—the income level at which the highest rate applies—with six provinces. In other words, Quebec applies the highest business income-tax rate in Canada on small business at the lowest level of income.

However, Quebec is among the most competitive of the provinces in both its general corporate rate and its manufacturers and processors (M&P) corporate rate

Tax Table 2: General Rate of Provincial Sales Tax (2002)

BC*	AB	SK	MB	ON	QC	NB	NS	PEI	NF
7.5	Nil	6.0	7.0	8.0	7.5	8.0	8.0	10.0	8.0

Source: Treff and Perry 2002.

Notes: Many provinces assess a separate sales tax (at a different rate) on accommodations and meals. BC*: The rate of sales tax in British Columbia was increased from 7.0% in the 2002 Provincial Budget.

(see Tax Table 3) A central priority for the government should be making Quebec equally competitive for small businesses, where native Quebec entrepreneurs will reap most of the benefits, as will other residents of Quebec who will see more vigorous job and wealth creation.

Moreover, Quebec's competitive position on corporate and M&P rates will be eroded unless the government acts to keep its advantage. Alberta currently has general and M&P rates of 13.0%. However, Alberta, like Ontario, has announced a plan to reduce both rates to 8.0% over several years.

Even worse for Quebec, any advantages the province gains from its relatively low rate of corporate income tax (CIT) are more than lost when the corporate capital tax (CCT), perhaps the most economically destructive tax a government can levy, is brought into the picture. Quebec is one of the heaviest users in Canada of this tax. Because of this tax, Quebec taxes away far more profits than other provinces, reducing the incentives for investors and businesses to put their money into Quebec (see Tax Figures 11 to 17).

Tax Figures 11 and 12 show that Quebec's CIT is quite competitive, at least within Canada. However, as Tax Figures 13 and 14 show, Quebec places the heaviest CCT burden on profits in Canada, substantially ahead of all provinces except Saskatchewan, which is a close second. As evident in Tax Figure 15, with the exception of Saskatchewan, Quebec's CCT/CIT ratio is by far the largest in Canada, indicating Quebec is too heavily relying on what is perhaps the most economically damaging tax in Canada, as we shall see. Tax Figures 16 and 17 show that once the CIT and CCT are added together, any advantages Quebec gains from a competitive CTT evaporate and are turned into disadvantages when the combined corporate tax burden is considered. Quebec's burden on profits is the heaviest in the nation, substantially heavier than all other provinces except Saskatchewan, which comes a close second.

Tax Table 3: Summary of Provincial Business Income Tax Rates (2002)

BC	AB	SK	MB	ON	QC	NB	NS	PEI	NF
Small Business Rate									
4.5	4.5[a]	6.0	5.0	6.0[b]	9.0	4.0	5.0	7.5	5.0
Small Business Threshold									
300,000	350,000[c]	300,000	300,000	280,000	200,000	300,000	200,000	200,000	200,000
General Corporate Rate									
13.5	13.0[d]	17.0	16.5[e]	12.5[f]	16.5	16.0	16.0	16.0	14.0
M&P Corporate Rate									
13.5	13.0[d]	17.0	16.5[e]	11.0[f]	9.0	16.0	16.0	7.5	5.0

Sources: Alberta Treasury 2000; Ontario Ministry of Finance (2002), Fiscal Plan 2002; Treff and Perry 2001; Finlayson 2001; Bird and McKenzie 2001; specific inquiries to provincial Ministries of Finance.

a Alberta's Small Business Income Tax Rate will ultimately be reduced to 3.00%

b Ontario's Small Business Income Tax Rate will be reduced to 4.00% by 2006.

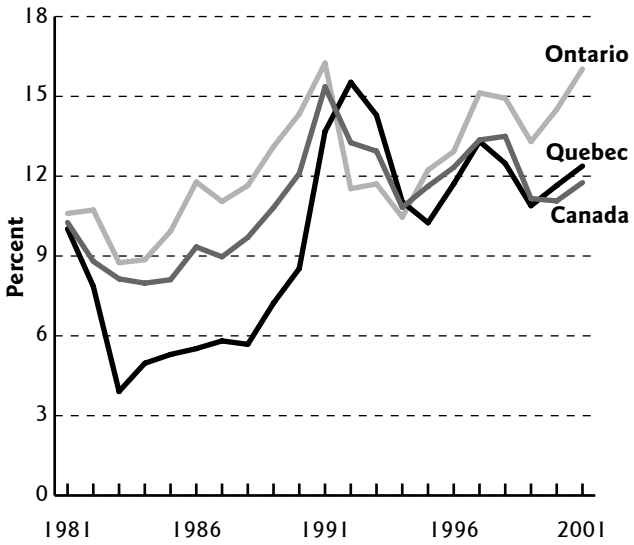
c Alberta's small business exemption will ultimately be raised to $400,000.

d Both of Alberta's corporate income tax rates are ultimately scheduled to be reduced to 8.0%.

e Manitoba's corporate income tax rates are scheduled to fall to 15% in 2005.

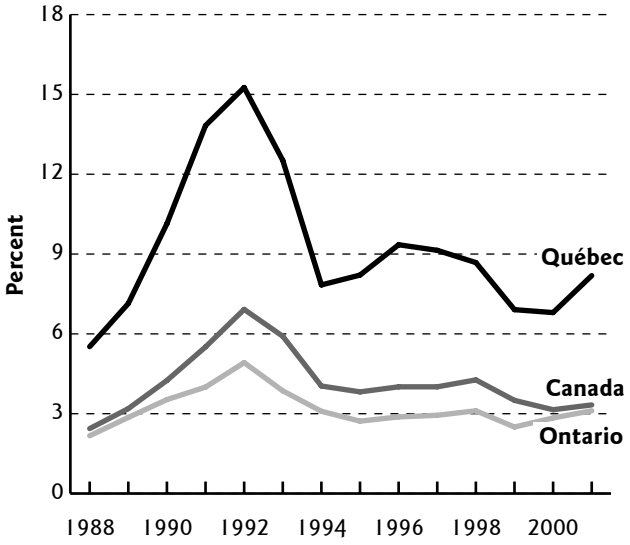
f Both of Ontario's corporate income tax rates are scheduled to be reduced to 8.0% by 2007.

Tax Figure 11: Quebec, Ontario, and Canada—Corporate Income Taxes as a Percentage of Profit, 1981–2001



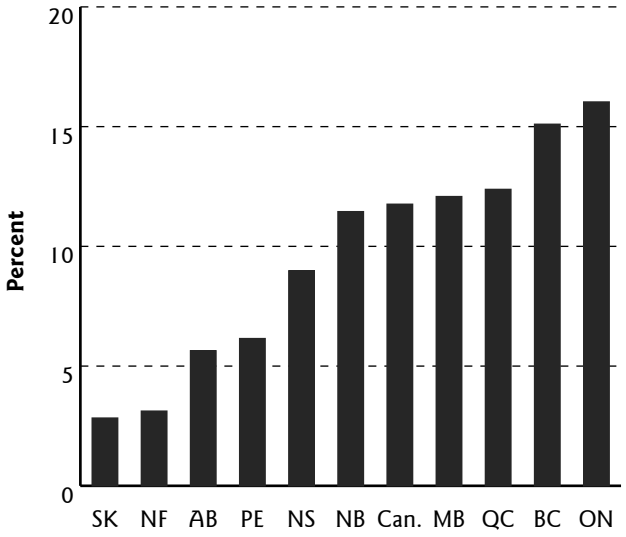
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 13: Quebec, Ontario, and Canada—Corporate Capital Taxes as a Percentage of Profit, 1988–2001



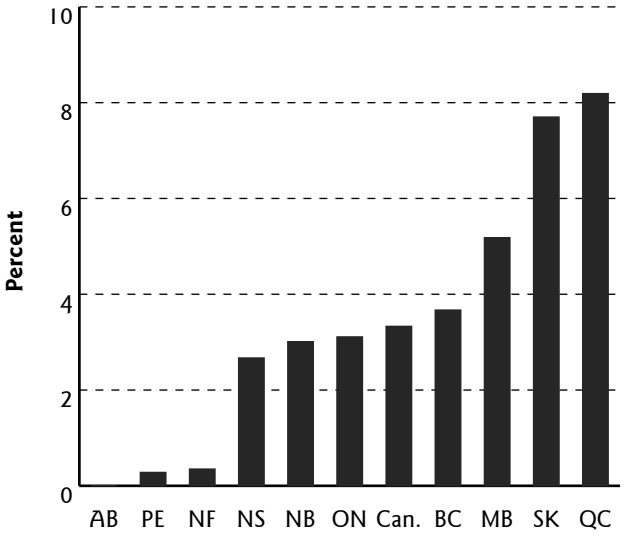
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 12: Canada and the Provinces—Corporate Income Taxes in 2001 as a Percentage of Profit



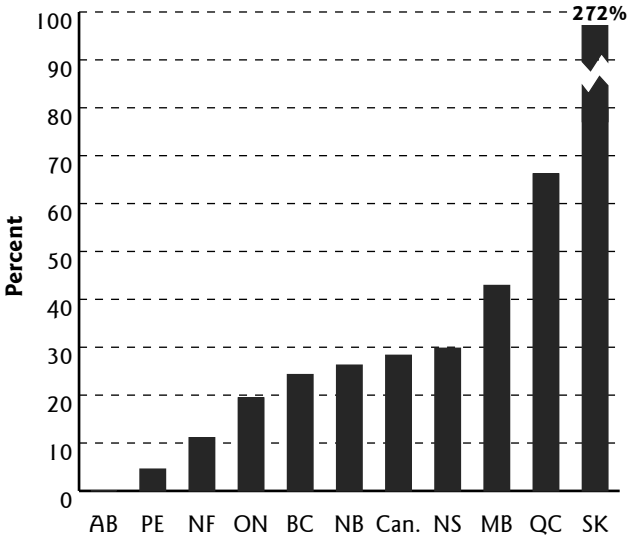
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 14: Canada and the Provinces—Corporate Capital Taxes in 2001 as a Percentage of Profit



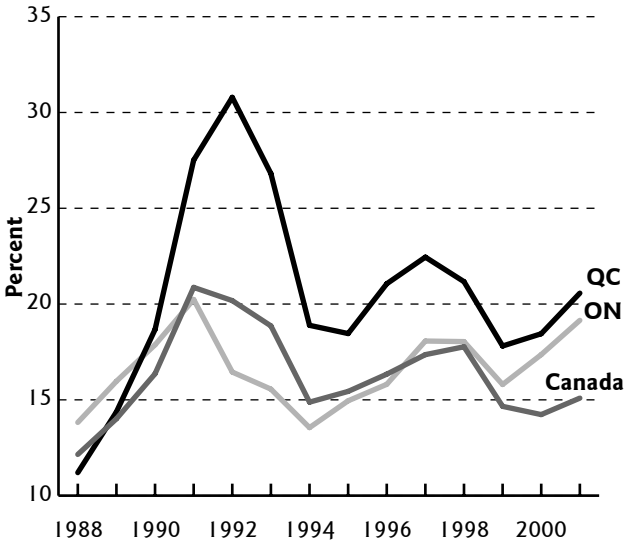
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 15: Canada and the Provinces—Corporate Capital Taxes in 2001 as a Percentage of Corporate Income Taxes



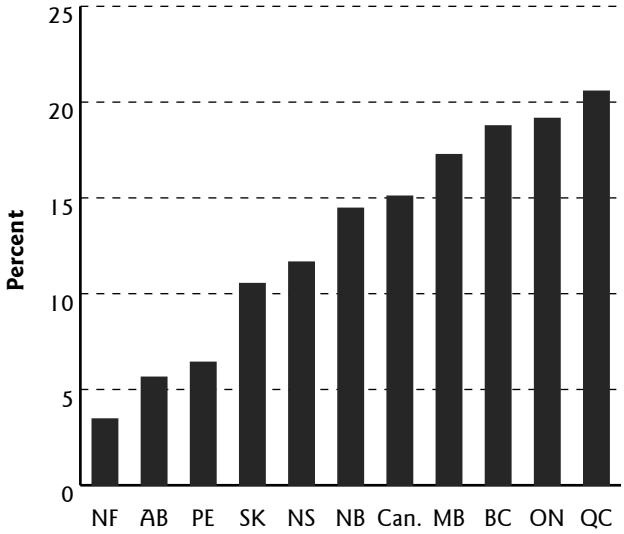
Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 16: Quebec, Ontario, and Canada—Corporate Income Taxes Plus Corporate Capital Taxes as a Percentage of Profit, 1988–2001



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Tax Figure 17: Canada and the Provinces—Corporate Income Taxes Plus Corporate Capital Taxes in 2001 as a Percentage of Profit



Sources: Statistics Canada, Provincial Economic Accounts; calculations by the authors.

Corporate Capital Tax—a particularly damaging tax

The corporate capital tax is one of the most damaging taxes in Canada. The corporate capital tax fails nearly every objective test of tax effectiveness. It is highly distortionary and on that count alone fails the test of efficiency (Clemens et al. 2002). It punishes a number of sectors that, by their very nature, make intensive use of capital, further reducing the efficiency and fairness of the tax. The design of the tax in Canada means that it unduly punishes financial institutions, again failing the test of fairness. In addition, the corporate capital tax is levied on firms regardless of profitability (it is insensitive to profit). Thus, it can make already vulnerable companies more so. Finally, it is expensive for government to administer the corporate capital tax and for business to comply with it. By any account, the corporate capital tax is a highly distortionary, inefficient, overly complex tax that significantly impedes economic growth and prosperity (Clemens et al. 2002).

In addition to its absolute shortcomings, the corporate capital tax is also relatively rare in the industrialized world. Only two other OECD countries, Japan and Germany, employ such a tax and they do so to a much

lesser extent. Canada is, therefore, unique in its use of capital taxes (Clemens et al. 2002). Moreover, a recent study (Clemens 2002) evaluated corporate capital taxes in Canada and found that Quebec rated as the second highest user of corporate taxes in Canada as a percent of own-source revenue, as a percent of GDP, and as a percent of CIT revenues. Perhaps even more damaging economically, the study found that Quebec collected a higher proportion of profits through the CCT than any other province. This, of course, means that Quebec taxes away a highest proportion of profits in the world through a corporate capital tax.

Marginal effective tax rates (METR) for business

After examining rates of the corporate income tax and the corporate capital tax on a provincial basis, it is useful to look at what are called Marginal Effective Tax Rates (METR) on capital as well as Effective Corporate Tax Rates. Both estimates allow us to account for differing tax bases, the presence of tax credits, and other characteristics of provincial tax systems that are not readily apparent in a simple comparison of statutory tax rates (Chen 2000).

The METR facilitates the calculation of the total tax impact on a company operating in a given province since it allows us to measure, in a comprehensive manner, the true marginal taxes facing businesses in a particular jurisdiction. The calculation of METRs is an onerous and complex process and we are thankful that the task has already been completed by Richard M. Bird and Kenneth J. McKenzie. Their Marginal Effective Tax Rates on Capital are depicted in Tax Table 4.

Quebec did relatively well according to this study (Bird and McKenzie 2001), as it maintained the fourth lowest METR (marginal effective tax rate) for manufacturing and the third lowest for the services sector. In both cases, its METRs lower than Ontario's. The 2000 estimates did not include the intentions of various governments, including Ontario, to reduce their corporate income-tax rates. Tax Table 4 also provides estimates of the METRs with reductions as far as they were known in 2001. These projections show that Ontario is moving towards a more competitive METR than Quebec.

A recent paper by Duanjie Chen and Jack M. Mintz provide more up-to-date estimates of effective corporate tax rates on capital for 2006 (Tax Table 5). Provincial estimates are given only for British Columbia, Alberta, Ontario, and Quebec. Here again, however, Quebec does better than Ontario and the Canadian average but maintains higher METRs on average than Alberta.

The cost of taxes

Taxes create economic distortions by altering incentives and changing the relative prices of certain activities, goods, and services (Aaron and Pechman 1981). Ideally, one of the central requirements of a tax system is that it achieves efficiency, that is, that it raises revenues in the least distortionary manner and thus maximizes economic growth.

It is clear that different types of taxes have different types of costs or economic distortions.[2] Thus, different types of taxes will have different effects on economic growth. One of the critical issues in tax policy is the mix of taxes particular jurisdictions use to raise the revenue they require. The list of taxes that government can use to raise revenue seems endless: income (both personal and business), payroll, property, sales, licenses, fees, capital, and so on. A key aspect of tax policy is selecting the appropriate mix of taxes in order to satisfy the traditional evaluative criteria for taxes: efficiency, simplicity, and equity.

A number of studies have attempted to document these costs. These studies have commonly looked at the marginal efficiency cost (MEC) of taxes in order to answer this question: What is the additional cost to the economy of raising an additional dollar of revenue from a particular tax? A common finding of studies of the MEC of taxation is that business taxes are much less efficient than those based upon labour income or consumption. There are two core studies referred to when discussing MECs in Canada. The first gives the MECs calculated by the Federal Ministry of Finance (1997) for select Canadian taxes (Tax Table 6). The second set of estimates is drawn from a study by Dale Jorgensen and Kun-Young Yun (1991; Tax Table 7). These values are among the most widely cited measures of the marginal efficiency costs of taxation.

The study by Jorgensen and Yun (1991) calculated the marginal efficiency cost of the following taxes: consumption taxes ($0.26), labour taxes ($0.38), capital income

Tax Table 4: Marginal Effective Tax Rates On Capital[a] (2000)

BC	AB[b]	SK	MB	ON[c]	QC	NB	NS	PEI	NF
Manufacturing (2000)									
27.9	21.6	26.8	30.0	25.6	24.2	26.0	24.9	19.9	15.5
Manufacturing (Intentions)									
27.9	17.3	26.8	30.0	23.1	24.2	26.0	24.9	19.9	15.5
Services (2000)									
35.9	30.6	38.3	37.7	33.8	31.1	34.1	32.9	33.4	29.4
Services (Intentions)									
31.1	19.8	33.7	33.0	25.8	26.8	28.9	27.8	28.2	24.0

Notes: (a) Combined federal/provincial Marginal Effective Tax Rates; (b) Alberta's METRs are expected to drop to 17.3% for manufacturers and 19.8% for service firms by 2006 based on announcements; (c) Ontario's METRs are expected to drop to 23.1% for manufacturers and 25.8% for service firms by 2006 based on announcements.
Source: Bird and McKenzie 2001.

Tax Table 5: Estimated Effective Tax Rates on Capital for 2006 by Sector

	British Columbia	Alberta	Ontario	Quebec
Forestry	28.1	18.7	29.3	18.7
Manufacturing	15.3	12.5	17.8	16.2
Construction	24.6	19.8	25.2	22.1
Transport	19.7	12.6	22.5	16.5
Communications	17.2	13.6	19.4	17.1
Electrical Power	15.7	13.6	17.6	16.7
Wholesale Trade	25.1	18.5	26.1	20.9
Retail Trade	25.1	16.6	26.7	19.5
Other Services	26.1	27.4	27.1	22.0
Structures	17.2	16.1	18.5	18.9
Machinery	28.8	12.9	31.7	17.3
Inventory	35.5	33.6	34.3	35.0
Land	18.0	16.9	18.5	18.9
Aggregate	**22.2**	**16.3**	**23.7**	**19.2**

Note: Effective tax rates include corporate income tax rates, capital tax rates, and sale taxes on business inputs.
Source: Chen and Mintz 2003.

Tax Table 6: Estimates of Marginal Efficiency Cost (MEC) for Select Canadian Taxes

	MEC ($CDN)
Corporate Income Tax	$1.55
Personal Income Tax	$0.56
Payroll Tax	$0.27
Sales Tax	$0.17

Source: Organisation for Economic Cooperation and Development, *OECD Economic Surveys, 1996–1997.*

Tax Table 7: Estimates of Marginal Efficiency Cost (MEC) for Various Taxes in the United States

	MEC ($US)
Capital Income Taxes (Individual & Corporate)	$0.924
Corporate Income Tax	$0.838
Individual Income Tax	$0.598
Labour Income Tax	$0.482
Sales Tax	$0.256
Property Taxes	$0.174

Source: Jorgenson and Yun 1991.

taxes at the business level ($0.45), and capital income taxes at the individual level ($1.02). Thus, it costs the economy $0.26 to raise an additional dollar of revenue using consumption taxes and, at the other end of the spectrum, $1.02 to raise an additional dollar of tax revenue using capital taxes assessed on the individual. In order to achieve the principle of efficiency, one of the three tenets of tax policy, consumption taxes, which minimize the degree of economic distortion in the economy, should be employed to the greatest extent possible.

Both sets of MEC estimates show that considerable efficiency gains could be achieved by reconfiguring the tax mix to move away from income and capital bases and towards consumption bases. In fact, using Tax Table 6, a shift from the corporate income-tax base to a consumption (sales) tax base could yield a real economic gain of $1.38 per dollar of revenue raised. The efficiency gain associated with the movement toward tax mixes with lower MEC has encouraging implications for fiscal policy in Quebec and, indeed, for all Canadian jurisdictions. A revenue-neutral shift toward more efficient taxes will allow government to maintain its spending levels while spurring additional growth in the economy.

Conclusion

Quebec puts by far the heaviest tax burden on its citizens of any province or state. As the review of the literature on the economic effects of taxation and on the optimal size of government show, this type of heavy taxation reduces economic growth and provides a large part of the explanation for Quebec's weak economic performance. As well, Quebec relies too heavily on the most destructive taxes and too little on the least disruptive taxes. Gains could be made just by developing a more rational mix of taxes.

Notes

1 FMS provides data for provincial/local spending and federal spending at the national level. FMS does not break down federal spending by province. Thus, Tax Figures 4 and 5 are constructed using both PEA and FMS data. FMS data are used for provincial/local spending. FMS data are also used for overall federal spending, which is then apportioned to each province based on ratios developed by PEA data on how federal revenues are split between the provinces.

2 For information on the efficiencies and costs of different taxes, see Diamond and Mirless 1971a, 1971b; Jorgenson and Yun 1991; Kesselman 1986a, 1986b, 1997, 1999; and OECD 1997.

International Comparisons

Economic freedom and prosperity

This section looks at Quebec's economic performance and policies from an international perspective. The first point of comparison employs a recent study of economic freedom in North America.[1] Quebec fares dismally in the economic freedom scores for North America. It and Prince Edward Island are at the bottom of the scores for all Canadian provinces and US states published in *Economic Freedom of North America* (Karabegović, McMahon, and Samida 2002), which uses nine variables to measure the restrictions government place on economic freedom through taxation, spending, and labour market distortions. Economic freedom around the world has been found to be a key indicator of economic growth (Gwartney, Lawson, and Block 1996; Gwartney and Lawson 1997, 1998, 2000, 2001, 2002, 2003) and this is also true in the North American context. Econometric testing of the relationship between economic freedom and prosperity and growth was found to be stable and robust.

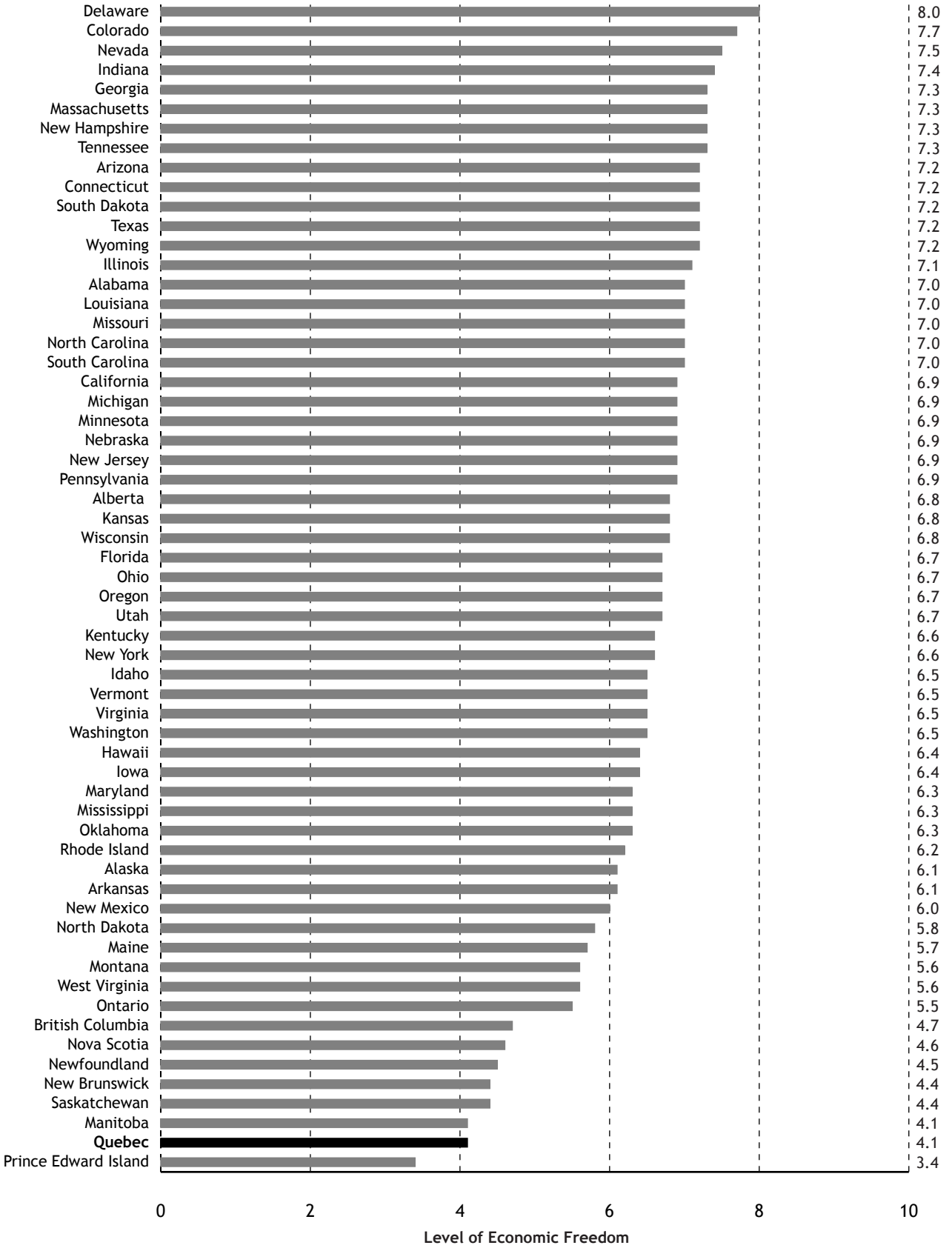
In *Economic Freedom of North America*, economic freedom was scored on a 10-point scale and examined at both the sub-national level and the all-government level. Econometric testing showed that a one-point improvement in economic freedom at the all-government level would increase per-capita GDP by about $3,800. At the sub-national level, a one-point improvement would increase per-capita GDP by about $2,800. The difference between the all-government and sub-national testing is expected since all-government is the broader measure, picking up all the restrictions government places on economic freedom.

These results are troubling for Quebec (see International Figures 1 and 2). In every year examined in *Economic Freedom of North America*, Quebec scored dead last of the 60 jurisdictions on the sub-national level. It has also been on the bottom rungs of the all-government index for all periods and, since 1995, has been second or third last. The problem Quebec faces can be seen by examining International Tables 1 and 2, which compare Quebec's performance with the Canadian and US averages.

As can be seen, on the all-government level, Quebec is 0.6 points behind the Canadian average, 1.4 points behind Ontario, and 2.7 points behind Alberta and the US average. The econometric testing in the *Economic Freedom of North America* suggests Quebec could increase its GDP by over $5,300 per person just by increasing its economic freedom to Ontario's level, which would come close to eliminating the economic gap between Ontario and Quebec. By moving to Alberta's level of economic freedom, Quebec could increase per-capita GDP by over $10,000. Quebec has nearly identical gaps in economic freedom at the sub-national level. However, the gains from closing the freedom gap at the sub-national level would be somewhat less than at the all-government level since, as noted above, the sub-national level does not capture the full range of government restrictions on economic freedom. So, for example, closing the 1.6-point gap with Ontario in economic freedom would increase Quebec's per-capita GDP by about $4,400 while closing the gap with Alberta would increase Quebec's per-capita GDP by almost $7,500.

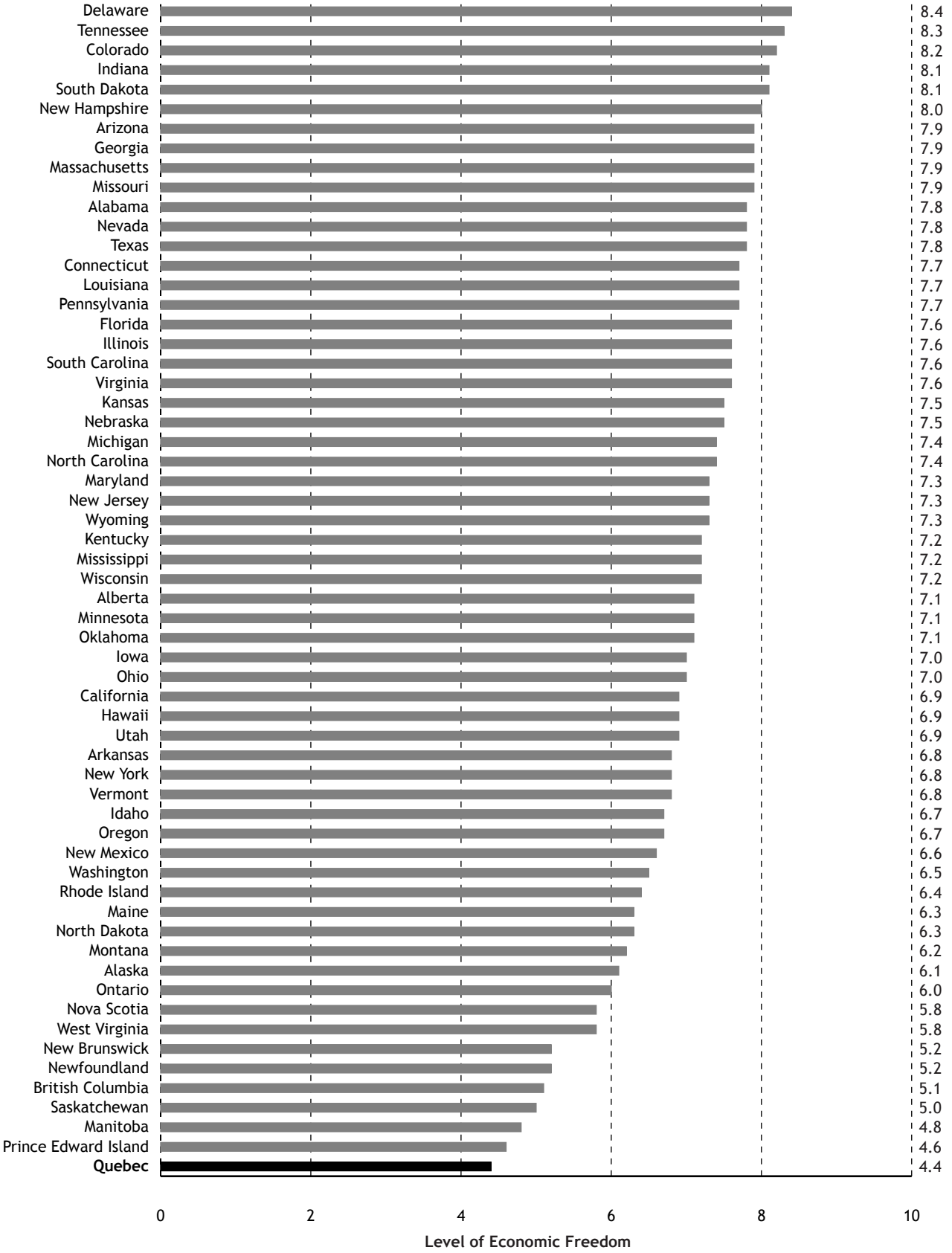
Economic freedom has also been shown to create large increases in prosperity in international testing.[2] The mechanics of economic freedom are easy to understand. Any transaction freely entered into must benefit both parties. Any transaction that does not benefit both parties would be rejected by the party that would come up short. This has consequences throughout the economy. Consumers who are free to choose will only be attracted by superior quality and price. A producer must constantly improve its price and quality to meet the demands of its customers, or customers will not freely enter into transactions with the producer. Many billions of mutually beneficial transactions occur every day, powering the dynamic that our well being.

International Figure 1: Summary of 2000 Ratings, *Economic Freedom of North America*—All-Government Index



Source: Karabegović et al. 2002: 7.

International Figure 2: Summary of 2000 Ratings, *Economic Freedom of North America*—Subnational Index



Source: Karabegović et al. 2002: 8.

Restrictions on freedom prevent people from making mutually beneficial transactions, which are replaced by government action. This is marked by coercion in collecting taxes and lack of choice in accepting services. Instead of gains for both parties arising from each transaction, citizens must pay whatever bill is demanded in taxes and accept whatever service is offered in return. Moreover, while the incentives of producers in a free market revolve around providing superior goods and services in order to attract consumers, the public sector faces no such incentives. Instead, as public-choice theory reveals, the incentives in the public sector often focus on rewarding interest groups, seeking political advantage, or even penalizing unpopular groups. This is far different from mutually beneficial exchange although, as noted earlier, government does have essential protective and productive functions.

Convergence

Quebec, rather than catching up with Ontario and the Canadian average, remains stuck behind economically. As noted, economic theory suggests lagging regions should catch up with more advanced ones for a number of reasons, and empirical research supports this. Across Europe, Japan, and the United States, lagging regions have been closing the gap with advanced regions by 2% to 3% a year.[3]

For illustrative purposes, International Figure 3 measures Quebec's per-capita GDP against that of Ontario. At the beginning of the period, in 1981, Quebec's per-capita GDP was 81.7% of Ontario's. By the end of the period, Quebec's per-capita GDP had actually fallen in comparison to Ontario's, to 81.1%. As the figure shows, if Quebec had matched average rates of convergence

International Table 1: Average Economic Freedom Scores at an All-Government Level

	1981	1985	1989	1993	1994	1995	1996	1997	1998	1999	2000
Canada	4.0	4.1	4.4	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.7
United States	6.3	6.5	7	6.7	6.6	6.6	6.7	6.7	6.7	6.7	6.8
Quebec	3.4	3.6	4.1	3.3	3.5	3.5	3.6	3.7	3.8	3.9	4.1
Ontario	5.4	5.5	5.6	4.6	4.6	4.8	4.9	5	5.2	5.3	5.5
Alberta	6.0	5.9	5.8	5.7	6.1	6.2	6.4	6.6	6.4	6.6	6.8
Difference											
US – Quebec	2.9	2.9	2.9	3.4	3.1	3.1	3.1	3	2.9	2.8	2.7
Canada – Quebec	0.6	0.5	0.3	0.5	0.4	0.6	0.6	0.6	0.6	0.6	0.6
Ontario – Quebec	2.0	1.9	1.5	1.3	1.1	1.3	1.3	1.3	1.4	1.4	1.4
Alberta – Quebec	2.6	2.3	1.7	2.4	2.6	2.7	2.8	2.9	2.6	2.7	2.7

Source: Karabegović et al.: 43, Appendix Table 3: Overall Scores on All-Government Index.

International Table 2: Average Economic Freedom Scores at a Subnational Level

	1981	1985	1989	1993	1994	1995	1996	1997	1998	1999	2000
Canada	4.8	4.7	4.8	4.1	4.4	4.5	4.7	4.9	5.1	5.3	5.3
United States	7.1	7.1	7.2	6.8	7.0	6.9	7	7.1	7.2	7.3	7.3
Quebec	3.4	3.4	4.1	2.9	3.3	3.2	3.6	3.8	4.1	4.3	4.4
Ontario	6.2	6.1	5.9	4.5	4.8	4.8	5.2	5.5	5.7	6.0	6.0
Alberta	6.5	6.0	5.8	5.7	6.3	6.5	6.8	7.0	7.0	7.1	7.1
Difference between:											
US – Quebec	3.7	3.7	3.1	3.9	3.7	3.7	3.4	3.3	3.1	3.0	2.9
Canada – Quebec	1.4	1.3	0.7	1.2	1.1	1.3	1.1	1.1	1.0	1.0	0.9
Ontario – Quebec	2.8	2.7	1.8	1.6	1.5	1.6	1.6	1.7	1.6	1.7	1.6
Alberta – Quebec	3.1	2.6	1.7	2.8	3	3.3	3.2	3.2	2.9	2.8	2.7

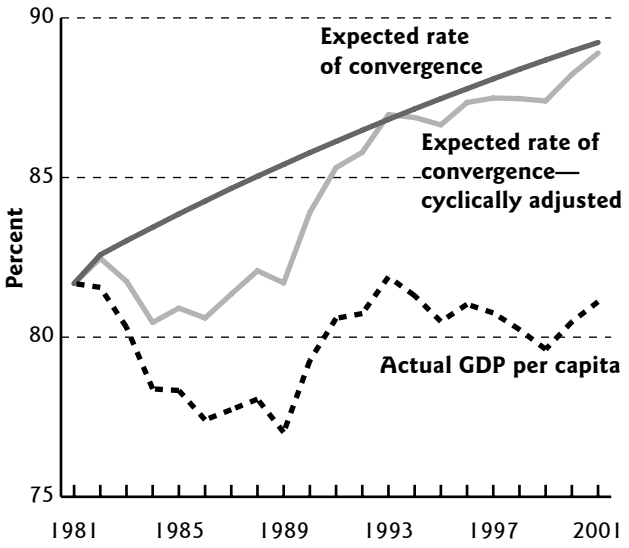
Source: Karabegović et al.: 44, Appendix Table 4: Overall Scores on Subnational Index.

throughout the developed world, closing the gap with Ontario by, say, 2.5% a year, Quebec's per-capita GDP would have reached almost 90% of Ontario's per-capita GDP by 2001. More tellingly, that translates into an increased annual output of $3200 per capita or about $6,800 per employed person in Quebec. Looking at the economy as a whole rather than on a per-capita basis, merely normal rates of convergence would imply an increase in the Quebec economy of $24 billion at today's population and prices.

Advancing prosperity

Economic research and theory is unambiguous about the negative impact of high taxes and inflexible labour markets on growth, prosperity, and employment. *Economic Freedom of North America* (Karabegović, McMahon, and Samida 2002) and the analysis in this paper show how poorly Quebec does on such policy factors. This points to a policy regime in Quebec that has frustrated the job creation and economic growth required for convergence. As noted, the literature on convergence indicates that Quebec, because it is behind Ontario, would grow faster than Ontario if its policy structure were merely equivalent to that of Ontario. However, lagging regions—or any jurisdiction, for that matter—can spurt ahead of its competitors if it adopts superior policies that have been shown to promote growth and job creation.

International Figure 3: Quebec's Convergence with Ontario



Sources: Statistics Canada, Provincial Economic Accounts; Statistics Canada, Public Institutions Division, Financial Management System; calculations by the authors.

Until 1987, the Irish economy resembled that of Quebec: spending was very high and militant labour unions made full use of their power to force on employers the highest wage rates they could, regardless of whether the employer—be it government or private sector—could afford it. Squeezed between high taxes and union militancy, profits had virtually disappeared from the economy, depriving the private sector of the means and the incentive to invest.

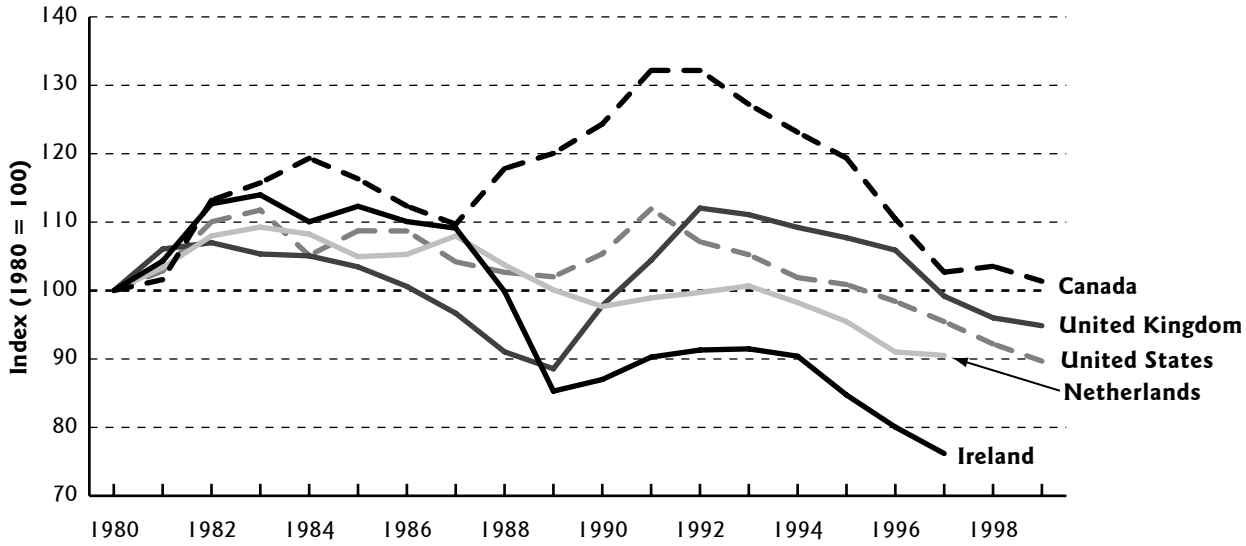
In 1987, unemployment was much higher in Ireland than in Quebec. In fact, Ireland's unemployment rate at 17% was at Newfoundland's levels. Ireland was losing out demographically just as Quebec is today, with thousands of young Irish emigrating to opportunities in Britain or the United States.

Then came the most radical shift of economic policy that any advanced economy has made in peacetime. Government spending and taxes were slashed, far more than in Margaret Thatcher's Britain or Ronald Reagan's United States (see International Figures 4 and 5).[4] In fact, Ireland is in a class all by itself in the speed and magnitude of its cuts in government spending and taxation. Astonishing economic growth followed these reforms (see International Figures 6 and 7).

Labour unions not only supported the 1987 reforms, they declared themselves dedicated to the idea of "wage moderation" in order to promote profits. In fact, the unions tied their support of reform and wage moderation to significant tax cuts, so union members could take home more of their own money: "There are whole areas of this city [Dublin] where there is no culture of employment … Taxes are a disincentive to work. We need incentives to work." said Manus O'Riordan, head of research for Ireland's largest union association, the Services Industrial Professional Union.[5] The unions also wanted to encourage work over social payments, like welfare and the Irish version of employment insurance.

When asked how unions had the courage to break away from labour orthodoxy and embrace policies that, though opposed by most unions, have a proven record

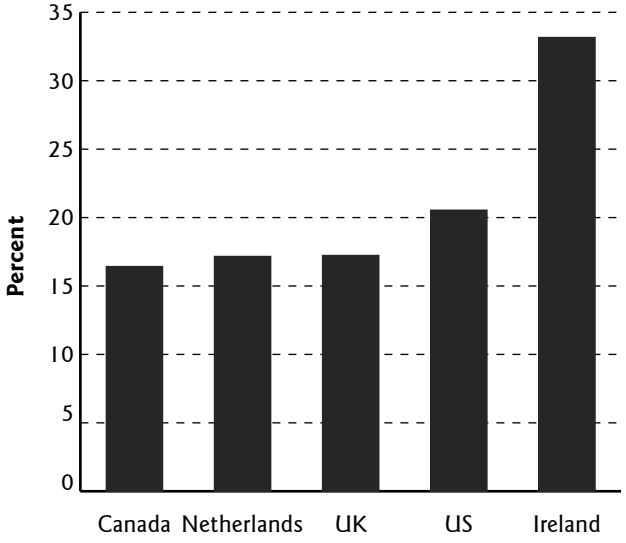
International Figure 4: Government Expenditure as a Percent of GDP (indexed 1980 = 100)



Sources: *World Development Indicators,* 2001; calculations by the authors.

Note: International data on spending available only for the central government. In Canada and the United States, provinces and states are responsible for a large portion of overall spending.

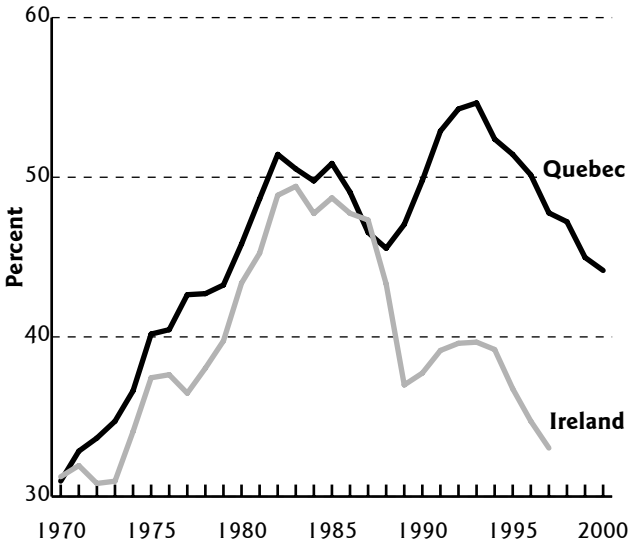
International Figure 5: Canada, Ireland, Netherlands, United Kingdon and United States: Reduction in Central Government Expenditure as a Percentage of GDP



Sources: *World Development Indicators* 2001; calculations by the authors.

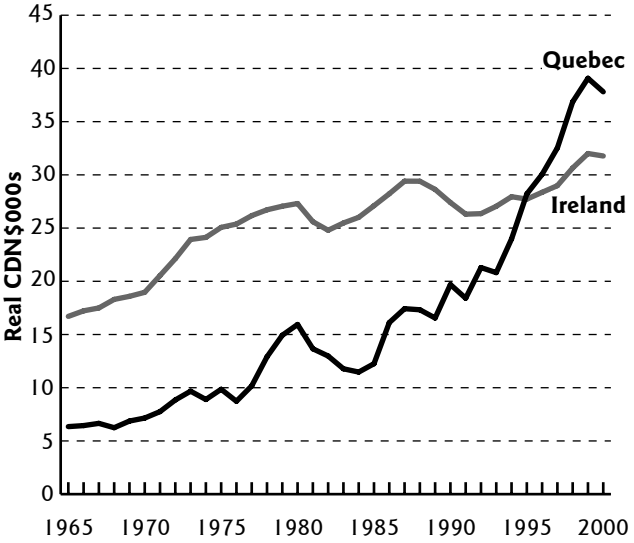
Note: The expenditure reduction for the United Kingdom covers the period from 1982 to 1989 under Margaret Thatcher. As International Figure 4 shows, the Thatcher cuts were followed by an escalation in spending and then another round of cuts.

International Figure 6: Quebec and Ireland—Government Expenditure as a Percent of GDP



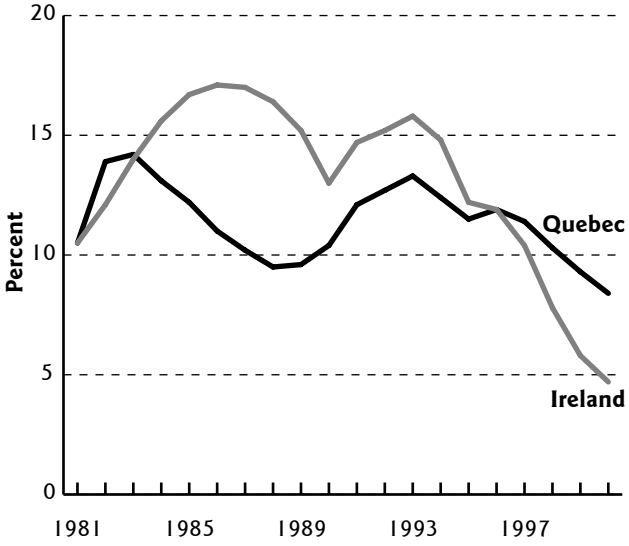
Sources: Statistics Canada, Provincial Economic Accounts; World Bank, *World Development Indicators, 2001*; calculations by the authors.

International Figure 7: Quebec and Ireland—Per-Capita GDP in Real Canadian Dollars, 1965–2000



Sources: Statistics Canada, Provincial Economic Accounts; World Bank, *World Development Indicators, 2001*; calculations by the authors.

International Figure 8: Quebec and Ireland—Unemployment Rate, 1981–2000



Sources: Statistics Canada, Provincial Economic Accounts; World Bank, *World Development Indicators, 2001*; calculations by the authors.

of creating employment and prosperity, O'Riordan responded, "We had declining economic growth and declining employment. Wages were up, but inflation and taxes were up more. Living standards were declining. We knew we had to do something."

And that something worked. The Irish economy was transformed virtually overnight. Members of the Irish Diaspora started flocking back to Ireland. The unemployment rate also fell, though at first less dramatically than the economy grew (see International Figure 8). This is to be expected. As an economy reforms, many jobs are created but outmoded jobs are also shed. Usually new job growth is faster, lowering unemployment, though slowly and with ups and downs. However, once reforms have worked their way through the economy and the backlog of outmoded jobs has been eliminated, then the speed of the decline in unemployment picks up.

International Figure 8 also punctures the old myth that cut-backs in government spending will increase unemployment. In both Ireland and Quebec, International Figure 8 shows falling unemployment at the same time that government spending is being reduced, as shown in International Figure 6. Interestingly, unemployment also fell in Ontario and Alberta as those provinces reduced government spending. Such reductions also limit the crowding-out effect, discussed earlier, and leave more resources in the private sector to invest and create jobs. Of course, falling unemployment will reduce government spending but both Ireland, in the late 1980s, and Quebec, in the 1990s, made policy decisions to control government spending. Spending fell because of these decisions, not primarily because of reduced unemployment.

Cuts in government spending can lead to another type of virtuous cycle. When government cuts public spending and leaves more resources for the private sector to invest and create jobs, unemployment falls. That, in turn, means more tax revenues and lower expenditures. The extra money can be returned to taxpayers in the form of further tax reductions, leading into the virtuous cycle.

Notes

1 The first international comparison comes from *Economic Freedom of North America* (Karabegović, McMahon, and Samida 2002). This work has evolved

out of The Fraser Institute's work on the annual *Economic Freedom of the World* reports, which is one of the world's premier intellectual products. The first report, released in 1996, was the result of a decade's work by over 100 leading scholars, including several Nobel Laureates.

2 See, for example, Easton and Walker 1997.

3 See Barro and Sala-i-Martin 1995 for a discussion of convergence and empirical results.

4 See International Figures 1a and 1b, and note these include only central government expenditures and that the expenditure reduction for the United Kingdom reflects cuts from 1982–1989 under Margaret Thatcher. As International Figure 2 shows, Margaret Thatcher's cuts were followed by an escalation in spending and then another round of cuts.

5 June 1998, personal conversation with Fred McMahon.

Recommendations

Quebec can undergo the same transformation and experience the same virtuous circle as Ireland. Just as Ireland raced past the once much richer United Kingdom, Quebec can race past Ontario and, in time if the changes are as deep as in Ireland, much of the United States. The path to follow is straightforward and well trod, with great gains universally found as jurisdictions push forward with reform.

Quebec Prosperity: Taking the Nex Step has reviewed Quebec's economic policy structure and its impact on economic performance using empirical, peer-reviewed research on the relationship between various policy choices, on the one hand, and prosperity and job creation, on the other. This study indicates that the decision by the government of Quebec to impose the heaviest tax burden in Canada or the United States on the citizens of Quebec has suppressed economic growth and job creation, problems further exacerbated by high levels of government spending and a relatively inflexible labour market.

The recommendations below should be considered a starting point for Quebec on a road to reform that would bring greater prosperity and job creation to the people of Quebec. They are not meant to provide a detailed description of reform but rather point the direction reform must take to create better lives for the people of Quebec.

1. Quebec must dramatically reduce the burden of government on its people. The immediate goal should be to bring spending and taxes down to the Canadian average level and, then, to move below Ontario's level, and, ultimately, down to even more competitive and growth-spurring levels. This will create a dynamic economy, likely without reducing overall government revenues. As discussed earlier, typically new economic growth more than compensates for the lower rates by adding more tax revenue to government coffers that a reduced rated subtracts.

2. Quebec should reform its tax code to make greater use of efficient taxes like consumption taxes and less use of economically damaging taxes. The Irish miracle involved not just a decrease in the tax burden but also a reform of the tax structure, in particular reduced corporate tax rates. Quebec should eliminate its capital tax and dramatically lower its corporate tax. Ideally, Quebec would eliminate both the corporate income tax and the capital tax, and shift the burden to consumption taxes. This would attract attention from around the world and lead to large increases in investment.

3. Quebec's labour market must be reformed (see Karabegović, Clemens and Veldhuis 2003). Unions in Quebec may be willing to develop a "wage moderation" strategy as have unions in Ireland and the Netherlands but, typically, these arrangements are unstable over the long term. For instance, cooperation between unions and business in the Netherlands has collapsed several times since the end of World War II, leading to serious economic downturns and rising unemployment as militant unions destroyed jobs and the incentive to invest. More appropriately, Quebec should re-examine its labour laws to redress the imbalance in Quebec between the power of unions and that of employers. Finally, Quebec should demand changes to the federal Employment Insurance program to end disincentives to work, to further educational achievement, and to move into advanced year-round industries.

Quebec can achieve the bright future its people deserve and that other jurisdictions have found. But, it will take political willpower.

References

Aaron, Henry, and Joseph Pechman, eds. (1981). *How Taxes Affect Economic Behaviour.* Washington, DC: Brookings Institute.

Addison, John T., and John B. Chilton (1993). Can We Identify Union Productivity Effects? *Industrial Relations* 32 (Winter): 124–32

Addison, John T., and John B. Chilton (1996). Self-Enforcing Union Contracts: Efficient Investment and Employment. Unpublished paper. Department of Economics, University of South Carolina.

Addison, John T., and Barry T. Hirsch (1989). Union Effects on Productivity, Profits, and Growth: Has the Long Run Arrived? *Journal of Labor Economics* 7 (January): 72–105.

Aidt, Toke, and Zafiris Tzannatos (2002). *Unions and Collective Bargaining: Economic Effects in a Global Environment*. Washington, DC: The World Bank

Aiyagari, Rao (1989). How Should Taxes Be Set? *Quarterly Review* (Winter): 22–32. Minneapolis, MN: Federal Reserve Bank of Minneapolis.

Alberta Treasury (2000). *Alberta Business Tax Review: Report and Recommendations.* Edmonton, AB: Government of Alberta, Ministry of Finance. Digital document available at www.treas.gov.ab.ca.

Alberta Treasury (2001). *Corporate Tax Overview.* Edmonton, AB: Government of Alberta, Ministry of Finance. Digital document available at www.finance.gov.ab.ca/publications/tax_rebates/corporate/overview.html.

Alesina, Alberto, and Robert Perotti (1995). Fiscal Expansions and Adjustments in OECD Countries. *Economic Policy* (October). Also published as NBER Working Paper No. 5214 (August), Cambridge, MA: National Bureau of Economic Research.

Alesina, Alberto, Silvia Ardagna, Roberto Perotti, and Fabio Schiantarelli (2002). Fiscal Policy, Profits, and Investment. *American Economic Review* 92, 3 (June): 571–89.

Arman, Faisal, Dexter Samida, and Michael A. Walker (1998). *Provincial Economic Freedom in Canada, 1981–1998.* Critical Issues Bulletin. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Baker, Terry (1997). *The Roots of Irish Growth*. Dublin: Economic and Social Research Institute.

Baldwin, Carliss Y. (1983). Productivity and Labor Unions: An Application of the Theory of Self-Enforcing Contracts. *Journal of Business* 56 (April): 155–85.

Ballard, Charles L., et al. (1988). The Marginal Efficiency Cost of Redistribution. *American Economic Review* 78, 5: 1019–33.

Ballard, Charles L., et al. (1990). Marginal Welfare Cost Calculations. *Journal of Public Economics* 41: 263–76.

Barro, Robert (1990). Government Spending in Simple Model of Endogenous Growth. *Journal of Political Economy* 98, 5: S103–S125.

Barro, Robert J. (1979). On the Determination of the Public Debt. *Journal of Political Economy* 87: 940–71.

Barro, Robert J. (1990). The Neoclassical Approach to Fiscal Policy. In Robert J. Barro, *Modern Business Cycle Theory* (Oxford: Basil Blackwell).

Barro, Robert J. (1991). Economic Growth in a Cross Section of Countries. *Quarterly Journal of Economics* 56: 407–43.

Barro, Robert, and Xavier Sala-i-Martin (1995). *Economic Growth.* New York: McGraw-Hill.

Bartel, Ann P., and Ann E. Harrison (1999). *Ownership versus Environment: Why Are Public Sector Firms Inefficient?* NBER Working Paper 7043. Cambridge, MA: National Bureau of Economic Research.

Bastarache, Lise (1999). *Interprovincial Mobility of Highly Skilled Workers*. Toronto, ON: Royal Bank of Canada Economics Department. Digital document available at www.royalbank.com/economics.

Baumol, William J., Richard R. Nelson, and Edward N. Wolff, eds. (1994). *Convergence of Productivity: Cross-National Studies and Historical Evidence.* New York: Oxford University Press.

BC Ministry of Finance and Corporate Relations (2002). *Budget 2002*. Digital document available at www.gov.bc.ca/fin.

Becsi, Zsolt (1996). Do State and Local Taxes Affect Relative State Growth? *Economic Review* 81, 2 (March/April): 18–36.

Bender, Keith A. (1998). The Central Government-Private Sector Wage Differential. *Journal of Economic Surveys* 12, 2: 177–220.

Bennett, James (1994). *A Higher Standard of Living in Right-to-Work States*. Springfield, VA: National Institute for Labor Relations Research.

Benson, Bruce, and Ronald Johnson (1986). The Lagged Impact of State and Local Taxes on Economic Activity and Political Behaviour. *Economic Inquiry* 24 (July): 389–401.

Bird, Richard M. (1996). *Why Tax Corporations?* Technical Committee on Business Taxation Working Paper 96-2. Digital document available at www.fin.gc.ca

Bird, Richard M., and Kenneth J. McKenzie (2001). *Taxing Business: A Provincial Affair?* C.D. Howe Institute Commentary. No. 154. Toronto, ON: C.D.Howe Institute.

Blanchard, Oliver J., and Stanley Fischer (1993). *Lectures in Macroeconomics.* Cambridge, MA: MIT Press.

Blanchard, Olivier, and Roberto Perotti (2002). An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. *The Quarterly Journal of Economics* (November): 1329–68.

Blum Center for Parental Freedom in Education (1998). *Friedman-Blum Educational Freedom Report No. 66* (December 18). Digital document: www.mu.edu/blum/efr66.

Boadway, Robin W. et al. (1987). *Taxes on Capital Income in Canada: Analysis and Policy*. Canadian Tax Paper No. 80. Toronto, ON: Canadian Tax Foundation.

Boadway, Robin W., and Harry M. Kitchen (1999). *Canadian Tax Policy, 3rd ed.* Toronto, ON: Canadian Tax Foundation.

Browning, Edgar K. (1976). The Marginal Cost of Public Funds. *Journal of Political Economy* 84: 283–98.

Buchanan, James M., and Dwight R. Lee. (1982). Politics, Time, and the Laffer Curve. *The Journal of Political Economy* 90, 4: 816–19.

Butler, Eamonn, ed. (1992). *Privatization in the Nineties*. London: Adam Smith Institute.

Canada, Royal Commission on Taxation (1966). *Report of the Royal Commission on Taxation*. Commonly referred to as the "Carter Commission." Ottawa: ON: Queen's Printer.

Center for Education Reform (1997). *School Reform in the United States: State by State Summary*. Washington, DC: Center for Education Reform.

Central Statistical Office Ireland (various years). Statistics available in digital form from http://www.cso.ie/.

Chamley, Christophe (1981). The Welfare Cost of Capital Income Taxation in a Growing Economy. *Journal of Political Economy* 89, 3: 468–96.

Chao, Johnny C.P., and Herbert G. Grubel (1998). Optimal Levels of Spending and Taxation in Canada. In Herbert G. Grubel, ed., *How To Use the Fiscal Surplus: What Is the Optimal Size of Government?* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Chen, Duanjie (2000). *The Marginal Effective Tax Rate: The Only Tax Rate That Matters in Capital Allocation*. C.D. Howe Institute Backgrounder. Digital document available at www.cdhowe.org.

Cheung, Stella, Mary Ellen Murphy, and Joe Nathan (1998). *Making a Difference? Charter Schools, Evaluation and Student Performance*. Minneapolis, MN: Center for School Change.

Children's Educational Opportunity Foundation of America (CEO America) (1999). *Edgewood-Horizon Project: Early Findings Prove Critics of School Choice Wrong.* News Release (February 9). Bentonville, AR: CEO America. Digital document available at www.ceoamerica.org/horizon-news.html.

Chubb, John E., and Terry Moe (1990). *Politics, Markets, and America's Schools*. Washington, DC: The Brookings Institution.

Clark, Kim B. (1980a). The Impact of Unionization on Productivity: A Case Study. *Industrial and Labor Relations Review* 33 (July): 451–69.

Clark, Kim B. (1980b). Unionization and Productivity: Micro-Econometric Evidence. *Quarterly Journal of Economics* 95 (December): 613–39.

Clark, Kim B. (1984). Unionization and Firm Performance: The Impact on Profits, Growth, and Productivity. *American Economic Review* 74 (December): 893–919.

Clemens, Jason (2002a). Investment Managers Survey: Provincial Investment Climates. *Fraser Forum* (May): 29–31.

Clemens, Jason (2002b). The Big News Is No News on the Capital Tax. *Fraser Forum* (November): 31–32.

Clemens, Jason, and Nadeem Esmail (2002a). Crown Corporations Part I: We're Still Debating This? *Fraser Forum* (May). Available at www.fraserinstitute.ca.

Clemens, Jason, and Nadeem Esmail (2002b). Crown Corporations Part II: Where To From Here? *Fraser Forum* (May). Available at www.fraserinstitute.ca.

Clemens, Jason, and Joel Emes (2001a). *Flat Tax: Principles and Issues*. Critical Issues Bulletin. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Clemens, Jason, and Joel Emes (2001b). March Questions and Answers. *Fraser Forum* (March): 31–32. Digital document available at www.fraserinstitute.ca.

Clemens, Jason, and Joel Emes (2001c). *Returning British Columbia to Prosperity*. Public Policy Sources 47. Vancouver, BC: The Fraser Institute.

Clemens, Jason, Joel Emes, and Nadeem Esmail (2002). *Saskatchewan Prosperity: Taking the Next Step*. Public Policy Sources 57. Vancouver, BC: The Fraser Institute.

Clemens, Jason, Joel Emes, and Rodger Scott (2002). *Corporate Capital Tax: Canada's Most Damaging Tax*. Vancouver, BC: The Fraser Institute.

Clemens, Jason, Ted Dixon, and The Fraser Institute (1999). *Summer 1999 Survey of Senior Investment Managers.* Vancouver, BC: The Fraser Institute.

Clemens, Jason, Ted Dixon, Fazil Mihlar, and The Fraser Institute (1998). *Summer 1998 Survey of Senior Investment Managers.* Vancouver, BC: The Fraser Institute.

Clemens, Jason and The Fraser Institute (2000). *Summer 2000 Survey of Senior Investment Managers.* Vancouver, BC: The Fraser Institute.

Clemens, Jason and The Fraser Institute (2001). *Summer 2001 Survey of Senior Investment Managers.* Vancouver, BC: The Fraser Institute.

Clemens, Jason, Amela Karabegović, and Niels Veldhuis (2003). *Ontario Prosperity: Is Best of Second Best Good Enough?* Studies in Economic Prosperity 1. Vancouver, BC: The Fraser Institute.

Clemens, Jason, Todd Fox, Amela Karabegović, Sylvia LeRoy, and Niels Veldhuis (2003). *Tax and Expenditure Limitation Laws: The Next Step in Fiscal Discipline*. Critical Issues Bulletin. Vancouver, BC: The Fraser Institute.

Conference Board of Canada (2001). *Performance and Potential 2001–2001: Charting a Canadian Course in North America.* Digital document available at www.conferenceboard.ca/pandp/.

Connolly, Robert A., Barry T. Hirsch, and Mark Hirschey (1986). Union Rent Seeking, Intangible Capital, and Market Value of the Firm. *The Review of Economics and Statistics* 68, 4: 567–77.

Dahlby, Bev (1994). The Distortionary Effect of Raising Taxes. In W. Robson and W. Scarth, eds., *Deficit Reduction: What Pain, What Gain?* (Toronto, ON: C.D. Howe Institute).

Dar, A., and S. AmirKhalkhali (2002). Government Size, Factor Accumulation, and Economic Growth: Evidence from OECD Countries. *Journal of Policy Modelling* 24 (2002): 679–92.

De Long, B.J., and L.H. Summers (1990). *Equipment Investment and Economic Growth*. Available at www.j-bradford-delong.net. Cited by the Task Force on Competitiveness, Productivity, and Economic Progress in its *2002 Annual Report*.

De Matteo, L., and M. Shannon (1995). Payroll Taxation in Canada: An Overview. *Canadian Business Economics* 3: 5–22.

Diamond, Peter A., and James A. Mirless (1971a). Optimal Taxation and Public Production I: Production Efficiency. *American Economic Review* 61, 1: 8–27.

Diamond, Peter A., and James A. Mirless (1971b). Optimal Taxation and Public Production II: Tax Rules. *American Economic Review* 61, 3: 261–78.

Drummond, D., M. Ethier, M. Fourgere, B. Girard, and J. Rudin (1994). The Underground Economy: Moving the Myth Closer to Reality. *Canadian Business Economics* 2: 3–17.

Easterly, William (1993). How Much Do Distortions Affect Growth? *Journal of Monetary Economics* 32: 187–212.

Easterly, William, and Sergio Rebelo (1993). Fiscal Policy and Economic Growth: An Empirical Investigation. *Journal of Monetary Economics* 32: 417–58.

Easton, Stephen T. (1988). *Education in Canada*. Vancouver, BC: The Fraser Institute.

Easton, Stephen T., and Michael Walker (1997). Income, Growth, and Economic Freedom. *The American Economic Review* 87, 2: 328-32.

Ehrlich, Isaac, Georges Gallais-Hamonno, Zhiqiang Liu, and Randall Lutter (1994). Productivity Growth and Firm Ownership: An Empirical Investigation. *Journal of Political Economics* 102: 1006–38.

Emes, Joel (1999). *Fiscal Performance Index, 1999.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Emes, Joel (2000). October Questions and Answers. *Fraser Forum* (October): 10–12. Digital document available at www.fraserinstitute.ca.

Emes, Joel (2001a). Budget Performance Index, 2001. *Fraser Forum* (November): 14–18. Digital document available at www.fraserinstitute.ca.

Emes, Joel (2001b). Fiscal Performance Index. *Fraser Forum.* (March): 21–25. Digital document available at www.fraserinstitute.ca.

Emes, Joel, and Andrei Kreptul (1999). *Canadian Government Debt 1999: A Guide to the Indebtedness of Canada and the Provinces.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Emes, Joel, and Dexter Samida (unpublished). Canada's Tax on Economic Growth. Unpublished work for The Fraser Institute.

Emes, Joel, and Michael A. Walker. (2001). *Tax Facts 12.* Vancouver, BC: Fraser Institute.

Esmail, Nadeem, and Michael Walker (2002). How Good Is Canadian Health Care? *Fraser Forum* (August).

Fallick, Bruce C., and Kevin A. Hassett (1999). Investment and Union Certification. *Journal of Labor Economics* 17, 3: 570–82.

Federal Ministry of Finance. *Report of the Technical Committee on Business Taxation*. Digital document available at www.fin.gc.ca.

Feige, Edgar, ed. (1989). *The Underground Economies: Tax Evasion and Information Distortion.* Cambridge: Cambridge University Press.

Feldstein, Martin (1983). *Capital Taxation*. Cambridge, MA: Harvard University Press.

Feldstein, Martin (1986). Supply Side Economics: Old Truths and New Claims. *The American Economic Review* 76, 2: 26–30.

Feldstein, Martin (1993). *The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act*. NBER Working Paper No. 4496. Cambridge, MA: National Bureau of Economic Research.

Fisher, Peter S., and Alan H. Peters (1997). Tax and Spending Incentives and Enterprise Zones. *New England Economic Review* (March/April): 109–137. Boston: Federal Reserve Bank of Boston.

Folster, Stefan, and Magnus Henrekson (2001). Growth Effects of Government Expenditure and Taxation in Rich Countries. *European Economic Review* 45: 1501–20.

Fortin, Pierre (2000). Less [sic] Taxes and Better Taxes: Principles for Tax Cuts and Tax Reform. *Canadian Tax Journal* 48, 1: 92–100.

Fullerton, Don (1980). *On the Possibility of an Inverse Relationship between Tax Rates and Government Revenues*. NBER Working Paper No. 467. Cambridge, MA: National Bureau of Economic Research.

Giavazzi, Francesco, and Marco Pagano (1995). *Non-Keynesian Effects of Fiscal Policy Changes: International Evidence and the Swedish Experience*. NBER Working Paper No. 5332. Cambridge, MA: National Bureau of Economic Research.

Globe & Mail (2003). Shaking up Quebec Inc. May 23: A12.

Good, Christopher (1995). *The Intergenerational Accounts of Canada.* Fraser Forum Critical Issues Bulletin. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Goulder, Lawrence H., and Philippe Thalmann (1993). Approaches to Efficient Capital Taxation. *Journal of Public Economics* 50: 169–96.

Gratzer, David (2000). *Code Blue: Reviving Canada's Health Care System*. Toronto, ON: ECW Press.

Gratzer, David (2002). *Better Medicine*. Toronto, ON: ECW Press.

Greene Jay P., Paul E. Peterson, and Jiangtao Du (1997). *Effectiveness of School Choice: The Milwaukee Experiment*. Cambridge, MA: Harvard University.

Greene, Jay P., William G. Howell, and Paul E. Peterson (1997a). *An Evaluation of the Cleveland Scholarship Program*. Cambridge, MA: Harvard University.

Greene, Jay P., William G. Howell, and Paul E. Peterson (1997b). *Lessons from the Cleveland Scholarship Program*. Cambridge, MA: Harvard University.

Grier, Kevin, and Gordon Tullock (1989). An Empirical Analysis of Cross-national Economic Growth, 1951–80. *Journal of Monetary Economics* 24: 259–76.

Grossman, Philip (1988). Government and Economic Growth: A Non-Linear Relationship. *Public Choice* 56: 193–200.

Grout, Paul A. (1984). Investment and Wages in the Absence of Binding Contracts: A Nash Bargaining Approach. *Econometrica* 52 (March): 449–60.

Grubel, Herbert G., ed. (1998). *How to Use the Fiscal Surplus: What Is the Optimal Size of Government?* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Grubel, Herbert G., ed. (2000). *International Evidence on the Effects of Having No Capital Gains Taxes*. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Grubel, Herbert G., ed. (2001). *Unlocking Canadian Capital: The Case for Capital Gains Tax Reform*. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Grubel, Herbert G., ed. (2003). *Tax Reform in Canada: Our Path to Greater Prosperity*. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca/.

Gunderson, Morley (1978). Public Sector Wage Determination: A Review of the Literature. In D.K. Foot, ed., *Public Employment and Compensation in Canada* (Toronto: Butterworth, for the Institute for Research on Public Policy).

Gunderson, Morley (1979). Earning Differentials between the Public and Private Sectors. *The Canadian Journal of Economics* 12, 2: 228–42.

Gunderson, Morley, Douglas Hyatt, and Craig Riddell (2000). *Pay Differences between the Government and Private Sectors: Labour Force Survey and Census Estimates*. CPRN Discussion Paper No. W10. Canadian Policy Research Networks.

Gwartney James, Robert Lawson, and Walter Block (1996). *Economic Freedom of the World, 1975–1995.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (1997). *Economic Freedom of the World: 1997 Annual Report.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (1998). *Economic Freedom of the World: 1998/99 Interim Report.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (2000). *Economic Freedom of the World: 2000 Annual Report.* Vancouver, BC: Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (2001). *Economic Freedom of the World: 2001 Annual Report.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (2002). *Economic Freedom of the World: 2002 Annual Report.* Vancouver, BC: Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Robert Lawson (2003). *Economic Freedom of the World: 2003 Annual Report.* Vancouver, BC: Fraser Institute. Digital document available at www.fraserinstitute.ca.

Gwartney, James, and Richard Stroup (1993). *What Everyone Should Know about Economics and Prosperity.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Habermeier, Karl, and Steven Symansky (1995). *Fiscal Policy and Economic Growth*. IMF Occasional paper No. 125.

Harberger, Arnold C. (1966). Efficiency Effects of Taxes on Income from Capital. In M. Kryzaniak, ed., *Effects of Corporation Income Tax* (Detroit, MI: Wayne State University Press).

Haymes, Greg (1998). *Capital Taxes in Canada: What Are They and What Are Their Trends?* Ottawa, ON: Statistics Canada.

Heckman, James J. (1993). What Has Been Learned about Labour Supply in the Past Twenty Years? *American Economics Review* 82: 116–21.

Helms, Jay L., (1985). The Effect of State and Local Taxes on Economic Growth: A Time Series-Cross Section Approach. *The Review of Economics and Statistics* 67, 4: 574–82.

Hepburn, Claudia R. (1999). *The Case for School Choice: Models from the United States, New Zealand, Denmark, and Sweden*. Vancouver, BC: The Fraser Institute.

Hepburn, Claudia R., ed (2001). *Can the Market Save Our Schools?* Vancouver, BC: The Fraser Institute.

Hirsch, Barry T. (1990). Market Structure, Union Rent Seeking, and Firm Profitability. *Economic Letters* 32 (January): 75–79.

Hirsch, Barry T. (1991a). *Labour Unions and the Economic Performance of Firms*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Hirsch, Barry T. (1991b). Union Coverage and Profitability among US Firms. *Review of Economics and Statistics* 73 (February): 69–77.

Hirsch, Barry T. (1992). Firm Investment Behaviour and Collective Bargaining. *Industrial Relations* 31 (Winter): 95–121.

Hirsch, Barry T. (1993). Trucking Deregulation, Unionization, and Earnings: Is the Union Premium a Compensating Differential? *Journal of Labor Economics* 11 (April): 279–301.

Hirsch, Barry T. (1997). *Unionization and Economic Performance: Evidence on Productivity, Profits, Investment, and Growth*. Public Policy Sources 3. Vancouver, BC: The Fraser Institute.

Hirsch, Barry T., Albert N. Link (1984). Unions, Productivity, and Productivity Growth. *Journal of Labor Research* 5 (Winter): 29–37.

Hirsch, Barry T., and Barbara A. Morgan (1994). Shareholder Risk and Returns in Union and Nonunion Firms. *Industrial and Labor Relations Review* 47 (January): 302–18.

Hirsch, Barry T., and David A. Macpherson (1995). Earnings, Rents, and Competition in the Airline Labor Market. Unpublished paper. Department of Economics, Florida State University.

Hirsch, Barry T., and Kislaya Prasad (1995). Wage-Employment Determination and a Union Tax on Capital: Can Theory and Evidence Be Reconciled? *Economics Letters* 48 (April): 61–71.

Jorgensen, Dale W., and Kun-Young Yun (1991). The Excess Burden of Taxation in the United States. *Journal of Accounting and Finance* 6: 487–508.

Karabegović, Amela, Jason Clemens, and Niels Veldhius (2003). *Measuring Labout Markets in Canada and the United States: 2003 Edition*. Critical Issues Bulletin. Vancouver, BC: The Fraser Institute.

Karabegović, Amela, Fred McMahon, and Dexter Samida (2002). *Economic Freedom of North America*. Vancouver, BC and Dallas, TX: The Fraser Institute and National Center for Policy Analysis.

Kellough, Howard J., and Peter E. McQuillan (1999). *Taxation of Private Corporations and Their Shareholders, 3rd ed.* Toronto ON: Canadian Tax Foundation.

Kendrick, David (2001). *Midwest Right-to-Work States Still Outperfrom Forced Union States in Jobs & Real Income*. Springfield, VA: National Institute for Labor Relations Research.

Kesselman, Jonathan R. (1986a). The BTT, the Tax Mix, and Tax Reform. *Report of the Proceedings of the Thirty-Eighth Tax Conference*, Canadian Tax Foundation, Toronto.

Kesselman, Jonathan R. (1986b). Role of the Tax Mix in Tax Reform. In John G. Head, ed., *Changing the Tax Mix* (Sydney, UAS: Australian Tax Research Foundation).

Kesselman, Jonathan R. (1997). *General Payroll Taxes: Economics, Politics, and Design.* Toronto, ON: Canadian Tax Foundation.

Kesselman, Jonathan R. (1999). Base Reforms and Rate Cuts for a Revitalized Personal Tax. *Canadian Tax Journal* 47, 2: 210–41.

Kesselman, Jonathan R. (2000). Flat Taxes, Dual Taxes, Smart Taxes: Making the Best Choices. *Policy Matters* 1, 7. Digital document available at www.irpp.org/indexe.htm.

King, Robert G., and Sergio Rebelo (1990). Public Policy and Economic Growth: Developing Neoclassical Implications. *Journal of Political Economy* 89: S126–S150.

Kneller, Richard, Michael F. Bleaney, and Norman Gemmell (1999). Fiscal Policy and Growth: Evidence from OECD Countries. *Journal of Public Economics* 74: 171–90.

Kornai, Janos (1992). *The Socialist System: The Political Economy of Communism*. Princeton, NJ: Princeton University Press.

Krol, Robert (1996). *Evidence on the Impact of Budget Rules on State Taxation, Spending, and Debt.* Santa Monica, CA: Milken Institute for Job & Capital Formation.

Krol, Robert (1997). *A Survey of the Impact of Budget Rules on State Taxation, Spending, and Debt.* Washington, DC: Cato Institute. Digital document available at www.cato.org.

Kuhn, Peter (1998). Unions and the Economy: What We Know; What We Should Know. *The Canadian Journal of Economics* 31, 5: 1033–56.

Laffer, Arthur, and Stephen Moore (2001). Soak the Rich through Tax Cuts. *Fraser Forum* (January). Vancovuer: The Fraser Institute.

Landau, Daniel (1983). Government Expenditure and Economic Growth: A Cross Country Study. *Southern Economic Journal* (January): 783–92.

Law, Marc T. (1998). *The Economics of Minimum Wage.* Public Policy Sources 14. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Law, Marc T. (2000). *Productivity and Economic Performance: An Overview of the Issues.* Public Policy Sources 37. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Law, Marc T., and Jason Clemens (1998). The Ricardian Equivalence Theorem: Back to the Future? *Fraser Forum* (February): 35–37. Digital document available at www.fraserinstitute.ca.

Lemieux, Thomas (1998). Estimating the Effects of Unionism on Wage Inequality in a Panel Data Model with Comparative Advantage and Nonrandom Selection. *Journal of Labor Economics* 16, 2: 261–91.

Lewin, Richard (1998). Tax Attributes: Cost or Capital Cost and Paid-Up Capital. *1998 Report on the Proceedings of the Fiftieth Tax Conference*, Canadian Tax Foundation, Toronto.

Lippert, O., and M. Walker, eds. (1997). *The Underground Economy: Global Evidence on its Size and Impact.* Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Lofgren, Ragnar (2002a). *The Swedish Health Care System: Recent Reforms, Problems, and Opportunities*. Public Policy Sources 59. Vancouver, BC: The Fraser Institute.

Lofgren, Ragnar (2002b). *Health Care Waiting List Initiatives in Sweden*. Public Policy Sources 62. Vancouver, BC: The Fraser Institute.

Mackness, William (1999). *Canadian Public Spending: The Case for Smaller, More Efficient Government*. Public Policy Source 13. Vancouver, BC: The Fraser Institute.

Maki, Dennis R. (1983). The Effects of Unions and Strikes on the Rate of Growth of Total Factor Productivity in Canada. *Applied Economics* 15 (February): 29–41.

Mankiw, N. Gregory, Ronald D. Kneebone, Kenneth J. McKenzie, and Nicholas Rowe (2002). *Principles of Microeconomics* (Canadian Ed., 2nd Ed.). Scarborough, ON: Nelson Thomson.

Marsden, Keith (1983). *Links between Taxes and Economic Growth: Some Empirical Evidence.* World Bank Staff Paper 605.

Matsusaka, John G. (1995). Fiscal Effects of the Voter Initiative: Evidence from the Last 30 Years. *Journal of Political Economy* 103, 3: 587–624.

MacDonald, Glenn M., and John C. Evans (1981). The Size and Structure of Union-Non-Union Wage Differentials in Canadian Industry. *The Canadian Journal of Economics* 14, 2: 216–31.

Machin, J.S. (1991). The Productivity Effects of Unionization and Firm Size in British Engineering Firms. *Economica* 58, 232 (November): 479–90.

McArthur, William (MD), Cynthia Ramsay, and Michael Walker (1996). *Healthy Incentives: Canadian Health Reform in an International Context*. Vancouver, BC: The Fraser Institute.

McDavid, James (1988). Privatizing Local Government Services in Canada. In M.A. Walker, ed., *Privatization: Tactics and Techniques* (Vancouver, BC: Fraser Institute): 101–16.

McMahon, Fred (2000a). *Road to Growth: How Lagging Economies Become Prosperous.* Halifax, NS: Atlantic Institute for Market Studies.

McMahon, Fred (2000b). *Retreat from Growth: Atlantic Canada and the Negative Sum Economy.* Halifax, NS: Atlantic Institute for Market Studies.

McQuillan, Peter E., and Cal Cochrane (1996). *Capital Tax Issues*. Technical Committee on Business Taxation Working Paper 96-8. Digital document available at www.fin.gov.ca.

Megginson, William L., and Jeffery M. Netter (2001). From State to Market: A Survey of Empirical Studies on Privatization. *Journal of Economic Literature* 39, 2: 321–89.

Metcalf, David (forthcoming). Unions and Productivity, Financial Performance and Investment: International Evidence. In John Addison and Claus Schnabel, edd., *International Handbook of Trade Unions* (Northampton, MA: Edward Elgar).

Migué, Jean-Luc (2002). *Funding and Production of Health Services: Outlook and Potential Solutions*. Commission on the Future of Health Care in Canada Discussion Paper 10. Electronic document available at www.healthcarecommission.ca.

Mihlar, Fazil, ed. (1997). *Unions and Right-to-Work Laws: The Global Evidence of Their Impact on Employment*. Vancouver, BC: The Fraser Institute.

Minford, Patrick, and Paul Ashton (1991). The Poverty Trap and the Laffer Curve: What Can the GHS Tell Us? *Oxford Economic Papers* 43, 2: 245–79.

Mintz, J.M., and T.A. Wilson (2000). *Taxes, Efficiency, and Economic Growth*. PEAP Policy Study 2000-1. Toronto, ON: Institute for Policy Analysis.

Mintz, Jack M., and Richard M. Bird, eds. (1992). *Taxation to 2000 and Beyond*. Toronto, ON: Canadian Tax Foundation.

Miron, Gary (1996). Free Choice and Vouchers Transform Schools. *Educational Leadership* (October): 77–80.

Mirus, Rolf, R.S. Smith, and V. Karoleff (1994). Canada's Underground Economy Revisited: Update and Critique. *Canadian Public Policy* 20: 235–52.

Mitchell, Daniel J. (1997). *Taxes, Deficits, and Economic Growth*. Heritage Lecture 565. Washington, DC: Heritage Foundation.

Moody, J. Scott, ed. (2001). *Facts and Figures on Government Finance* (35th ed.). Washington, DC: Tax Foundation.

Moore, William J. (1998). The Determinants and Effects of Right-to-Work Laws: A Review of the Recent Literature. *Journal of Labor Research* (Summer): 445–69.

More, William J. (1985). The Effects of Right-to-Work Laws: A Review of the Literature. *Industrial and Labor Relations Review* 38 (July): 571–85.

Morrison, Linda (1998). *The Tax Credits Program for School Choice*. NCPA Policy Report 213. Dallas, TX & Bentonville, AR: National Center for Policy Analysis & CEO America [Children's Educational Opportunity Foundation of America].

Mueller, E. Richard (2000). Public- and Private-Sector Wage Differentials in Canada Revisited. *Industrial Relations* 39, 3: 375–400.

National Bank (2003). *Economic and Financial Outlook 2003.* Montreal: National Bank.

New, M.J. (2001). *Limiting Government through Direct Democracy: The Case of State Tax and Expenditure Limitations*. Washington, DC: The Cato Institute. Digital document available at www.cato.org.

O'Farrell, P.N. (1990). *Small Manufacturing Competitiveness andPerformance: An Analysis of Matched Pairs in Nova Scotia and NewEngland.* In association with Gardner Pinfold Consultants, for the Nova Scotia Department of Industry, Trade and Technology and the Atlantic Canada Opportunities Agency. Halifax.

Organisation for Economic Cooperation and Development (1994). *OECD Economic Surveys: Canada.* Paris: OECD.

Organisation for Economic Cooperation and Development (1997). *OECD Economic Surveys: Canada.* Paris: OECD.

Organisation for Economic Cooperation and Development (2001). *OECD Economic Outlook* 69 (June). Paris: OECD.

Organisation for Economic Cooperation and Development (2001/02). *OECD Economic Outlook* 70 (December). Paris: OECD.

Organisation for Economic Cooperation and Development (2001/02). *OECD Economic Outlook* 71 (June). Paris: OECD.

Organisation for Economic Cooperation and Development (OECD) (1994). *School: A Matter of Choice*. Paris: OECD Center for Educational Research and Innovation.

Peden, Edgar (1991). Productivity in the United States and Its Relationship to Government Activity: An Analysis of 57 Years, 1929–1986. *Public Choice* 69: 153–73.

Peden, Edgar, and Michael Bradley (1989). Government Size, Productivity, and Economic Growth: The Post-War Experience. *Public Choice* 61: 229–45.

Peterson, Paul E., David Myers, and William G. Howell (1998). *An Evaluation of the New York City Program: The First Year.* Washington, DC & Cambridge, MA: Mathematica Policy Research & Program on Education Policy and Governance, Havard University.

Peterson, Paul E., David Myers, Josh Haimson, and William Howell (1997). *Initial Findings from the Evaluation of the New York School Choice Scholarship Program.* Washington, DC & Cambridge, MA: Mathematica Policy Research & Program on Education Policy and Governance, Havard University.

Poddar, Satya, et al. (2000). Emerging Trends and Their Implications for the Tax Mix and the Taxation of Capital. *Canadian Tax Journal* 48, 1: 101–23.

Ramsay, Cynthia (1998). *Medical Savings Accounts: Universal, Accessible, Portable, Comprehensive Health Care for Canadians*. Vancouver, BC: The Fraser Institute.

Ramsay, Cynthia (2001). *Beyond the Public-Private Debate: An Examination of Quality, Access and Cost in the Health-Care Systems of Eight Countries*. Vancouver, BC: Western Sky Communications.

Romer, David (1996). *Advanced Macroeconomics.* New York: McGraw Hill.

Schafer, Chris, and Jason Clemens (2002). *Welfare Reform in British Columbia: A Report Card*. Public Policy Source 63. Vancouver, BC: The Fraser Institute.

Schafer, Chris, and Jason Clemens (2003). *Welfare in Saskatchewan: A Critical Evaluation*. Public Policy Source 65. Vancouver, BC: The Fraser Institute.

Schafer, Chris, Joel Emes, and Jason Cemens (2001). *Surveying US and Canadian Welfare Reform*. Critical Issues Bulletin. Vancouver, BC: The Fraser Institute.

Schleifer, Adrei (1998). State versus Private Ownership. *The Journal of Economic Perspective* 12, 2: 133–50.

Scully, Gerald W. (1989). The Size of the State, Economic Growth and the Efficient Utilization of National Resources. *Public Choice* 63: 149–64.

Scully, Gerald W. (1991). *Tax Rates, Tax Revenues and Economic Growth*. Policy Report 98. Dallas, TX: National Center for Policy Analysis.

Scully, Gerald W. (1994). *What Is the Optimal Size of Government in the United States?* Policy Report 188. Dallas, TX: National Center for Policy Analysis.

Scully, Gerald W. (1995). The "Growth Tax" in the United States. *Public Choice* 85: 71–80.

Scully, Gerald W. (1998). *Measuring the Burden of High Taxes.* Policy Report 215. Dallas, TX: National Center for Policy Analysis. Digital document available at www.ncpa.org.

Scully, Gerald W. (2000). *Public Spending and Social Progress*. Policy Report 232. Dallas, TX: National Center for Policy Analysis.

Scully, Gerald W. (2000a). *Does the Distribution of Income Affect Life Expectancy?* Brief Analysis 328. Dallas, TX: National Center for Policy Analysis. Digital document available at www.ncpa.org.

Scully, Gerald W. (2000b). *Public Spending and Social Progress.* Policy Report 232. Dallas, TX: National Center for Policy Analysis. Digital document available at www.ncpa.org.

Shoven, John B., and John Whalley, edd. (1992). *Canada-U.S. Tax Comparisons*. Chicago, IL: The University of Chicago Press.

Simpson, Wayne (1985). The Impact of Unions on the Structure of Canadian Wages: An Empirical Analysis with Microdata. *The Canadian Journal of Economics* 18, 1: 164–81.

Stansel, Dean (1994). *Taming Leviathan: Are Tax and Spending Limits the Answer?* Washington, DC: Cato Institute. Digital document available at www.cato.org.

Starobin, Paul (1994). The Economy You Can't See. *National Journal* (June 18).

Statistics Canada (1996). *Labour Force Historical Review*. Ottawa, ON: Statistics Canada.

Statistics Canada (1998). *Special Report for The Fraser Institute on Public Sector Employment and Wages and Salaries for the years 1981 to 1996* (January 7).

Statistics Canada (2000a). *Labour Force Historical Review 2000.* Ottawa, ON: Statistics Canada.

Statistics Canada (2000b). *Provincial Gross Domestic Product by Industry, 1984–1999.* Ottawa, ON: Statistics Canada.

Statistics Canada (2001). *Financial Management System*. Ottawa, ON: Statistics Canada.

Stuart, Charles E. (1981). Swedish Tax Rates, Labor Supply, and Tax Revenue. *The Journal of Political Economy* 89, 5: 1020–38.

Stuart, Charles E. (1984). Welfare Costs per Dollar of Additional Tax Revenue in the United States. *American Economic Review* 74, 3: 452–62.

Summers, Lawrence H. (1984). The After-Tax Rate of Return Affects Private Savings. *American Economic Review* 74: 249–53.

Tanzi, Vito (1995). *Government Role and the Efficiency of Policy Instruments*. IMF Working Paper. Washington, DC: International Monetary Fund.

Tanzi, Vito, and Ludger Schuknecht (1997a). Reconsidering the Fiscal Role of Government: The International Perspective. *American Economic Review* 87: 164–68.

Tanzi, Vito, and Ludger Schuknecht (1997b). Reforming Government: An Overview of the Recent Experience. *European Journal of Political Economy* 13: 395–417.

Tanzi, Vito, and Ludger Schuknecht (1998a). Can Small Governments Secure Economic and Social Well-Being? In Herbert Grubel, ed. *How to Use the Fiscal Surplus: What Is the Optimal Size of Government?* (Vancouver, BC: The Fraser Institute). Digital document available at www.fraserinstitute.ca.

Tanzi, Vito, and Ludger Schuknecht (1998b). The Growth of Government and the Reform of the State in Industrial Countries. In Andres Solimano, ed., *Social Inequality* (Ann Arbor, MI: Michigan University Press).

Task Force on Competitiveness, Productivity, and Economic Progress (2002). *Closing the Prosperity Gap*. Available at www.competeprosper.ca/institute/index.html.

Technical Committee on Business Taxation (1997). *Report of the Technical Committee on Business Taxation*. Ottawa: ON: Department of Finance, Federal Government of Canada.

Thomas, Charles W. (1998). Issues and Evidence from the United States. In Stephen T. Easton, ed., *Privatizing Correctional Services*. Vancouver, BC: The Fraser Institute. Digital document available at www.fraserinstitute.ca.

Treff, Karin, and David B. Perry (2001). *Finances of the Nation 2001: A Review of Expenditures and Revenues of the Federal, Provincial, and Local Governments of Canada.* Toronto, ON: Canadian Tax Foundation.

Treff, Karin, and David B. Perry (2002). *Finances of the Nation 2002: A Review of Expenditures and Revenues of the Federal, Provincial, and Local Governments of Canada.* Toronto, ON: Canadian Tax Foundation. Digital document available at http://www.ctf.ca/tax101/2002toc.asp.

Triest, Robert K. (1990). The Effect of Income Taxation on Labour Supply in the United States. *Journal of Human Resources* 25: 491–516.

Ture, Norman, and B.K. Sanden (1977). *The Effects of Tax Policy on Capital Formation.* Washington, DC: Institute for Research on the Economics of Taxation.

Vedder, Richard K. (1993). *Economic Impact of Government Spending: A 50-State Analysis*. Policy Report 178. Dallas, TX: National Center for Policy Analysis.

Vedder, Richard K., and Lowell E. Gallaway (1998). Government Size and Economic Growth. Paper prepared for the Joint Economic Committee of the US Congress.

Vedder, Richard, and Joshua Hall (1998). *Private Schools and Public School Performance: Evidence from Ohio*. Athens, OH: Ohio University.

Walewski, Mateusz (1999). *A Short Play on the Idea of the Laffer Curve in Transition Economies*. Studies & Analysis CASE 175. Warsaw, Poland: Center for Social and Economic Research (CASE).

Whalley, John (1997). *Efficiency Considerations in Business Tax Reform*. Technical Committee on Business Taxation Working Paper 97-8. Digital document available at www.fin.gov.ca.

World Bank (2002). *World Development Indicators CD ROM.* Washington, DC: World Bank.

About the authors & Acknowledgments

Fred McMahon

Fred McMahon is the director of the Centre for Globalization Studies at The Fraser Institute. He is the author of several books including, *Looking the Gift Horse in the Mouth: The Impact of Federal Transfers on Atlantic Canada*, which won the US$10,000 Sir Antony Fisher International Memorial Award for advancing public-policy debate. He is also the author of *Road to Growth: How Lagging Economies Become Prosperous* and *Retreat from Growth: Atlantic Canada and the Negative Sum Economy*, short-listed for the 2001 Donner Canadian Award. McMahon has prepared numerous research reports, including by invitation a report on taxation and development for the United Nations and has consulted on development in South America. His columns have appeared in a number of publications including *The Wall Street Journal*, *Policy Options*, *National Post*, *Globe and Mail*, *Ottawa Citizen*, *Vancouver Sun*, and *Montreal Gazette*. He has an M.A. in economics from McGill University in Montreal.

Acknowledgments

The author wishes to express his sincerest thanks to The Fraser Institute's generous supporters, who made this paper possible. He would also like to thank the reviewers of the paper: Filip Palda, Fraser Institute Senior Fellow and Professor at l'École Nationale d'Administration Publique in Montreal, and Pierre Desrochers, formerly with the Montreal Economic Institute and now professor at the University of Toronto; and Jason Clemens, Amela Karabegović, and Niels Veldhuis, authors of *Ontario Prosperity: Is Best of Second Best Good Enough?* upon which he drew heavily in writing this study. The author, of course, takes full and complete responsibility for any remaining errors or omissions. As he has worked independently, the views expressed in this study do not necessarily represent the views of the trustees or members of The Fraser Institute. He would finally like to thank all those involved in the production and release of this study.