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North American Linkages

Navigating Between Scylla and Charybdis

Like Ulysses, who had to navigate between Scylla and Charybdis on the return from Troy to Ithacus, Canada has to steer certain public policies between twin perils, pursuing a balance between the risk of being engulfed by its giant neighbour, as a possible result of ill-considered integration, and the risk of losing important economic benefits if it steers away from North American integration.

The relations between Canada and the United States are always evolving, and require the constant care of Canadian policy makers. In recent years, additional layers of complexity have been added to the Canada-US policy environment, making policy research even more essential to the management of our relationship. The North American Linkages projects have been under

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EMERGING DEVELOPMENTS AND KNOWLEDGE IN PUBLIC POLICY RESEARCH

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HORIZONS
POLICY RESEARCH INITIATIVE

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The Policy Research Initiative (PRI) produces *Horizons* as a liaison publication for the federal government policy research community. The primary objective of the PRI is to deepen, collect, and integrate research on crosscutting issues that are highly relevant to the Government of Canada's medium-term policy agenda. *Horizons* highlights the work of policy researchers from across federal departments, and from external experts, on issues that relate closely to PRI horizontal research projects and activities. For more information on the Initiative or to consult previous issues of *Horizons,* please visit <www.policyresearch.gc.ca>.

All web sites referred to in this issue were accessed on June 4, 2004.

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way for more than a year now, and this issue of *Horizons* presents an opportunity to take stock of progress on some dimensions of the policy dilemmas facing the Government of Canada.

Since the release of the March 2003 discussion paper, *North American Linkages Project: Focusing the Research Agenda,* there has been a flurry of related research activities in the Policy Research Initiative (PRI) and the policy research community. Research findings are accumulating, and a number of activities have been held to review these findings and their policy implications.

In this issue of *Horizons,* the reader will find a series of articles that provide an overview of some of the key results to date and the directions of future research. The lead article by André Downs, Senior Project Director responsible for the North American Linkages projects, presents an overview of the research to date, and discusses some potential implications for policy. In particular, he argues that maximizing economic opportunities and being competitive in the North American economic space may be a necessary condition for success in developing third-country markets.

Enhancing regulatory co-operation with the United States is often put forward as an important step in improving access to the US market, while making more efficient use of Canada's regulatory resources. Fidèle Ndayisenga reviews empirical research on the linkages between regulations and economic performance, and proposes estimates of potential gains from regulatory co-operation between Canada and the United States. David Griller examines potential initiatives on regulatory co-operation with the United States in the human health field, and Doug Blair reports back on presentations and discussions from a roundtable on Canada-US regulatory co-operation hosted by the PRI and the Social Sciences and Humanities Research Council.

A number of economists have proposed the creation of a customs union between Canada and the United States as the next natural step in the economic integration of the two countries, arguing that the existing rules of origin are a cumbersome and costly barrier to trade. In their article on this subject, Bob Kunimoto and Gary Sawchuk assess the empirical evidence on the restrictive nature of the NAFTA system of rules of origin, and the characteristics and potential gains associated with the creation of a customs union. Madanmohan Ghosh and Someshwar Rao summarize the results from a general equilibrium analysis of the potential economic gains from a customs union, and we report back on the key discussion points from a roundtable on moving toward a customs union with the United States.

Another subject of growing interest is the regional dimension of relations between Canada and the United States. Pierre-Paul Proulx looks at some of the basic determinants of regional recomposition of economic activity. Christian Boucher compares the trends in American and Canadian values during the past two decades, and Jean-François Abgrall presents a typology of cross-border institutional linkages at the sub-national level. Gerry Boychuk and Debora VanNijnatten look at cross-border policy convergence in the areas of social and environmental policies, and Shenjie Chen shows that regional business cycles in Canada are increasingly synchronized with those of the United States.

Overall, this issue of *Horizons* provides a wide perspective on the policy environment and challenges the Government of Canada is facing in its management of our multi-faceted and challenging relations with the United States.

Jean-Pierre Voyer
Executive Director
Policy Research Initiative

Social Policy and the Life-Course Perspective 2004 Queen's International Institute on Social Policy (QIISP)

August 23-25, 2004

Once again, the Policy Research Initiative is joining the QIISP in the presentation of an annual summer institute, bringing together senior officials and policy-makers to review recent research findings and to discuss major directions in social policy. Organized by the Queen's University School of Policy Study, in partnership with the PRI and Social Development Canada, the primary objective of the QIISP is knowledge transfer. This year's program will emphasize the need to take a life-course perspective in the analysis of social exclusion, work-family balance, and other social policy issues.

PRI–SSHRC Policy Research Roundtables 2004–2005

September-December 2004

How do we ensure that knowledge producers are effectively connecting with those who, in their efforts to promote the well being of Canadians, can make best use of their knowledge?

In an effort to respond positively to this challenge, the Social Science and Humanities Research Council (SSHRC) and the Policy Research Initiative have put together a series of roundtable discussions. Now in its second year, the objective of the series is to improve the quality of knowledge transfer between experts from academia and those responsible for the design and development of federal policies and programs.

The autumn program will include sessions on the social economy, housing policy, the working poor, and others. Relevant information will be posted on the PRI web site as it becomes available. Please refer to <www.policyresearch.gc.ca>.

Exploring New Approaches to Social Policy: Lessons from Research

Policy Research Initiative Conference

December 13-15, 2004

Ottawa, Ontario

The PRI is putting together a major two and a half day conference in December 2004. The subject of the conference is the implications of recent social policy research for understanding the challenges and opportunities that are most likely to affect social policy in the medium term. The conference will build on the interdepartmental research from three PRI social policy projects that are coming to completion in the autumn of 2004.

North American Integration

Challenges and Potential Policy Responses

André Downs
Policy Research Initiative

In March 2003, the Policy Research Initiative (PRI) released a discussion paper entitled *North American Linkages: Focusing the Research Agenda.* The paper proposed four research initiatives to address central policy issues in Canada-US relations and, specifically, to help define and understand the challenges and opportunities associated with evolving North American economic integration.

- Why and how should Canada engage in regulatory co-operation with the United States?
- What are the benefits and costs associated with the elimination of North American Free Trade Agreement (NAFTA) rules of origin between Canada and the United States?
- What are the potential policy implications of the emergence of cross-border regions?
- How can we enhance labour mobility in a North American context?

During the past year, with the participation of other federal departments and outside researchers, the PRI has conducted research on the first three of these projects. Preliminary research results are being presented and discussed in several forums with the objective of understanding the policy challenges and potential responses for the Government of Canada.

This issue of *Horizons* highlights key preliminary results and provides background information for debating some of the available policy options aimed at enhancing the benefits to Canadians arising from Canada's unique economic relationship with the United States.

Canada-US Regulatory Co-operation

There is an increasing realization that when it comes to Canada-US relations, we need both smart borders and smart regulations.

Over the years, research has shown that differences in regulations can constitute an important barrier to trade and investment, especially for small countries. In particular, extensive empirical research at the OECD has clearly established direct linkages between domestic regulatory frameworks and the economic performance of member countries as it pertains to trade, investment, and productivity. For Canada, with a small economy largely dependent on a single giant neighbouring market, it is important to weigh the benefits and costs of having regulatory differences.

This is recognized within the Government of Canada. Several departments have been involved in international regulatory co-operation initiatives, both on a bilateral and a multilateral basis, with varying degrees of success. The External Advisory Committee on Smart Regulations is expected to make several recommendations regarding the need for the Government of Canada to enhance international regulatory co-operation, particularly between Canada and the United States. Earlier this year, as part of the review of the Medical Devices Program, the Auditor General also recommended increasing reliance on international regulatory co-operation, concluding that "[l]imited financial and human resources and limited progress in advancing international regulatory cooperation prevent Health Canada from delivering the Medical Devices Program as designed" (Health Canada, 2004:2).

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the Policy Research Initiative.

At the PRI, we have approached the issue of regulatory co-operation from three different and complementary perspectives. First, we have reviewed the experience of several bilateral regulatory co-operative arrangements involving different countries, which confirmed that successful international regulatory co-operation:

- is based on a firm economic relationship;
- requires political commitment at the highest level; and
- necessitates time and sustained effort to build the necessary level of knowledge and mutual trust.

Our second step was to review the literature and conduct some empirical research on the potential impact of regulations and regulatory co-operation on economic performance. It became apparent that regulations can have a significant impact on productivity, competitiveness, trade flows, and both foreign and domestic investment. For example, OECD estimates suggest that a reduction in the level of restrictiveness of Canadian regulations to the level of the United States would increase productivity growth by a sizeable amount. This is an important policy consideration in the context of the lagging productivity performance of Canada relative to the United States, and the corresponding growing gap in living standards. (See the article by Ndayisenga in this issue of *Horizons*.)

Third, we are examining specific sectors that could benefit from regulatory co-operation and some initiatives that could be undertaken to move further down the path of co-operation. The area of product approval (i.e., drugs, medical devices, new chemical entities) is one that is regularly put forward as an ideal candidate, but where little progress has been achieved so far. Recognition of product approvals by US regulatory agencies (e.g., the Food and Drug Administration), unilaterally or under a mutual recognition arrangement, is also identified as an important potential step toward a more efficient regulatory system in Canada.

To date, the research undertaken by the PRI on regulatory co-operation issues suggests that there could be substantial benefits for a small country like Canada, which cannot compete with larger economic entities, such as the United States and the European Union in terms of resources devoted to the regulatory process. Research – and common sense – dictate that Canada should look at ways to leverage the resources dedicated to regulatory decisions in other more resourceful countries, and focus its relatively limited resources on regulatory issues where it can nurture a comparative advantage (e.g., emerging biotechnologies) or where potential risks to Canadians may be greatest, such as blood products, drug consumption patterns, and the production of vaccines. (See the article by Griller in this issue of *Horizons*.)

At the same time, it must be recognized that regulatory co-operation is a complex public policy venture. Some argue that Canada risks losing some of its regulatory sovereignty through deeper co-operation with the United States, while others state that regulatory co-operation is itself the exercise of sovereignty. Nor is it always beneficial to seek co-operative outcomes. If having distinct regulations is conducive to innovation in some cases, or if having more stringent standards provides health and safety benefits for which Canadians are willing to devote more resources than in other countries, then Canada may want to maintain its regulatory distinctiveness.

Many of these issues were examined at the PRI-SSHRC (Social Sciences and Humanities Research Council) Roundtable on Canada-US Regulatory Co-operation. Several of the presentations focused on the expected benefits from enhanced regulatory co-operation with the United States.

Overall, most observers would agree that, when it comes to regulatory co-operation, each situation must be examined carefully to assess the net benefits from moving along the path of regulatory co-operation. Research would suggest, though, that substantial net benefits for Canadians can be achieved if policy makers do not fall into a trap where insignificant regulatory differences are perceived as essential constituents of the Canadian identity and sovereignty.

Moving Toward a Customs Union

An increasing amount of research is being undertaken in universities and research institutes in North America and elsewhere on the effect of non-tariff barriers on trade flows. As tariff protection receded with several rounds of multilateral trade negotiations and the proliferation of free trade agreements, attention increasingly focused on other barriers to trade, such as quotas, regulatory differences, and rules of origin (ROO), which have been proven to impede trade flows substantially.

The NAFTA ROO ensure that tariff-free treatment applies to all goods that originate or are substantially modified in North America, while enabling NAFTA countries to apply their own tariff rates to products of third-country origin. Hence, ROO prevent imports from entering the free trade zone through the country with the lowest tariff rates. This requires importers and exporters to substantiate the origin of the traded goods, therefore entailing compliance costs for businesses and administration costs for governments. In addition, ROO generate inefficiencies in the allocation of resources by forcing domestic producers to source more inputs locally instead of in lower-price third markets to meet North American content requirements. For these reasons, ROO are recognized as protectionist measures that reduce the economic benefits of free trade.

As detailed in the Kunimoto and Sawchuk article, NAFTA ROO are the most restrictive in the world, and the related compliance costs to businesses can be quite significant, in particular for small- and medium-size firms that may not have in-house expertise, and often rely on outside firms to ensure compliance to the rules.

The creation of a customs union would require the harmonization (or elimination) of the tariff rates that Canada and the United States impose on third-country imports (i.e., essentially most favoured nation tariffs). This would eliminate the need for these preferential rules of origin since the origin determination would be made when a good first enters the area, making it unnecessary to have additional origin requirements for Canada-US trade.

Tariff harmonization between Canada and the United States would appear quite straightforward in most economic sectors, because tariff rates on third-country imports are already quite similar. However, agriculture and textiles, where tariff and non-tariff protection are quite high and differ significantly between the two countries, would constitute a challenge, at least until protection is brought down and harmonized under future multilateral trade initiatives. For this reason, some analysts would prefer an incremental, sectoral approach to tariff harmonization. The elimination of rules of origin under such an approach would allow Canada and the United States to "pick the low hanging fruits" and keep the difficult trade-offs for later.

The benefits arising from tariff harmonization and the elimination of rules of origin between Canada and the United States are appealing, with estimates ranging from about one percent of GDP, for tariff harmonization and the elimination of the compliance costs, to more than two percent of GDP when the impact on input mix is taken into account.

However, as noted by participants at the PRI-SSHRC Roundtable on moving toward a customs union, while there are sizeable potential gains associated with the creation of a customs union, one must recognize that the negotiation of a customs union would encounter important difficulties, and that some adjustment costs would have to be incurred. First, as mentioned above, agriculture and textiles may prove difficult to address. Second, under a customs union, Canada and the United States would be required to harmonize their trade policy toward third parties, essentially tariff levels and customs procedures, but also potentially anti-dumping and countervailing duties. Of course, both countries must be prepared to shoulder the costs of implementing specific measures to accommodate exceptions within the framework of a customs union. In particular, a customs union would require member countries to renegotiate their FTAs to ensure that tariff-free access is extended to the FTA partners of the other party. Third, a customs union would require some form of arrangement to redistribute the duties collected at the perimeter of the customs union and an institutional or governance structure to address potential disputes between the parties.

Finally, by definition, rules of origin provide some protection to domestic producers, and hence create some form of rents and vested private interests. Parties that benefit from these rents would certainly oppose any substantial changes that would jeopardize their privileged position.

Canada, the United States, and Mexico have all recognized that existing NAFTA ROO impose an undue cost to businesses, and have been consulting domestic stakeholders to get their views on tariff harmonization and the elimination of ROO. Whether this recognition and current consultative efforts lead to a major initiative to move toward a customs union remains to be seen.

In the interim, several related policy issues need further research, including the extent to which Canadian exporters use NAFTA status to access the US market, the potential governance structures that could be envisaged under a customs union, the potential impact of relinquishing some trade policy levers, and the potential long-term dynamic effects of eliminating ROO on the performance of the Canadian economy. The PRI and its research partners are examining these issues to better enlighten the policy debate.

The Emergence of Cross-Border Regions

The Government of Canada has recognized the importance of the linkages between provincial and state governments by announcing the creation of a new secretariat at the embassy in Washington allowing for the co-location of provincial and territorial representatives, by increasingly involving provincial governments in trade discussions, and by asking provincial governments to use their connections south of the border to improve our understanding of the complex American society.

This recognition is in line with observed trends that suggest that Canadian provinces, regions, and municipalities are developing dense and complex economic, political, and institutional linkages with their US counterparts. These linkages are modifying gradually the nature of the Canadian federation, and must be taken into account in the development of national policies.

The PRI has undertaken research to better capture the nature of these cross-border linkages. The research has been articulated around three axes to provide a disaggregated perspective of North American integration: economic, socio-cultural, and institutional.

Under the economic axis, the research aims to assess the impact of North American economic integration on the interdependency of Canadian and US regions, the degree of economic specialization of Canadian regions, and the emergence of leading domestic and North American industrial clusters. This involves assessing the drivers of territorial recomposition of economic activity in North America, identifying key clusters – domestic and cross-border – and their effect on regional growth, and developing policy proposals to improve regional competitiveness. (See the article by Proulx in this issue of *Horizons*.)

Existing and ongoing research suggest that Canadian regions are increasingly dependent on economic events in the United States, which is not surprising given the sharp increase in the share of provincial GDP represented by exports to the United States. While this phenomenon may have provided opportunities for increased specialization and productivity gains, it also increased the sensitivity of provincial economic cycles to changes in regional US economic conditions, as substantiated in the article by Chen in this issue. This may make the task of designing national economic policies, such as monetary, fiscal, and tax policies, more daunting, because of potential conflicts in terms of the required policy stance, its timing, and its regional impacts. This also has a major impact on regional development policies. Hence, North American integration is adding a layer of complexity to the design of economic policies.

A key question for observers of the North American integration process has been whether economic integration has led to a convergence of values and beliefs between Canadian and American societies. The first phase of our research on this question (summarized by Boucher in this issue of *Horizons*), would suggest that this has not been the case at the national level. Over the past two decades, the values and beliefs of Canadians and Americans have diverged as least as much as they have converged, depending on the dimension examined. For example, there seems to have been convergence in terms of political values (e.g., confidence in institutions, national pride, priorities), but not in terms of economic, social, and moral values, where the US society appears to be more conservative.

However, these differences in values and beliefs, while statistically different, are largely of a marginal nature given the similarities between the two societies relative to any other comparable pair of countries. In addition, when there is convergence, it is as much American values and beliefs migrating toward Canadian values and beliefs as the other way around, which is an interesting result given the fears that Canadians will increasingly resemble Americans as a result of economic integration.

This is only one dimension of the analysis. In the current phase of the research, the analysis is taking place at the regional level, testing the hypothesis that there is more convergence within cross-border regions than at the national level. This would be consistent with the emergence of regions, economic and otherwise, that straddle the Canada-US border, a phenomenon observed in the European Union. It could also challenge the thesis of unpredictability or the myth of converging values, which assumes that economic integration does not lead to value convergence.

Another PRI research initiative is looking at the institutional arrangements (e.g., agreements, memorandums of understanding, associations) that exist at the sub-federal level between economic, social, and political entities on both sides of the border (e.g., provincial and state governments, municipalities, private sector). The research, introduced in the article by Abgrall in this issue of *Horizons,* indicates there has been an intensification of these institutional arrangements, particularly between provincial and state governments, and this phenomenon is most prevalent in the economic domain (e.g., transportation, energy, environment), reflecting the increasing trade intensity between Canadian and US regions.

There is no doubt that this trend in sub-federal institutional linkages is having an impact on the policy environment of the Government of Canada. Future research will further examine the potential policy implications of these developments.

A Fourth Option

Readers will be familiar with the recurring debate in Canada regarding whether our policies should be targeted at reinforcing our bilateral relations with the United States (the second option) or whether Canada should put the emphasis on the diversification of its export markets and a more multilateral approach to international issues (the third option). This debate has been a constant in Canadian politics. In the context of the 10th anniversary of NAFTA, and the review of Canada's foreign and defence policies, this debate is at the forefront of the policy agenda.

One premise is that it is not incompatible for Canada to be an active player both on the North American scene and on the international stage. Indeed, to remain a meaningful economic actor in the current international economic context, Canada must maximize the potential benefits from an integrated North American market. It is illusory to believe that Canada can be competitive in world markets if it cannot maximize its opportunities within the North American market. If Canadian firms and workers are able to hold their ground in markets close to home, then they will be in a position to succeed in international markets.

Hence, one can describe the fourth option as a policy approach that aims at maximizing our access to – and success in – the US market, thus providing the economic foundation to become a competitive force in world markets. This would imply, among other initiatives, doing what is necessary to enhance the role of Canada as a gateway to the vast US market.

Taking some steps to implement fully or to move gradually toward a customs union would be a move in this direction as it would eliminate one of the remaining obstacles to trade between Canada and the United States, and would enhance significantly the attractiveness of Canada as a gateway to the US market. Looking at ways to reduce regulatory differences between Canada and the United States would also provide impetus to this initiative. Leveraging the vastly larger US regulatory resources and better co-ordinating regulatory approaches between the two countries would go a long way in making Canadian firms more competitive in the US market, a prerequisite to international competitiveness, and in making Canada more attractive to foreign investors.

A better understanding of the increasing role of sub-federal institutions and linkages will also support the objective of maximizing the benefits to Canadians of North American integration. Given the rising complexity and richness of Canada-US relations, there is ample space for different levels of actors and institutions to ensure a smooth functioning of the relationship. However, while the Government of Canada cannot initiate and monitor the numerous levels of interaction between the sub-federal actors, it can provide a guiding framework and logistical support, while tapping the potential offered by these linkages to better understand and influence the US policy process.

The policy initiatives being examined by the PRI do not constitute a sufficient condition to maximize the benefits from North American integration, but they are a necessary condition. Steps toward a customs union, enhanced regulatory co-operation and an increasing role for sub-national institutions must be part of a coherent policy stance that will include other comprehensive initiatives to address issues regarding defence, security, energy, and the environment. Research to date would suggest that this can be achieved without eroding essential Canadian values.

During the next months, the research undertaken by the PRI will help policy makers identify some potential initiatives that will maintain and enhance Canada's competitive position in North America and the world.

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Economic Impacts of Regulatory Convergence Between Canada and the United States

Fidèle Ndayisenga
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Introduction

As generally defined, public regulations are interventions into the decision making of consumers and producers to correct some type of market failure, and as a consequence, to improve resource allocation and better social welfare. Regulations are a key tool of economic and social governance. Indeed, in its review of regulatory reform in Canada, the OECD noted that the quality of Canada's regulatory governance and its continued efforts to improve its regulations are almost certainly key contributors to Canada's success in terms of both economic performance and the achievement of its social goals. The importance of a nation's regulations to the well-being of its citizens is beyond debate.

However, bad regulations do occur. They result from unnecessary regulations, use of regulations as technical barriers to trade, lack of co-ordination of regulations among important economic partners, poor implementing mechanisms of good regulations, or more stringent regulations than are needed to achieve the regulatory objectives. They alter the incentives structure in the economy in a perverse manner, with a consequent welfare loss.

Concerns about the economic effects of regulations have been prominent on the government regulatory agenda for some time. In 1992, as part of its Prosperity Agenda aimed at ensuring Canada's competitiveness in the global market place, the Canadian government undertook a comprehensive regulatory review. The review was driven by, among other things, the concern that regulations were imposing unnecessary costs on business and consumers, thus impeding competitiveness. In 1994, the government argued, in its *Jobs and Growth Agenda,* that too many regulations were developed with little consideration for their impact on competitiveness and were weighing on Canada's productivity.

In recent years, the persistence of productivity and income gaps between Canada and the United States raised the issue of whether part of these gaps could be attributed to more restrictive regulations in Canada. This partly originates from research showing that regulations contributed significantly to the productivity slowdown in the United States in the 1970s. Recent research also points to strong, almost always negative, links between economic performance and the burden of the regulations. Furthermore, evidence from cross-country studies suggests that country differences in regulatory regimes partly explain international differences in economic performance.

Canada's proximity and extensive trade links to the world's largest economic power, the United States, have made Canada a forerunner in the development and management of regulations in a globalized world. These factors have influenced recent developments in the Canadian regulatory system, including a Canada-US regulatory rapprochement and co-operation in various economic sectors (Center for Trade Policy and Law, 2004). To the extent that regulations have an impact on a country's international competitiveness through productivity, investment, or research and development, it is the efficiency and efficacy of its regulatory regime, relative to its major trading partners, that matters most. In the case of Canada, a persistent gap in the burden of regulations relative to

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TABLE 1

The Evolution of Canada's Regulatory Policies

Date	Objective	Focus of Reform	Mechanisms
1978	• Ensure social regulations were justified given all impacts	• Ex ante assessment of social regulations given all impacts • Private sector involvement in development of social regulations	• Socio-economic impact analysis for major health, safety, and fairness regulations required in 13 designated departments
1983	• Increase public involvement in the consultative process	• Provide early notice of proposed changes in regulatory activity	• Regulatory agenda published twice a year
1986	• Fairness and efficiency • Regulating smarter • Reduce regulations where warranted	• Aspects of the rule-making process (e.g., public consultation, early notice and political control of regulatory decisions) • Federal-provincial regulatory co-operation • Improve the efficiency and effectiveness of existing regulatory programs	• Ten guiding principles • Citizens Code of Regulatory Fairness • Appointment of a minister responsible for regulatory affairs and a secretariat • Regulatory Plan • Prepublication of draft regulations • RIAs • Systematic review of regulatory programs over a seven-year recurrent cycle
1992	• Greatest net benefit to Canadians • Innovation and flexibility • Cost effectiveness • National single market • Competitiveness	• System-wide issues, such as compliance and competitiveness • Alternatives	• Government of Canada Regulatory Policy approved by Cabinet, under authority of the *Financial Administration Act*
1993	• *Responsive Regulation* to make the regulatory system more flexible, accountable and responsive	• Meet regulatory requirements • Increase administrative responsiveness • Equivalency and operational agreements with other levels of government	• Risk management framework • Change to the federal Regulatory Plan to include information on costs and benefits
1995	• Greatest net benefit to Canadians • Reducing regulatory burden on small business	• Oversight • Consultation/working in partnership with stakeholders • Compliance and enforcement policies • Alternative compliance • Inter-governmental co-ordination	• Regulatory Process Management Standards
1997	• Demonstrates links between policies (including regulations) and actual outcomes	• Performance assessment of regulations	• Under the *Improved Reporting to Parliament Project,* requirement for two annual departmental reports: plans and priorities, and performance reports, both tabled in Parliament
1999	• Improve the regulatory management system and raise compliance by departments	• Consolidate regulatory policy, process, and decision-making responsibilities with a single Cabinet committee • Consolidate support for these responsibilities with a single central agency • Explicitly link the regulatory policy to other Cabinet directives	• Regulatory policy transferred from the Treasury Board Secretariat to the Cabinet Special Committee of Council (SCC) • Establishment of the Regulatory Affairs Division in the Privy Council to support regulatory processes, and the regulatory policy, and brief the SCC

Date	Objective cont'd	Focus of Reform cont'd	Mechanisms cont'd
2000	• *Results for Canadians*	• Introduce a management approach, focusing on citizens, clear set of values, achievement of results, responsible spending	Promotion of core initiatives: • Citizen-centred service delivery • Government of Canada Online • Modern comptrollership • Improved reporting to Parliament • Program integrity • Developing an exemplary workplace
2003	• Smart Regulations	• Develop a regulatory strategy designed for the 21st century • Identify priority sectors and areas requiring regulatory review and provide an external perspective on current issues identified by departments and stakeholders	• Five principles: effectiveness, flexibility, transparency, accountability, co-peration

Note: An explicit regulatory policy was issued in 1986, and revised in 1992, 1995, and 1999. The other two policies, *Responsive Regulation* in 1993 and *Results for Canadians* in 1997, were not designated regulatory policies, but had just as profound an effect on the government's approach to regulation making.

Sources: OECD/PUMA and updated by the Policy Research Initiative (PRI).

the United States will result in the erosion of Canada's competitiveness in the US market.

In this paper we first use a recently developed OECD database on regulatory indicators to assess the extent of regulatory convergence in the burden of regulations between Canada and the United States.[1]

Then, combining Canadian and US data on the relative burden of regulations and econometric estimates of the impact of regulations on key economic variables, we evaluate the benefits of regulatory convergence between Canada and the United States.

The results show that no convergence in the economic restrictiveness of regulations has taken place between Canada and the United States during the period for which data are available. As well, we find that the benefits of regulatory convergence between Canada and the United States are positive and significant.

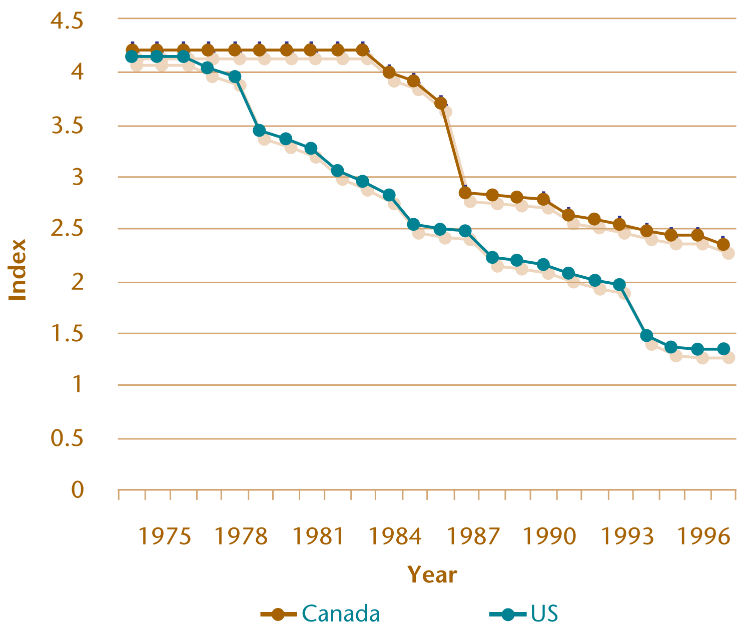
Trends in Economic Restrictiveness of Regulations in Canada and the United States

The result of Canada's regulatory reforms for more than 25 years has been an end to regulatory inflation. Over this period, the number of provincial regulations in force has substantially declined and, in the last 10 years, the number of federal regulations has stabilized. The overall decline in the total number of regulations has also been accompanied by substantive changes in the design, objectives, and management of the regulatory process, with an increasing focus on flexibility, accountability, regulatory outcomes, and economic effects (Table 1).

In addition, while the level of absolute aggregate regulatory costs to consumers, producers, and governments (Mihlar, 1996) has increased, its rate of growth has declined, and its share of gross domestic product (GDP) has not varied significantly.[2] Indeed, based on one particular estimation method, it has stayed in the 12% to 13% range for an extended period, and has even declined from 1980s levels (when it had reached its highest point). However, in an increasingly integrated world economy, it is the relative burdens of the regulations across competing economies that are most relevant. At this point, it is worth noting that it is reasonable to assume that high-income OECD countries have similar demands for public goods and services produced by regulations. In other words, high-income OECD countries are more or less seeking similar regulatory outcomes. If that is the case, differences in regulatory restrictiveness merely mean that countries are achieving their regulatory objectives with different regulatory instruments and cost levels. Large differences between these countries in the costs and burden of regulation may reflect

FIGURE 1

Overall Regulatory Restrictiveness Index: Canada-US 1975-1998



Source: Computed based on OECD Regulations database.

differences in the efficiency of the respective regulatory regimes.

A number of OECD studies demonstrate that, compared to many other OECD economies, Canada's regulatory regime is internationally competitive. However, there are various types of regulations (legal framework regulations, economic, social, and administrative regulations), each achieving different objectives and imposing different constraints on the economy. A comparison of regulatory regimes must account for this diversity, and find a metric that meaningfully measures the level of restrictiveness the regulations individually impose on the economy, and aggregate them into an overall economic burden index.

The OECD has developed such a regulatory index,[3] and has used it to study the economic impacts of regulations in the various OECD member countries, as well as to compare regulations across various national jurisdictions (Nicoletti et al., 2003). In this article, the index is used to compare the burdens the regulatory regimes of Canada and the United States impose on the respective economies.

The OECD index focuses on state controls and barriers to entry as the two categories of regulations likely to have a significant impact on governance, market competition, and international competitiveness. The regulations are aggregated into an economy-wide indicator of regulatory restrictiveness.

The aggregate restrictiveness index that measures the extent to which regulations are a burden to the economy confirms what the regulatory trends already suggested. During the 1975 to 1998 period, for which comparable data are available, both Canada and the United States reformed their regulatory regimes. The outcome (Figure 1) was a continuous decline in the weights of the regulations on both economies. Regulations in place in the 1990s were far less constraining for both economies.

However, it is apparent that, throughout the period of analysis, Canada's regulatory regime, even with reform, has been more constraining on the economy than that of the United States. The gap, which was highest in the early 1980s, had narrowed in the mid and late '80s, but has exhibited an increase since 1991. Figure 1 begs an important research question: If the Canadian index value equalled that of the United States (total convergence), how much higher or how much faster would Canada's productivity grow, and how much more capital, labour, and intermediate inputs would be used?

Canada's regulatory competitiveness with most OECD countries does not extend to foreign direct investment (FDI) regulations. Even though the restrictiveness of the regulatory regime has been declining over time, Canada lags both the OECD average and the United States, and this is the case both in the aggregate and in all the various sectors.

Benefits of Regulatory Convergence Between Canada and the United States

Using the average OECD estimate of the impact of regulations on the investment rate (investment/capital stock), we have calculated that, if Canada had had the same degree of regulatory restrictiveness as the United States from 1976 to 1998, there would have been an average increase in investment of about US$1 billion per year. If Canada's regulatory regime had changed at the same pace as that of the United States, total investment in the Canadian economy would have been higher by about US$400 million per year, on average. In other words, Canada would have had an average of 30% more investment per year than what it actually had over the period.

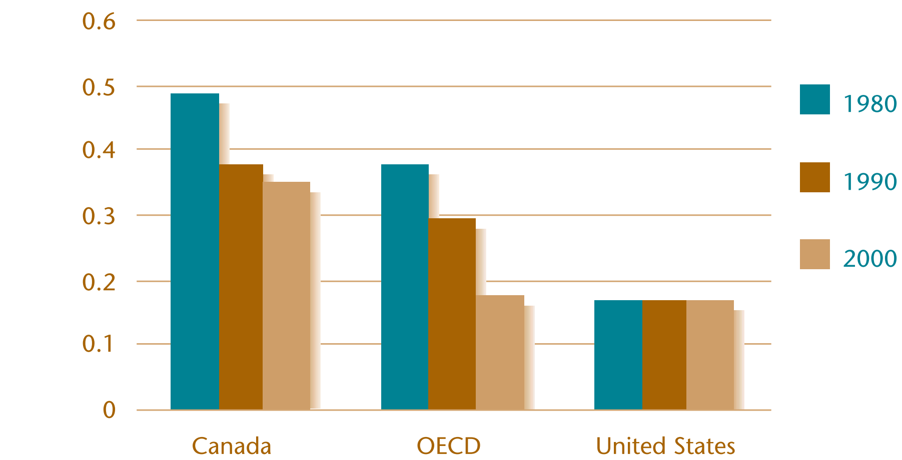
Using the same types of calculations, we estimate that the R&D share of the GDP would have been 6% higher had there been a total regulatory convergence between Canada and the United States (Ndayisenga and Downs, 2004). This amounts to more than $367 million extra R&D per year, on average. Furthermore, our estimates suggest the gap in the OECD regulatory index for Canada and the United States explains about 17% of the gap in the R&D intensity between the two countries.

What Can Be Learned?

The literature review and Canada-specific estimates on the economic effects of regulations contain a number of useful lessons (see the accompanying review). First, the bulk of the evidence shows a statistically significant relationship between regulations, productivity, investment, research and development, and exports. Second, there are clear economic benefits to regulatory convergence between Canada and the United States. Third, there is an important regulatory data gap, which hampers research on the impact of regulations on economic performance. Yet, this type of data will become increasingly important to inform the policy process and evaluate regulatory outcomes for at least three reasons.

FIGURE 2

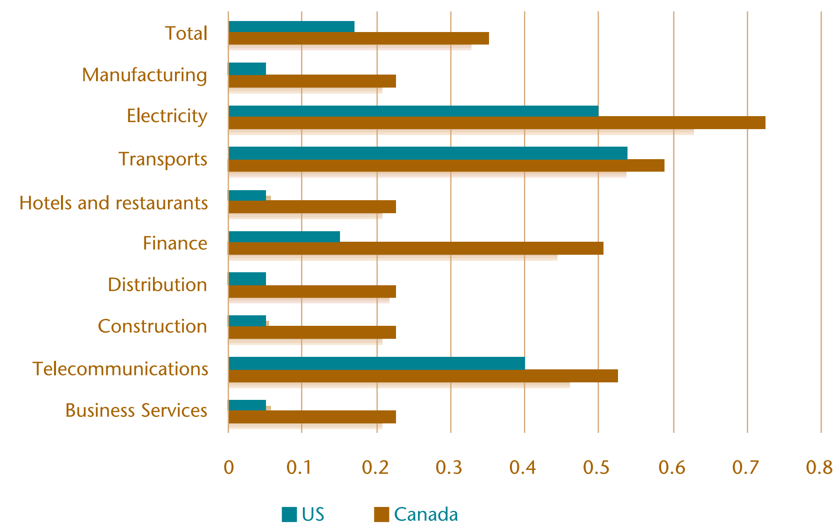
FDI Restrictions Over Time



Source: Golub (2003).

FIGURE 3

FDI Restrictions by Sector: Average of 1980, 1990, 2000



Source: Golub (2003).

First, with increased incomes and the emergence of novel industries, comes more demand for regulations (health, safety, environment). Second, with the elimination of tariffs as protectionist instruments, countries are likely to resort to less transparent measures, such as regulations, to shield themselves against international competition. Finally, increased competition in international markets and for foreign direct investment demands that Canada's regulations take into account the regulatory frameworks of its main trading partners, particularly those of the United States. Fourth, for a trading country such as Canada, it is the efficiency and the efficacy of its regulatory regime relative to its major trading partners that matter most.

Regulation and Economic Performance
A Review of the Literature

As the assessment of benefits of convergence is based on the significance of the links between regulations and various indicators of economic performance, the following is a brief review of the empirical results in this area. This review is restricted to studies that deal with OECD countries.

Caution must be exercised in the interpretation of the effects of regulations on economic performance for at least two reasons. First, an important question is the lack of full accounting of the outputs of regulations, such as better health and safety, better business practices, and a cleaner environment, despite the fact that businesses and governments incur costs in producing these public goods. Under these conditions, the regulatory impacts on productivity and GDP will be biased downward as the same number or fewer outputs appears to be produced with more inputs after regulations are imposed. Second, econometric studies that purport to measure the aggregate impact of regulations on economic performance face a significant data hurdle, as there generally is no overall time series summary measure of the restrictiveness that regulations impose on economic activities.

Regulations and Productivity

Historically, there has been strong interest in the impact of regulatory regimes on productivity. The productivity slowdown in the United States in the 1970s corresponded with an increase in regulatory activity. The wave of environmental and health and safety regulations in that period gave rise to a number of studies assessing their effects on productivity.

As a general statement, there is substantial variation in the magnitude and significance of productivity effects of regulations by industrial sector, by type of regulation, and by the variables used to quantify regulations (number of regulations, regulatory expenditure, size of regulatory staff, etc.). However, overall, the bulk of the studies points to a significant negative impact of regulations on productivity and productivity growth.[4]

Research results from recent studies using better data and a broader country coverage are consistent with this conclusion. For example, Nicoletti and Scarpetta (2003) concluded that economy wide-market regulations that curb competition and private governance have a negative impact on productivity by slowing down the technological catch-up. That is, regulations tend to decrease the firm's adoption rate of best practice technologies from frontier countries. Stephano and Tressel (2002) identified significant negative indirect productivity effects when regulations are modelled to interact with a technology gap variable. They concluded that strict regulations have a particularly detrimental effect the further the country is from the technology frontier. In essence, regulations reduce the scope for knowledge spillovers by reducing the entry of new firms or the incentive to innovate faced by incumbent firms.

Regulations and Investment

There are at least three channels through which market regulations affect investments. First, regulations may explicitly mandate the use of certain technologies. Second, entry barriers resulting from regulations may affect the markup of prices over marginal cost, thereby determining the number of firms and the amount of investment in the given sector. Third, regulations and associated compliance costs may affect the cost of adjusting capital stock, therefore impeding further investments. In addition, rate of return regulations change the relative prices between capital and labour, and can result in substitution between these factors of production. In particular, a cap on the rate of return to capital will lead to an increase in capital stocks to maximize the basis from which compensation to capital will be calculated. Eliminating the rate of return will decrease new investments. Deregulation of public enterprises may also lead to decreased investments, because of changes from bureaucratic incentives to market-driven incentives and the shift from a mixed political-economic and public-private operating environment to a purely economic and private environment. Thus, the impact of regulatory policy on investment is an empirical question.

In a study of the links between investment and regulation, Alesina et al. (2003) concluded that tight regulation of product markets in OECD countries has had a large negative impact on investments. Ownership restrictions do not have as important an effect as entry barriers. They found no statistically significant relationship between investments and public ownership regulations. Entry barrier regulations have the most significant effect. In addition, the study also showed that the increase in investment decreases as restrictiveness is reduced further (i.e., there is decreasing returns to deregulation).

Nicholetti et al. (2003) studied the impact of product market regulations on trade in goods and services as well as foreign direct investments. They found that product regulation that curbs competition has a negative and significant impact on foreign direct investments. They posited that what matters most in the case of bilateral foreign direct investment outstocks is not so much the regulations in the host or home country. Rather, it is the ratio of the regulatory indicators in the two countries. The policy implication is that, to attract investment, it is not enough for a host country to have good regulations. They must be better (i.e., less restrictive) than those in the home country.

Their conclusion is that aligning regulations on those of the most liberal OECD countries would increase OECD-wide inward foreign direct investments by more than 10%. They also concluded that a general convergence of regulations in the OECD toward the most liberal would increase exports by over 10%. The gains would be even more significant in the services sector as it is estimated that the volume of trade would increase by about 30% with liberalized regulations.

Regulations and Innovation

Studies of the impacts of economic, administrative, and social regulations on innovation are limited and mixed. In a cross-country study of the impacts of economic and employment regulations, Bassanini and Ernst (2002), using the ratio of business R&D to output as a measure of innovation, concluded that there is an unambiguous negative relationship between innovation and trade-restricting economic regulations. Furthermore, they provided some evidence that strict labour market regulations could decrease R&D spending in high technology industries. On the other hand, strong protection of intellectual property rights tends to be positively associated with R&D intensity.

Koch et al. (2003) evaluated the impact of regulatory policies on innovation in OECD countries. They estimated that regulations are responsible for about one third of the gap in the R&D intensity between Canada and the United States.

Regulation and Trade

There is also evidence that, in the case of trading countries like Canada, regulatory reform enhances the benefits of trade liberalization. In their recent study, Bolaky and Freund (2004) found that the effect of increased trade on growth is absent in highly regulated countries. Excessive regulations restrict growth, because resources are prevented from moving into the most productive sectors and to the most efficient firms within sectors. In addition, in highly regulated economies, increased trade is more likely to occur in the wrong goods, that is, goods without comparative advantage.

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Notes

1 This article is derived from a larger research paper. In the study, two regulatory regimes are said to converge when they impose a similar economic burden on the respective economies. That is, they equally restrict economic activity in the countries or regions of interest.

2 Expenditures include administrative cost, compliance cost, and cost of political activity related to regulations.

3 To construct the index, each regulation is assigned a number between 1 and 6 where higher numbers are assigned to more restrictive regulations. The aggregate index is a weighted average of the individual regulatory indices. The weights are derived using factor analysis and are proportional to the contribution of a given regulation to the overall variance in the data.

4 A detailed literature review on the economic effects of regulations can be found in Ndayisenga and Downs (2004).

Expert Workshop on Measuring Social Capital for Public Policy

PRI-SSHRC Policy Research Roundtable Event

June 8, 2004

This workshop brought together experts to examine different empirical strategies and measurement tools used in social capital research. Emphasis was placed on the measurability of the resources produced by social networks as core constituent elements of social capital. The workshop drew on the knowledge of Canadian researchers as well as measurement specialists from abroad to identify essential elements of a "toolbox" for analyzing social capital for purposes of developing and assessing government programs and policies.

For more information on this event, please contact Catherine Demers at 613.943.1997 or by email at c.demers@prs-srp.gc.ca.

Economic Instruments for Freshwater Management in Canada

PRI Symposium

June 14-15, 2004

This invitational symposium brought together international and Canadian experts to examine the benefits and drawbacks of increasing the use of economic instruments to manage and conserve freshwater resources in Canada. Topics covered included: review of best practices in Canada and other countries; using market forces to allocate water resources; disincentives to the use of market-based instruments; and, ensuring the complementarity of market and other policy instruments to better conserve freshwater resources.

For more information on this symposium, please contact Ian Campbell at 613.992.3704 or by email at i.campbell@prs-srp.gc.ca.

North America Integration: The Emergence of Cross-Border Regions

PRI-SSHRC Policy Research Roundtable

June 21-22, 2004

This invitational roundtable brought together international and Canadian experts to examine the sub-national dimensions of Canada-US economic integration. Topics covered included: the territorial recomposition of economic activities and the emergence of cross-border regionalism, the institutional dynamics of province/state relationships, and the reconfiguration of the value and cultural space in a decade of growing interdependence. A special emphasis was put on the policy implications for the Government of Canada.

For more information on this roundtable, please contact André Downs at 613.995.3655 or by email at a.downs@prs-srp.gc.ca.

Can Regulatory Collaboration Improve Safety in Health Care?

David Griller
SECOR Consulting

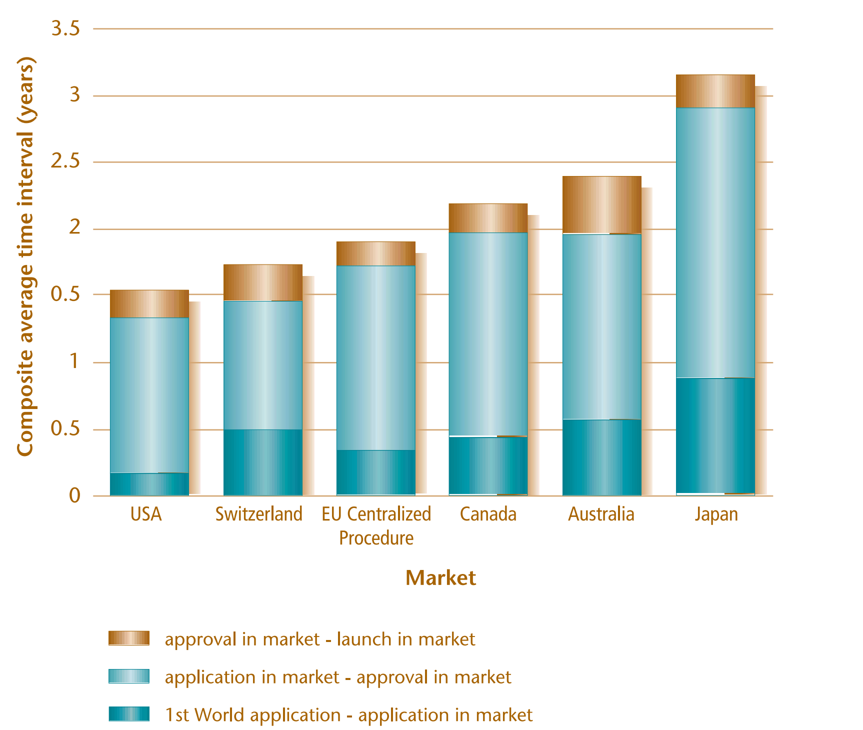
In recent years, the regulatory review of new pharmaceutical products in Canada has been the focus of considerable controversy. Health Canada has been criticized by industry for its slowness when compared with the US Federal Drug Administration (FDA). However, it has only about one tenth of the resources of the US regulator.

Recently, Health Canada formally agreed to begin sharing data and findings with the FDA. With this development in mind, we should ask a few key questions.

- Does slowness in the regulatory review of drugs really impact the health of Canadian citizens?
- Will we be safer or less safe if Health Canada collaborates with the FDA in the review of pharmaceutical products?
- If we have limited resources for regulation, where should they be focused?
- To what extent could we benefit from reciprocal recognition of regulatory decisions between the United States and Canada, and is this a realistic goal?

This paper attempts to provide some answers to these questions, and to explore how risky or safe collaboration with the United States might be.

GRAPH 1



The time taken for new medicines to be available to patients between 1999 - 2001 varies across the major markets. New medicines are available to patients residing in the US before other major markets, and patients in Japan have to wait twice as long on average as those in the US.

Source: CMR International

David Griller is a Senior Partner at SECOR Consulting.

Does Regulation Work as It Should?

Health Canada's Performance

Health Canada is responsible for assessing the safety, efficacy, and quality of new drugs developed by pharmaceutical companies. These new chemical entities (NCEs) can only be sold in Canada once regulatory review has been completed. Technical experts within Health Canada examine data collected by pharmaceutical companies in pre-clinical and clinical trials. They also review the chemistry and manufacturing processes used to make the product.[1]

Health Canada has typically been slower in reviewing drugs than the United States and other countries where regulatory standards are high (Anderson et al., 2002). Slowness has raised the ire of pharmaceutical companies since delays mean lost sales. Industry's position is easy to understand. Canada represents around two percent of the market for pharmaceutical products. Since a popular new drug can easily have global sales of US$1 billion, delay in approving a drug by Health Canada can cost the company concerned C$75,000 per day in lost sales.

Productivity in Drug Review

The accuracy of the data on drug reviews has been debated in the literature. The international comparisons cited above were used in a report prepared for Health Canada in 2003 (Carruthers, 2003). Rawson and Kaitin independently analyzed the Canadian situation and reached similar conclusions.

Although Health Canada has been criticized for its performance compared to the United States, it has apparently been quite productive if one compares the number of approvals made per employee per year (Rx&D, 2003). The result is surprising since the FDA has been praised for its management approaches, and Americans are generally as productive as Canadians.

The FDA deploys 10 times more people in drug review than does Health Canada. We are being unrealistic if we believe the same quality of review can be carried out here.

The difference is almost certainly due to the fact that the depth of reviews carried out in the United States is much more profound than those carried out elsewhere.[2] The FDA dedicates more effort to each review; reviewers take the raw data amassed in clinical trials and reanalyze them. In Canada and elsewhere, reviewers are more likely to work with the pharmaceutical firm's statistical analyses and summary data.

The FDA deploys 10 times more people in drug review than does Health Canada. We are being unrealistic if we believe the same quality of review can be carried out here. The difference raises three issues.

- Does a less profound review impact safety?
- Could and should we work with the FDA to share its expertise?
- What benefits and risks would accrue to Canada through collaboration?

Could a Less Profound Review Impact Safety?

The less profound review in Canada is unlikely to have a major impact on safety. Modern standards for preclinical development and the early stages of clinical development are such that unsafe drugs are screened out relatively early in the process and never make it into full clinical trials.

Those few drugs that enter clinical trials and are found to have severe adverse side effects in cohorts of patients are typically withdrawn by sponsoring companies. Apart from ethical issues, the threat of litigation in the United States is a powerful disincentive for firms to pursue relatively unsafe products. Finally, adverse side effects affecting extremely small percentages of patients are generally only discovered once a drug has been released into the market and given to very large numbers of patients. At this time, post-market surveillance tends to be going on internationally, and mechanisms for sharing data on adverse reactions are already in place.

Canadians are, in a vicarious way, protected by the slowness of Health Canada regulators since deficiencies in safety are likely to have been identified by the FDA and publicized before Canadian reviews are complete. From time to time, Canadian regulators do identify problems that escape the attention of the FDA. These tend to be reported anecdotally to argue in favour of an independent Health Canada review. However, they can equally be used to support the case for collaboration.

The strength of the FDA type of review that digs deeply into raw clinical data is likely to impact efficacy (i.e., deciding whether the drug does what it is really supposed to do) rather than safety. Indeed, the FDA is so stringent on this score that its approach has recently been criticized in the editorial columns of *The Wall Street Journal* (2004). The Agency was actually censured for not approving an anti-cancer drug, Provenge, when retrospective analysis of clinical data showed it worked on a subset of the target population.

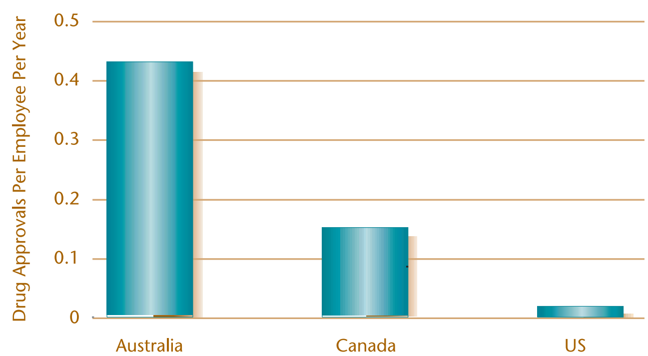
If Canada were to collaborate with the FDA, the gains would likely accrue most in the evaluation of the efficacy of pharmaceutical products, although some minor gains would probably be made in the assessment of safety and quality.

On What Basis Could We Work with the FDA?

The FDA has already demonstrated a willingness to work with Canada (HC, 2003). Canadian regulators are highly regarded for their professional expertise and commitment. In addition, some joint drug reviews have already been carried out as demonstration projects. Collaboration makes sense, because it can be based on mutual respect for technical expertise. Moreover, our regulatory system effectively constitutes a trade barrier to innovative drug firms, the majority of which are now located in the United States.[3]

GRAPH 2

"Productivity" In Drug Approvals



Collaboration would help to remove this barrier by shortening drug review times and would, therefore, be advantageous to the United States.

The work each set of regulators might do in a collaborative environment could be based on what we know of current competencies. Canadian regulators are highly respected for their expertise in chemistry and manufacturing. The FDA would likely be willing to accept Canadian contributions or even leadership on the quality assessment of pharmaceutical products, extending some practices that have already been initiated.

In contrast, the FDA seems to be most competent at assessing safety and efficacy. In a collaborative environment, however, sub-components of these assessments are likely to be carved out and partitioned between the two agencies when highly specialized expertise (e.g., in a specific disease state) is required.

Work sharing does not imply mutual recognition of decisions, which requires agreements at the political level. However, in a collaborative working environment, both agencies are very likely to draw the same conclusions from their data analyses.

Comparison with the European Union

In the European Union, a collaborative system has been developed through the European Agency for the Evaluation of Medicinal Products (EMEA). The Agency has established review standards and procedures for participating countries. New drug submissions are handed to two member states that independently carry out reviews and report their findings to the Agency. The results come back to a committee of the EMEA for review and a decision. This is a somewhat different model to that proposed here, but it does show that collaboration between regulatory agencies is a reasonable goal.

Therapeutics Access Strategy

Regulatory collaboration with the United States has been on the drawing board for a long time.[4] However, progress seems to be at hand. A memorandum of understanding with the FDA has been signed. In addition, Health Canada has developed the

Therapeutics Access Strategy, and has received $190 million over five years to help modify the drug approval system. How the funds will be used and what resources will be deployed for collaboration remains to be seen (HC, 2003b).

What Benefits and Risks Would Accrue to Canadians?

Three clear benefits would accrue to Canadians from collaboration with the United States:

- speedier access to beneficial drugs;
- deeper review and analysis of a manufacturer's clinical trial data leading to a better understanding of drug efficacy and safety; and
- enhanced deployment of resources within Health Canada.

Better Access

Gaining speedier access to beneficial drugs, especially those that target life-threatening diseases would be an important step forward. Such drugs are normally given priority review in Canada and the United States. Nevertheless, the median time for priority review in Canada since 1996 has been 304 days for 43 drugs approved; in the United States, 70 drugs were reviewed with a median time of 184 days (Rawson, 2003). For patients suffering from AIDS or cancer, these differences can be very important. Mechanisms do exist for obtaining drugs under emergency release, but the attendant paperwork consumes time and energy, and the process does not provide treating physicians with the same levels of confidence as regulatory approval.

Deeper Review

Sharing with the United States would deepen our appreciation of safety and efficacy, specialties of the FDA. Equally, the United States would benefit from Canadian expertise, especially in the areas of chemistry and manufacturing, where Canadian competency is high.

Enhanced Use of Resources

Collaboration would allow Health Canada to reallocate some resources to those products that are specific to the Canadian market, and to place more emphasis on looking at the optimum use of approved drugs. With extra capacity, Health Canada would be able to do more in developing strategy, and implementing new approaches in those areas of public health that are underserved, such as appropriate drug utilization, best medical practices, and clinical outcomes.

Gearing up to collaborate is fundamentally a management problem associated with aligning Canadian and US procedures and defining protocols for working together. The costs must surely be greatly outweighed by the benefits. Health Canada has the resources to support its Therapeutics Access Strategy and has made an agreement with the FDA. It should move forward quickly to consolidate the relationship.

Where Should Resources Be Focused?

Public expectations for the safety of pharmaceutical products are rightly very high. However, pharmaceutical products have, by and large, been very safe. Two factors have been at play.

- Methods and protocols for establishing safety, efficacy, and quality have been carefully developed over the years, and are shared internationally.
- The products themselves are widely used in many countries, so regulatory review and product monitoring are quite extensive.

In Canada, we need to be more concerned about products destined specifically for the Canadian market. As far as possible, we should free resources for oversight in this area by sharing the workload on products that are sold internationally.

Canadian-specific products are typically prepared elsewhere in batches destined for Canada or are indigenous to Canada. They include, for example:

- vaccines;
- pharmaceutical products derived from blood;
- body parts for transplantation;
- sperm; and
- biologics (drugs typically made in fermentation processes where the efficacy and safety of the product is highly dependent on manufacturing conditions).

Blood-Derived Products

Blood-derived products illustrate the importance of regulatory vigilance in Canada-specific products.

Problems with the regulation of blood-derived products led to a major public health crisis in the late 1980s that has repercussions to this day. In a crisis of this kind, managers responsible for regulation and oversight as well as operations are working in extremely difficult conditions, trying to control situations in the light of uncertain knowledge. Decisions have to be taken quickly, and have a major impact on outcomes. This contrasts with the review of most pharmaceutical products where systems and procedures are relatively well understood.

Blood illustrates the huge impacts on public health that can occur in areas where science may be poorly understood, and where products are specific to Canada. We, therefore, ought to concentrate our resources in these areas and to share work in regulatory situations where evaluation of products is routine and highly standardized.

future trends will be very important. We would all be better served if this were done through international collaboration.

The pharmaceutical sector has hit something of a crisis in the past few years. Discovering drugs for difficult diseases, such as Alzheimer's, cancer, and neurological and autoimmune disorders, has proved very difficult. Drug pipelines based on small molecules have been drying up, leading to a wave of mergers between multinational pharmaceutical firms.

> *Gearing up to collaborate is fundamentally a management problem associated with aligning Canadian and US procedures and defining protocols for working together. The costs must surely be greatly outweighed by the benefits.*

Health Outcomes Research

Health outcomes research is an area where modest investments yield important returns in risk reduction and health care improvement.

North American studies have demonstrated that non-compliance with a therapeutic regime and inadequate prescriptions are the main causes of emergency visits (Leboux, 2002).

There is a need for more effort in research and education in the use of pharmaceutical products after they are released onto the market. Health Canada is sponsoring this kind of research, and should be actively involved in organizing strategy and structuring its conduct through international collaboration.

Evolution in the Pharmaceutical Sector

The changing face of the pharmaceutical industry will raise new challenges for regulatory agencies. Establishing best practices, benchmarks, and standards with industry in anticipation of

To redress the business problem, large pharmaceutical firms have been making alliances with smaller biotech companies. As a consequence, many drugs in the development pipeline are complex *biological* molecules where the quality and efficacy of the drug are highly dependent on the manufacturing process. Patents are beginning to expire on some of these molecules, and generic drug manufacturers are looking at them with interest. This trend is likely to require considerable regulatory vigilance on ongoing manufacturing. Here again, efficiencies could be achieved through extended collaboration between agencies.

Pharmaceutical manufacturers are also being pressed to establish cost-benefit profiles before their products become eligible for reimbursement. We can, therefore, expect to see combinations of drugs and diagnostic devices entering the regulatory process. Many of these will be based on genomic profiling of patients. Assessment of efficacy will become more complex and will require more work.

To squeeze more value out of patent protection and improve patient compliance, pharmaceutical firms will increasingly combine two old drugs in a single package. This will raise new regulatory issues on how to circumscribe target populations.

Gene therapy will constitute a new approach to treatment. Delivery of therapies may require novel delivery systems that can release or express DNA or RNA sequences. Establishing guidelines for the regulation of these procedures will be a major technical challenge. Clearly, pooling the brainpower of researchers and regulators from several jurisdictions probably offers the best hope for building a satisfactory regulatory system.

The FDA is already addressing a number of these emerging technological areas through research and workshops. Greater collaboration on emerging issues would clearly be worthwhile (FDA, 2003).

Overall, the pharmaceutical sector may not be sustainable in the current small molecule model. New drugs, based on molecular biology and traditional organic chemistry, have been the main blockbusters of the last two decades, but this stream is drying up. Drug discovery is becoming a longer and more expensive procedure. In addition, generic substitution at the end of a patent lifetime is easily accomplished. Given this situation, innovative drug firms are likely to look increasingly at situations protected by multiple inventions (e.g., drug and delivery or diagnostic system), and by complex manufacturing systems that cannot easily be emulated by generic drug manufacturers. All these factors will create challenges for regulators that should be addressed internationally, because the products are used around the world.

Conclusion

With its small population, Canada cannot afford to support regulatory agencies as large as those in the United States and Europe. It must therefore use its limited resources as wisely as possible.

In the pharmaceutical area, small molecule drugs tend to be used internationally and are widely reviewed for their safety, efficacy, and quality by using standard, well-established procedures. Canada ought, therefore, to align itself with a highly respected regulator, such as the FDA, to share work and findings for these highly structured reviews.

Moreover, we should be placing more collaborative effort into outcomes research to ensure that drugs are properly used once they have been released onto the market, since numerous problems typically arise from over or under-medication of pharmaceutical products that are highly beneficial when used properly.

Canada should redeploy valuable resources to areas where products are specific to the Canadian market, such as blood-derived products, body parts, vaccines, and other biologics. Recent history has shown that these products can pose major threats to the health of Canadians that probably go beyond risks inherent in small-molecule pharmaceuticals.

Moreover, Canada needs the resources to anticipate regulatory challenges associated with changing technology in the pharmaceutical industry and changes in social conditions.

Given all these demands on Health Canada, the national regulator, we ought to share regulatory work and foresight wherever possible with trusted partners so we ensure appropriate coverage for managing Canada-specific challenges.

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Notes

1 Members of the public often believe that regulatory agencies actually test the drugs themselves. This is not the case. Companies are responsible for integrating and analyzing test data collected by medical centres that conduct clinical trials. Agencies do, however, test the potency of products such as vaccines, which can vary between manufacturing batches.

2 Data on human resources and information on analytical approaches taken from Rawson (2002).

3 In addition to regulatory delays in drug approval, manufacturers are further hampered in accessing Canadian markets by provinces, which take a year or more before listing products for reimbursement on provincial formularies. Moreover, Canada does not provide patent term restoration, nor does it protect the innovator's intellectual property to the same extent as other countries. These impediments are among the reasons why R&D investments in Canada by multinational drug firms are below international averages. See SECOR (2003).

4 In a report to Treasury Board in 1990 that was shared with Health Canada, SECOR proposed a Canada-US work-sharing mechanism as a means of improving efficiency in the regulation of pharmaceutical products.

Moving Toward a Customs Union

A Review of the Evidence

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Introduction

Much of the discussion about enhanced Canada-US economic integration, although extremely informative, has often been characterized by a lack of relevant empirical evidence. For example, proponents of further economic integration often stress the administrative and compliance cost savings and efficiency gains associated with the elimination of rules of origin (ROO), regulatory differences, and other barriers to trade. But, little empirical evidence is brought forward.

This article is an abridgment of a paper presented at the PRI-SSHRC Roundtable of March 26, 2004. It reviews the available empirical evidence associated with two issues that will be key to any future discussions on the relative merits of a Canada-US customs union: the North American Free Trade Agreement (NAFTA) ROO and differences in Canadian and US tariffs.

NAFTA ROO

Are NAFTA ROO Too Costly?

Rules of origin are used to prevent imports from third countries from taking advantage of the concessions made between member countries of a preferential trade agreement. The ROO determine the country of origin of a specific product, and the conditions under which the product qualifies for preferential treatment.

Governments incur administrative costs in implementing, administering, and monitoring ROO. Importers, exporters, and producers incur compliance costs to meet ROO requirements. The compliance costs include the paperwork associated with filling out forms to satisfy customs requirements, and the business costs associated with determining, meeting, and proving origin. These, in turn, may involve special computer systems and programs, the cost of maintaining records, additional broker fees, and additional accounting and audit costs.

In addition to compliance costs, businesses will incur production costs, or economic costs, when they change production methods or input mixes solely to meet ROO requirements.

Krueger reported that “Canadian producers have on occasion chosen to pay the relevant duties rather than incur the cost of proving origin” (1995: 15). This tendency was recently confirmed in discussions with Canadian exporters and importers. They

> We will continue to identify existing impediments to trade and investment and work to eliminate them. Last October, at the NAFTA Commission meeting in Montréal, we agreed on further improvements, including:
>
> - further liberalizing the NAFTA rules of origin;
> - greatly reducing transaction costs; and
> - studying the potential of tariff harmonization.
>
> *The Honourable Jim Peterson*
> *Minister of International Trade*
> *Speech to the Canadian Chamber of Commerce*
> *February 16, 2004*

report that it is particularly the case when small shipments, small firms, or exporters with limited knowledge of NAFTA are involved. In addition, when it is difficult for firms to get a sufficient number of certificates of origin from suppliers, it is more likely they would choose to pay the most favoured nation (MFN) duty than try to claim NAFTA status.

For US imports from Mexico, Cadot et al. (2002) calculated the NAFTA ROO compliance costs to business at 1.9% in 2000. Similarly, Carrère and de Melo (2003), using 2001 data on US imports from Mexico, arrived at a compliance cost of 1.7% of Mexican exports.

Although these estimates suggest that the costs within the context of Canadian-US trade could also be significant, precise empirical evidence is lacking. However, one can assume that the stricter and more demanding the rules of origin are, the higher the economic and compliance costs will be to businesses.

Are NAFTA ROO Too Restrictive?

Estevadeordal (2000) developed an index of the restrictiveness of different international ROO systems. The index can be interpreted as an indicator of how demanding a given ROO system is for an exporter. His index ranges from 1 (least restrictive) to 7 (most restrictive), and he found that NAFTA ROO are very restrictive – with an average index value of 5.1, compared to 4.5 for Pan-European ROO, and 4.2 for the European Fair Trade Association-Mexico ROO.

The Australia Productivity Commission (2003), which further refined the ROO restrictiveness index, concluded that NAFTA ROO are by far the most restrictive (see Figure 1).

> Rules of origin, which vary across products and agreements, add considerably to the complexity and add costs of participating in and administering trade agreements. The burden of such costs falls particularly heavily on small and medium-size firms…
>
> *Brenton (2003).*

The restrictive nature of ROO varies considerably from one sector to another. For NAFTA and many other free trade agreements, restrictive ROO are found in more politically sensitive sectors, such as textiles and clothing, the automotive sector, and agriculture (Estevadeordal, 2000).

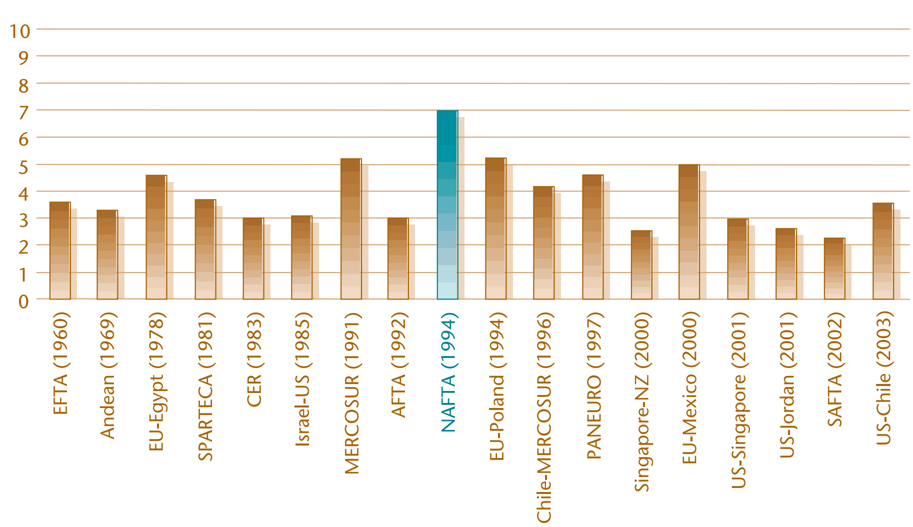
Do Importers Use NAFTA?

Restrictive and costly NAFTA ROO create an incentive to use the MFN tariff rates rather than the NAFTA tariff to avoid the compliance costs. As such, restrictive ROO result in lower utilization rates of the preferential tariff and reduced benefits resulting from the free trade agreement.

A NAFTA utilization rate is the percent of imports that qualify for NAFTA treatment entering into a member country under the NAFTA preferential tariff rather than the MFN or some other tariff. Examining data on imports from Canada to the United States, Estevadeordal and Suominen (2004) demonstrated that NAFTA utilization rates declined with the introduction of NAFTA in those sectors

FIGURE 1

Restrictiveness Index of Selective Trade Agreements



Source: Australia Productivity Commission (2003).

with more stringent ROO. This would suggest that there is an inverse relationship between utilization rates and the level of restrictiveness.

Moreover, there are large intersectoral differences in NAFTA utilization rates, which are high for US imports from Canada in fats and oils (98%), textiles and apparels (95%) and plastics (93%) and extremely low for jewellery (15%), wood products (17%) and pulp and paper (26%). These differences may reflect the restrictiveness of specific ROO, intersectoral differences in MFN versus NAFTA tariff rates, sectoral variations in the ability of producers to qualify for NAFTA status, and the degree of trade friction within the sector.

There are also large Canadian-US differences in NAFTA utilization: in the 20 sectors compared, six show an inter-country difference of less than 10 percentage points, six have a difference of 10 to 20 points, and eight post an inter-country difference that is greater than 20 points.

The reasons for these differences have not yet been assessed, but the PRI is undertaking comprehensive analyses using disaggregated data on Canada-US NAFTA utilization rates to attempt to answer this question.

What Are the Economic Effects of NAFTA ROO?

There are several drawbacks to restrictive ROO. First, to the extent that ROO hinder trade, the welfare gains associated with a free trade zone are not realized. Second, and perhaps more important, NAFTA ROO can create a bias toward investment in the United States, since multinational firms seeking larger markets have an incentive to minimize uncertainty and costs that hinder trade within the FTA. This may contribute to Canada's decline in the share of North American bound foreign direct investment.

Third, restrictive ROO can create incentives for producers to use member country inputs to satisfy ROO requirements rather than third country inputs even though they may be less costly. This distortion of the sourcing and purchasing decision causes policy-induced allocation inefficiency.

What do the quantitative studies reveal about these economic costs of NAFTA ROO? Appiah (1999) estimated the economic welfare costs of NAFTA ROO at 1.5 to 2.3% of GDP in his intermediate case.[1] The author found the more restrictive the ROO, the greater the cost in terms of foregone GDP. Using a model of Mexican exports, Cadot et al. (2002) examined a hypothetical NAFTA without ROO, and estimated that the elimination of ROO would increase Mexican exports to the United States by 17.8%.

Ghosh and Rao (2004) found that eliminating NAFTA ROO between Canada and the United States would increase Canada's GDP by 1.0%, the US GDP by 0.1%, Canadian exports to the United States by 19.2%, and US exports to Canada by 22.7%. (A summary of Ghosh and Rao's study is featured elsewhere in this issue of *Horizons*.)

TABLE 1

NAFTA vs MFN Tariffs

	Year	Average Applied Tariff		Duty-Free Tariff Lines (% of total)	
		NAFTA	MFN	NAFTA	MFN
Canada	2000	0.5	4.4	93	49
United States	2000	0.3	4.6	95	35

Source: WTO World Trade Report 2003, Table IB 13.

Overall Assessment of NAFTA ROO

Available empirical evidence suggests that NAFTA ROO result in large and unexpected economic costs that reduce the expected net benefits from trade. Research, to date, indicates NAFTA ROO are relatively costly and restrictive, utilization rates of NAFTA preferences are less than expected, and the economic costs of NAFTA ROO appear to be significant.

A Canada-US Customs Union

At its core, the creation of a customs union would require the negotiation and implementation of a common external tariff (CET) on third country imports. Other key components include harmonized external trade policies, a revenue sharing agreement for the customs duties collected at the external border, compatible customs procedures, and a supportive governance structure.

Are Canada-US MFN/NTR Tariff Rates Close?

The complexity of the negotiation and implementation of a CET depends on the extent of inter-country differences

TABLE 2

Applied Tariffs by WTO Category and HS Section, 2002

Total	Tariff Lines[1]	Canada[2]	United States[3]	Difference
	8,364	6.8	5.1	1.7
WTO categories				
Agriculture	1,263	21.7	9.8	11.9
WTO Non-agriculture	7,086	4.2	4.2	0
HS Section				
01 Live animals and products	274	55.6	11.4	44.2
02 Vegetable products	438	4.5	4.0	0.5
03 Fats and oils	62	9.3	3.9	5.4
04 Prepared foods, etc.	498	18.3	13.2	5.1
05 Minerals	174	1.1	0.7	0.4
06 Chemicals and products	1,102	3.2	3.9	-0.7
07 Plastics and rubber	370	4.2	3.7	0.5
08 Hides and skins	227	3.2	4.3	-1.1
09 Wood and articles	113	2.6	2.2	0.4
10 Pulp, paper, etc.	194	0.6	0.5	0.1
11 Textile and articles	1,421	9.8	9.6	0.2
12 Footwear, headgear	104	11.6	13.5	-1.9
13 Articles of stone	185	3.4	5.1	-1.7
14 Precious stones, etc.	65	2.3	3.0	-0.7
15 Base metals and products	893	2.2	2.3	-0.1
16 Machinery	1,423	2.0	1.6	0.4
17 Transport equipment	238	5.2	2.6	2.6
18 Precision equipment	345	1.9	3.1	-1.2
19 Arms and munitions	32	3.9	1.5	2.4
20 Misc. manufactures	197	5.2	3.2	2.0
21 Works of art, etc.	9	1.4	0	1.4

Notes:
1 Number of Canadian tariff lines.
2 WTO (2003) Trade Policy Report Canada.
3 WTO (2004) Trade Policy Report United States.

in external tariffs, and the preferential trade agreements that member countries have with third countries. With a Canada-US CET, there would be no need to use NAFTA ROO on bilateral trade. Duties would be collected on third country imports based on the common tariffs, and collected revenues would be allocated between Canada and the United States according to a revenue-sharing agreement.

Based on 2000 data (Table 1), Canada's average MFN tariff of 4.4% is already close to the US average MFN/NTR (normal trade relations) rate of 4.6%.[2] Moreover, 49% of Canada's MFN tariff lines (i.e., traded items) are duty-free, compared to 35% of the US MFN/NTR tariff lines. Average tariff rates under NAFTA are very low in both countries, leading to a large NAFTA preference ratio (i.e., the MFN rate less the NAFTA rate).

Analysis of 2002 tariff data categorized by Harmonized System (HS) sections (see Table 2) shows that Canada-US differences in MFN/NTR tariffs tend to be relatively small. With Canada reporting an average applied tariff of 6.8% and the United States 5.1%, there is a difference of only 1.7 percentage points. However, this difference is mainly due to high tariffs for agricultural imports into Canada. The category of WTO non-agriculture, representing 85% of Canadian tariff lines, shows no difference in the average applied tariff between Canada and the United States with both reporting an average tariff of 4.2%.

Of the 17 non-agriculture sections, nine (representing 81% of non-agriculture Canadian tariff lines and 68% of all Canadian tariff lines), exhibit a Canada-US difference of less than one percentage point.

This suggests there are several sectors where Canadian and US MFN/NTR rates are sufficiently close to harmonize tariffs and eliminate ROO with minimal disruption.

NAFTA already has the equivalent of a sectoral customs union in computers and computer peripherals, where, in one of the most unique features of NAFTA, the three countries eliminated or gradually harmonized their respective tariffs. Once within the NAFTA territory, these articles can move among Canada, Mexico, and the United States without further duty payment.

The Economic Benefits from Moving Toward a CET

Since Canadian and US tariff rates are already generally low and similar, the economic gains flowing from the adoption of a CET are much smaller than those associated with the elimination of the NAFTA ROO. For example, Ghosh and Rao (2004) examined the impact of a Canada-US customs union and found that the economic gains accruing to Canada as a result of tariff harmonization only were merely 0.1% of GDP.[3] The United States would experience even smaller gains.

Overall, the combined gain to Canada from the implementation of the CET and the elimination of ROO between Canada and the United States could reach about 1.1% of GDP or about $12 billion, based on the 2002 GDP. This would be a permanent annual gain. The combined economic benefit to the United States would be equivalent to a 0.12% increase in GDP or $US13.5 billion, based on the 2002 US GDP.

Concluding Remarks

The issues surrounding the creation of a Canada-US customs union, either on an economy-wide or sectoral basis, are technical and complex, but the benefits could be substantial. Initial analysis of some of these issues suggests the following.

- NAFTA ROO are highly restrictive compared to other ROO worldwide, and impose significant compliance costs on firms engaged in intra-NAFTA trade.
- The elimination or reduction of the costs associated with the NAFTA ROO would provide significant economic benefits.
- The relatively small differences in the external tariffs suggest the implementation of a CET would be associated with relatively small adjustment costs and small positive benefits. However, sensitive sectors, such as automotives, agriculture, and textiles, may warrant special consideration.

Research exploring these issues, as outlined in the original PRI workplan (PRI, 2003), is continuing.

What Did The Experts Say?

On March 26, 2004, over 30 academics and government officials met in Ottawa to discuss some of the key issues associated with North American Free Trade Agreement (NAFTA) rules of origin (ROO) and external tariffs involving Canada and the United States. This roundtable was part PRI-SSHRC (Social Sciences and Humanities Research Council) roundtable series, the objective of which is the exchange of information between experts from academia and those responsible for the development and design of federal policies and programs.

The Roundtable began with four short presentations that provided useful background material.[4] The floor was then turned over to the invited experts and government officials. A wide-ranging discussion ensued, out of which there was considerable consensus. Three issues stood out.

Difficulties with a Customs Union in the Current Environment

It was generally accepted, at least for the time being, that a full Canada-US customs union and CET would be difficult to implement in the current environment, for both economic and political reasons.

The audience understood there is an "opportunity cost" to pursuing a customs union with the United States, at the expense of focusing on other public policy problems. Several felt the benefits of a customs union, as estimated from the general equilibrium model of Industry Canada, while significant, were nevertheless sufficiently small to warrant some caution when assessing the policy options available to reduce trade friction between the two countries. (See also the article by Ghosh and Rao in this issue of *Horizons*.)

Professor John Whalley of the University of Western Ontario and Dr. John Helliwell of the Bank of Canada were both surprised that these general equilibrium findings were even as high as they were. Richard Lipsey of Simon Fraser University pointed out that the Treaty of Rome (which led to the creation of the European Economic Community, and subsequently to the European Union) also had small numbers. The lesson is that aggregate general equilibrium models almost always observe small welfare changes from policy changes. Many participants agreed that the identification of larger, dynamic benefits lies in the research of the micro details. They suggested that future research should be in the direction of more disaggregated analysis, whenever possible.

John Helliwell further elaborated on the opportunity cost of pursuing a customs union relationship with the United States. He noted that the US economy is shrinking relative to the world economy. Better, in his mind, to focus on building stronger relationships and linkages with other faster-growing countries, such as China. However, Bill Robson of the C.D. Howe Institute, while agreeing that Canada should pursue opportunities wherever they are, nevertheless argued that Canada has been benefiting from a strong trade relationship with the United States. He pointed out that the sectors that benefited the most from this relationship were those in which the most liberalization occurred, and it is these benefits that we would like to generalize to all sectors through a deeper relationship with the United States.

A key problem identified by many participants that reduces the likelihood of a bilateral customs union arrangement with the United States in the short term is the perceived lack of interest on the part of the United States as it focuses on other domestic and international policy issues. For example, Francoy Raynauld of the NAFTA Secretariat related how Canada may be the best trading partner of 39 of the US states, but this still translates to a very small proportion of US GDP. Because of this and other events, a Canada-US customs union is not top-of-mind for US decision makers. And if there was a United States interest, it is expected that Mexico would insist in being part of the process. Mr. Raynauld further suggested that the United States would not be attracted to any discussion that does not bear on its current topics of the day, which includes homeland security and the war on terrorism.

However, Professor Lorraine Eden of Texas A&M University did point out a caveat. The front door to further discussion about alternative arrangements with the United States should not be viewed as completely closed. Should Chile or another country be willing to come into NAFTA, this would provide an opportunity to revisit ways to harmonize tariffs and ROO, and move further in the direction of a customs union with the United States.

Finally, several participants commented on the potential loss of control over some trade policy levers that would accompany the creation of a customs union. The maintenance of a CET would require Canada and the United States to harmonize the trade policy stance toward third countries. This would require both countries to offer a common front in multilateral discussions. For example, Canada's current position on Cuba, and past relations with China, are areas that could have been constrained by a harmonized trade policy with the United States.

Participants viewed changing NAFTA ROO as a much more do-able endeavour in the short term. Basically, ROO are a hassle for firms, and any impediment that hinders the ability of exporters to take advantage of opportunities invokes welfare costs.

How About Sectoral Arrangements?

Despite the considerable challenges to a full Canada-US customs union, there was wide consensus that Canada could still pursue special arrangements at the sectoral level. Danielle Goldfarb of the C.D. Howe Institute suggested that Canada could build on special arrangements in the computer peripherals sector, which would provide a precedent for sector harmonization elsewhere.

She further suggested that there are a number of candidate sectors where NAFTA and most favoured nation rates are low or close. This would require more analytical work on sectoral options. She recommended Rolf Mirus' research as a good start.

David Sheehan of the Canada Border Services Agency acknowledged there are advantages to getting rid of ROO wherever possible. Energies and resources tend to be devoted where duties are high, because of the related incentives to circumvent ROO, but as more tariffs come down, and ROO are eliminated, more resources could be applied to the remaining more difficult sectors, like apparel, textiles, and clothing. Benoit Robidoux of the Department of Finance reminded people that consideration would still be necessary as to the sequencing of sectors, since harmonization arrangements in one could have impacts on others. Individual sectors draw inputs from other sectors while at the same time providing inputs to these and other sectors. We need to know how these other sectors will be affected.

André Downs of the PRI added a cautionary note: There are implications to picking the "low hanging fruit" of the more easily harmonized sectors. We will be left facing the difficult ones, and Canada's ability to address these will then be limited. An alternative, and potentially more promising option, is to pursue all sectors at the same time, which would allow some potential trade-offs. Others suggested that the incremental approach will still free up resources that could be used to help address issues in these difficult sectors (e.g., agriculture, textiles, clothing), which in any case may not represent promising candidates until progress in reducing protection is achieved within the WTO and other forums.

Lorraine Eden also highlighted that as new preferential trade agreements are signed, and the worldwide system of regional arrangements becomes more complicated, it is more difficult to harmonize the ROO of two countries. Therefore, if worth pursuing, it is desirable to move forward sooner rather than later.

NAFTA ROO – Time for Change

With respect to ROO, participants were virtually unanimous. They viewed changing NAFTA ROO as a much more do-able endeavour in the short term. Basically, ROO are a hassle for firms, and any impediment that hinders the ability of exporters to take advantage of opportunities invokes welfare costs. It was felt that Canada should strive to make NAFTA ROO more lenient.

And indeed, the Government of Canada has already begun the process. The departments of Finance and Foreign Affairs have been actively engaged in a consultation process regarding NAFTA ROO. In December 2003, they invited interested Canadians to a consultation regarding both the harmonization of most favoured nation tariffs with the United States and Mexico and the liberalization of NAFTA ROO. Industry input is essential before policy advice on such technical issues goes forward. The United States has also received submissions, and Mexico will soon finalize its consultations. The three countries have agreed to meet in Washington to develop some recommendations with a target date of January 1, 2005 for a new more liberalized NAFTA ROO.

That having been said, there are still challenges. For instance, it was pointed out by Daniel Schwanen of the Institute for Research on Public Policy that there have been protectionist and other reasons for ROO that reflect the bargaining power of particular interests when NAFTA was negotiated. John Whalley reiterated that ROO are little understood. They are highly product-specific, and reflect a negotiation process responsive to commercial concerns. As Schwanen warned, we must be watchful that other protectionist barriers do not replace ROO.

In addition to protectionist sentiment, John Helliwell outlined how there is a home bias of firms, so we should not have unrealistic hopes that eliminating ROO will suddenly result in more investment by US firms in Canada. The border will remain, and home bias will continue to influence the location of new ventures. Still, if ROO are streamlined or eliminated, Helliwell suggested that it would generate growth in both bilateral and international trade.

There were various times during the Roundtable when the participants focused on the low NAFTA utilization rates. Of course, the restrictiveness of NAFTA ROO is one reason. Falling most favoured nation rates, which reduce the importance of a NAFTA preference are another. As well, a number of participants commented on how it must be difficult and costly for firms to use NAFTA for complex product mixes. For these products, it would be tough to account for the origin of parts and intermediate inputs. Continued globalization will only make these difficulties worse. The problems facing small- and medium-size firms would be even greater. As Lorraine Eden pointed out, these and other costs, such as those related to compliance and information costs, always hit smaller firms harder.

The Question of Governance

In addition to the above three issues, several others bear mention. Professor Bill Dymond of Carleton University suggested that research be conducted on governance issues. He sees merit in finding ways to resolve problems without resorting to formal treaties, whether it is a customs union or another NAFTA-plus arrangement. He directed attention to what has happened within the European Union, where informal institutions have built up over a number of years.

At times, the audience was reminded that there are many other issues of significance that impinge on cross-border relations, such as differences in regulations and standards, and obstacles to labour mobility. For this reason, John Whalley suggested that discussions with the US should go beyond negotiations on CET and ROO and encompass other trade obstacles.

John Curtis of International Trade Canada also pointed out that ROO do not capture services, and outside of trade policies, there are issues related to the exchange rate and investment that are also important concerns.

Closing Remarks and the Way Forward

In the context of the PRI's North American Linkages project, the Roundtable was very useful.

Pursuing a full customs union with the United States may not be considered by some to be a realistic option at this stage, but all agree that efforts have to be deployed to reduce the restrictive and costly impact of ROO on bilateral Canada-US trade.

Further analytical research should focus on why NAFTA utilization is so low. Special emphasis should be placed on the additional challenges faced by small- and medium-size firms in taking advantage of NAFTA.

However, some comments from the Roundtable also suggest that future research should be targeted to better understand NAFTA ROO. This includes Danielle Goldfarb's suggestion of more detailed and disaggregated analytical research of a sectoral nature, given the importance of the sectoral option when it comes to harmonizing tariffs and liberalizing NAFTA ROO. Along these lines, Lorraine Eden suggested surveying the computer peripheral industry about corporate satisfaction with the harmonized rules in that sector. She suggested a follow-up survey for other industries to help identify new candidates for ROO harmonization. As pointed out by Benoit Robidoux, a better understanding of sectoral links will help in considering how ROO harmonization in one sector may affect others. Of high importance is the impact of ROO on intermediate inputs and regional content and trade deflection. Such research would also be useful for understanding the sectoral and regional impacts of NAFTA.

As well, the Roundtable helped to identify some emerging issues and future challenges. Along these lines, further analytical research should focus on why NAFTA utilization is so low. Special emphasis should be placed on addressing the issue of small- and medium-size firms and the additional challenges they face in taking advantage of NAFTA. Such research should examine the impact of NAFTA in the framework of business and investment decisions.

While the jury is still out on the feasibility of a full customs union, it was pointed out that with any further expansion of NAFTA or development of any new regional trading arrangement including Canada and the United States, there would be opportunities to revisit many of these same issues. Governance issues will likely figure prominently in discussion for any NAFTA-plus arrangement, and the development of informal institutions will play a role in defining the ultimate arrangement. Consequently, research should continue on the rise in importance of informal links and institutions, and the role they play in the integration process between Canada and the United States.

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Notes

1 Appiah models NAFTA ROO as a change in the tariff classification and as regional value content. The change in tariff classification is approximated by the percentage increase in value added per unit of foreign inputs to achieve the tariff classification change. His intermediate case simulates a change in tariff classification (tariff shift) equal to 30 percent in value added per unit cost of foreign input.

2 In that it offers the MFN tariff to all countries in the world (except the Democratic People's Republic of Korea and Libya), Canada uses to the MFN tariff more as a base or non-preferential rate. The United States, in 1998, renamed MFN to normal trade relations (NTR) since most nations have this trade status with the United States.

3 Brown et al. (2003) and Appiah (1999) found that the aggregate benefits and the distributional effects from adopting a CET depend on how the CET is calculated. Although the results of these two studies are informative, the inclusion of a third country (Mexico) provides an unreliable guide as to the likely economic effects arising from a Canada-US customs union.

4 The following four papers, which were presented at the Roundtable, are available on request from the PRI. Please contact Bob Kunimoto at 613.943.2401 or b.kunimoto@prs-srp.gc.ca.

Estevadeordal, Antoni and Kati Suominen. 2004. *Rules of Origin: A World Map and Trade Effects.*

Ghosh, Madanmohan, and Someshwar Rao. 2004. *Economic Impacts of a Possible Canada-U.S. Customs Union: Simulation Results from a Dynamic CGE Model.*

Kunimoto, Bob and Gary Sawchuk. 2004. *Moving Toward a Customs Union: Perspectives and Evidence.*

Mirus, Rolf and Katrin Hoffman. 2004. *Estimating Potential Savings from Streamlining Tariffs Among NAFTA Partners: An Alberta Perspective.*

Thinking North America

At the 15th anniversary of the Canada-US Free Trade Agreement and the 10th Anniversary of the North American Free Trade Agreement, the Institute for Research on Public Policy (IRPP) convened, in October 2003, its second Art of the State symposium. The theme of the symposium was "Thinking North America: Prospects and Pathways." The outcomes of this event are being published in eight folios to be released between March and October 2004. The folios will be released individually, but together form a collection that explores a wide range of North American issues.

Folios released to date include:

Fry, Earl. 2004. "The Role of Subnational Governments in North American Integration." IRPP, March 18.

Hart, Michael. 2004. "A New Accommodation with the United States: The Trade and Economic Dimension." IRPP, March 17.

Schwanen, Daniel. 2004. "Deeper, Broader: A Roadmap for a Treaty of North America." IRPP, April 20.

For further information, please visit the IRPP the web site at <www.irpp.org>.

Possible Economic Impacts in Canada of a Canada–US Customs Union

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There has been a great deal of public discussion and debate in Canada about Canada-US economic relations. A number of policy analysts and commentators have put forward various proposals to broaden and deepen the North American Free Trade Agreement (NAFTA). These include harmonization of border measures and procedures with regard to customs, refugees, and immigration; increased co-operation in countering terrorist threats; mutual recognition by Canada and the United States of each other's regulatory procedures and practices; free movement of labour between the two countries; replacement of anti-dumping and countervailing duties in the two countries by a common competition law; a monetary union or common currency; harmonization of Canadian and US tariffs against non-NAFTA countries (common external tariffs); and the elimination of the rules of origin provisions of NAFTA.

But, to date, there is not much analysis of the economic impact of these NAFTA-deepening proposals. The objective of this article is to analyze the general equilibrium economic impacts of a customs union between Canada and the United States on the Canadian economy, using a multi-country/region and multi-industry dynamic computable general equilibrium (CGE) model.[2]

The model is calibrated to the benchmark Global Trade Analysis Project (GTAP) data in 1997 (GTAP, 2001). The GTAP data are available for 65 countries/regions, disaggregated by 54 industrial sectors. Nevertheless, to keep the simulation results to a more manageable level, we aggregated the GTAP data into seven regions/countries and eight major industries. The seven regions/countries are Canada, the United States, Mexico, Mercosur, the rest of Latin America, Europe, and the rest of the world.[3] The eight major industries are agriculture, food processing, resource-intensive industries, textiles, manufacturing, automotive, machinery and electronics, and services.

The model we use assumes full employment. In addition, labour supply is exogenous and does not respond to changes in real wages. This means that total employment at the economy level does not deviate from the base case level in the simulations, but capital accumulation is endogenous in the model. In addition, the industrial structure of employment and capital responds to changes in economic variables in the simulations.

Monetary variables do not play a role in the model. Consequently, CGE models are not able to handle cyclical impacts on product and labour markets. Nevertheless, CGE models do a good job of capturing the influence of trade and tax policies on the re-allocation of capital and labour inputs among industries. Thus, CGE models are capable of capturing adequately the aggregate efficiency gain from the re-allocation of labour and capital inputs among industries.

The Design of Simulations

Formation of a customs union or a free trade area is allowed as an exception to the basic principle of non-discrimination in the General Agreement on Tariffs and Trade (GATT) under article XXIV. A customs union is a group of countries that eliminate all tariffs on trade among themselves, but maintain common external tariffs on trade with countries outside the union (thus technically violating the most favoured nation principle). Historically, the exception was designed, in part, to accommodate the formation of the European Economic Community in 1958, and it was based on the understanding that although these are discriminatory associations, they may not pursue policies that increase the level of discrimination practised by these countries beyond that which existed prior to the formation of the preferential arrangements; and that preference has to cover "substantially all trade" between the participants.[4]

For simulating the economic impacts of a Canada-US customs union, we first analyze the impact of common external tariffs (CET) by Canada and the United States against non-NAFTA member countries, and elimination of all the remaining tariffs between Canada and the United States. We have two alternate scenarios on common external tariffs. In the first scenario, the minimum US and Canadian non-NAFTA tariff rate in each major industry is adopted as the common external tariff rate. In the second scenario, US non-NAFTA tariff rates are used as the common external tariff rates by the two countries vis-à-vis non-NAFTA member countries.

In a third scenario, we simulate the impacts of the elimination of the rules of origin (ROO) provisions of NAFTA for importing into Canada and the United States from non-NAFTA countries. The rules of origin provisions specify the condition under which such privilege is granted.[5] Under NAFTA, an importer must submit to the customs authorities a NAFTA certificate of origin to be eligible for the preferential tariff rates. Virtually all products that qualify under ROO face zero duties when traded between the United States and Canada, and pay low or zero tariffs when traded between the United States and Mexico. If a product does not qualify for NAFTA tariff preferences, then that product is usually subject to the most favoured nation tariff rate.

The economic justification for ROO is that they are needed to prevent trade deflection and protect domestic industries from non-member countries. However, ROO provisions will divert trade from non-NAFTA member countries to NAFTA countries, leading to a misallocation of productive resources in NAFTA member countries. For example, the tariff preferences in favour of NAFTA countries might distort the input choices of firms from a low cost non-NAFTA source to a high-cost NAFTA source, leading to production inefficiencies. In addition to the allocative inefficiencies, these trade restrictions also impose a significant cost of paper work on importers and exporters. Administering ROO requirements also involves costs to the governments.

The compliance costs of ROO in EFTA are estimated to be between 1.4 and 5.7% of the value of export transactions (Goldfarb, 2003). If these rates are applied to Canada's exports to the United States, Canada could benefit by $4 billion to $18 billion annually by eliminating the NAFTA ROO. Appiah (1999) estimated that the welfare cost of the ROO under NAFTA for Canada ranges from 0.3 to 3.0% of gross domestic product (GDP) depending on the structure of the model used.

The model we use is capable of capturing the allocative inefficiencies resulting from the trade diversion effects of the tariff preferences. In an effort to capture the gains from the reduction of paperwork to Canadian and US importers, in the shocked scenario, we reduce the most favoured nation rates to the NAFTA rates in Canada, Mexico, and the United States. The rationale for this assumption is the observation made by many analysts that most importers and exporters simply pay the differential tariff rather than go through the paperwork. We, however, recognize that our assumption of uniformly lowering the most favoured nation rates to the NAFTA rates might overestimate the gains from the elimination of the ROO provisions. Therefore, the simulated gains and inter-industry shifts in employment and capital could be considered as the upper bound estimates. We do not model explicitly the production efficiencies from the removal of distortions in the input choices of firms, because of the lack of detailed micro data on imports from NAFTA and non-NAFTA member countries.

In the fourth and fifth simulations, we combine the third scenario, the elimination of the ROO provisions, with the two scenarios on common external tariffs.

Simulation Results

Economic Impact of Common External Tariffs

The reduction in tariff rates reduces prices of imports, and stimulates trade flows and consumption in Canada and the United States. They in turn induce inter-industry shifts in capital and labour inputs, leading to improvements in allocative efficiencies and real GDP.

The macro impacts are very similar in the two CET simulations, because the average tariff reduction is more or less identical in the two scenarios: -0.91 and -0.87 percentage points, respectively. Trade flows increase by between four and five percent in the two scenarios. Prices of consumer goods decline by about one percent, leading to a 0.1% increase in real consumer spending. Overall GDP or value added increases slightly, between 0.07 and 0.09%. Not surprisingly, the economic gains from common external tariffs to the United States are much smaller than to Canada, because the reduction in the average tariff rate is only between 0.08 and 0.23 percentage points. In addition, trade plays a much smaller role in the US economy than in Canada.

Elimination of the Rules-of-Origin Provisions of NAFTA

As discussed earlier, the elimination of ROO under NAFTA is implemented by equating most favoured nation tariff rates to the NAFTA rates. This implies an average tariff reduction of 2.11 percentage points in Canada, 0.6 percentage points in the United States and 5.72 percentage points in Mexico. Consequently, the gains from the elimination of ROO are considerably larger than the gains from common external tariffs to Canada and the United States. Canada's trade flows increase by about 13%, leading to a one percent gain in real GDP or value added. The US GDP increases by over 0.1%. On the other hand, Mexico's GDP increases by over five percent with the elimination of ROO.

Customs Union

This scenario combines common external tariffs with the elimination of ROO. The simulation results suggest that a customs union between Canada and the United States will increase Canada's real GDP by 1.1% compared to 0.1% in the United States and over five percent in Mexico. As expected, domestic supply of Canadian consumption declines, because of increased import penetration, as US exports to Canada increase by over 25% and Mexico's exports to Canada increase by over 40% in the two simulations. On the other hand, Canadian exports to the US also increase by over 25%.

The impacts by industries reflect mostly the changes in industry exports and imports. In the two customs union simulations, value added increases in all Canadian industries, except food. The big increase in food imports is responsible for the decline in the value added of the food industry in Canada. On the other hand, the big beneficiaries are the automotive and technology-intensive manufacturing industries. In the United States, value added in agriculture and the automotive industry declines, while the manufacturing and service sectors gain. Textiles, and the automotive and technology-intensive industries would be the big beneficiaries in Mexico. Industry shifts in employment in the simulations respond to changes in value added as well as changes in real wages. In Canada, employment will increase significantly in the automotive and technology sectors.

In short, our findings imply that common external tariffs and the elimination of ROO will deepen the economic linkages between the three NAFTA countries and will be beneficial for all of them. The simulation results are fairly robust with respect to the values of the key parameters of the model.

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Notes

1 This article is an abridged version of "Economic Impacts of a Possible Canada-U.S. Customs Union: Simulation Results from a Dynamic CGE Model"(forthcoming). The authors thank Renée St-Jacques, Chief Economist at Industry Canada, for providing useful comments on an earlier draft.

2 The model we use is an extended version of the Lavoie et al. (2001) prototype model.

3 MERCOSUR in our case includes Argentina, Brazil, and Uruguay. (Paraguay is not included as data on this economy is not available in the database.)

4 This article is a major exception to GATT's grandfathering most favoured nation principle and the principal article dealing with customs unions and free trade agreements.

5 For a good overview of ROO and its implications for regional integration, see Brenton and Manchin (2003).

Economic Regions in North America

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Introduction

The federal government, provinces, and regional and metropolitan governments need to identify the specializations of metropolitan regions in a Canadian, North American, and global context. To adapt successfully to the ongoing process of economic integration, they need to understand in more depth the factors driving metropolitan regional growth, and to develop policy initiatives aimed at enhancing the competitiveness of Canadian regions. As part of its North American Linkages project, the PRI is carrying out a research program on economic regions that should help governments achieve these goals.

This article reviews recent theoretical developments and empirical results that explain the growing importance of the agglomeration of economic activities in local-regional-metropolitan clusters, cross-border clusters (states and provinces in close geographic proximity), and trans-border clusters (located at a distance from one another, but linked economically). Data on population, employment, gross domestic product (GDP), and personal income are presented to describe major features of the territorial recomposition of economic activity in North America. Our research program is far from complete and our purpose, at this stage, is simply to provide a preview of the issues and hypotheses that are guiding the research.

The Growing Importance of Local, Cross-Border, and Trans-Border Clusters

Rising interest in economic regions is the result of theoretical developments and recently acquired data demonstrating that well-functioning economic regions have positive general effects on growth and productivity. Improving the performance of different economic regions in the increasingly integrated North American economy should help to improve the performance of Canadian provinces specifically, and of Canada in North America and the world generally.

Three interrelated major factors driving the integration process are particularly relevant to understanding the growing importance of clusters, defined as geographic concentrations of final products industries, their supply chains, other sectors that share technological or human capital affinities, and various supporting institutions (e.g., universities, research and development facilities, and venture capitalists).[1]

The first of these factors is the increase in the importance of general urbanization and specific industrial localization economies in an economic context that demands heightened innovation, sharing of information, knowledge, and high technology. Geographic proximity is of increasing importance in technological innovation. Recent analysis of historical patent citation data indicates that investors use domestic knowledge more than foreign knowledge, and knowledge from the metropolitan area more than knowledge from outside (Sonn and Storper, 2003).

Integration gives rise to competition in local markets between the same or similar products from different places. To cope, firms must innovate faster. According to Sonn and Storper, as the flow of information accelerates, codification and standardization of knowledge become difficult, and firms cope by building stable bridges with other nearby firms so as not to miss out on valuable information.

Maskell and Lorenzen (2003) argued that clusters are markets where commodities, services, and knowledge are traded among the insiders without restricting their abilities to interact with suppliers and customers residing elsewhere. Clusters reduce the barriers to acquiring and using knowledge produced or used locally, or imported from cluster firms located elsewhere. New firms setting up in clusters can, to some extent, skip the process of gathering knowledge about the business environment they face outside the cluster.

A second factor that makes the performance of regions and their cluster specializations of growing importance as a policy objective is the increasing tendency of firms to reorganize and locate different parts of their activities (e.g., production, finance, marketing) in different regions specializing in these different activities.

Although counterintuitive, quantitative analysis has indicated that reductions in the cost of the transmission of information, which helps in the location of lower value-added activities offshore, have also increased the importance of face to face interaction in cities and regions, the third fundamental factor we underline.

The joint participation of Canadian and American firms in the same cross-border or trans-border cluster can result in improved performance for both Canadian and American firms vis-à-vis offshore firms. This can be seen as a new element of a potential fourth trade option for Canada.

However, firms in clusters enjoy positive externalities that are both local and non-local. Some firms are part of North American or even global clusters. The largest firms in local clusters also act as network structures between regional nodes. Hence, our interest and distinction in this project between cross-border clusters (firms and institutions located in metro areas of provinces and states that are close to one another) and trans-border clusters (firms at a distance from one another, but linked by technological systems and value chains).

The improvement in the competitiveness of clusters in certain Canadian regions could come at the expense of those in the United States and offshore. This is not, however, a zero-sum game. The joint participation of Canadian and American firms in the same cross-border or trans-border cluster can result in improved performance for both Canadian and American firms vis-à-vis offshore firms. This can be seen as a new element of a potential fourth trade option for Canada (i.e., diversification through cluster-based North American integration).

Selected Features of North American Integration and Regionalization

Examination of data on population, employment, personal income, and trade flows at the macro region, state and province, and metropolitan levels indicates the territorial recomposition of economic activity is a continuing phenomenon. Preliminary analysis suggests a decline of the Northeast and Great Lakes regions (with some exceptions at the metropolitan level), a phenomenon related to the dissipation of the US manufacturing belt, and growing metropolization.

Demographic Trends in Canada and the United States

Between 1950 and 1996, the percentage of the total US metropolitan population in the Northeast region declined from 34% to 20%, and in the Midwest from 29% to 24%. The South saw its share increase from 23% to 33%, and the West from 14% to 23% (Pack, 2002).

A recent study of US urban decline and growth between 1950 and 2000 by Rappaport (2003) confirmed that population shifted regionally from the Northeast and Midwest to the South and West, and from large cities to suburbs, though at a much slower rate during the 1980s and 1990s than earlier. He also documented the fact that within each region some metro regions grew much more rapidly than others. Cities that declined continuously tended to be in the Northeast and Midwest, while cities that grew continuously tended to be in the South and West, which also experienced below average loss of population to suburbs and above average metropolitan area growth. Cities that reversed population declines were scattered throughout the country.[2]

The following data on growth in population between 1980 and 2002 are drawn from Poitras and Sawchuk (2003). While the average annual national growth rates of population were similar – 1.13% in Canada and 1.10% in the United States – significant regional differences existed.

Provincial average annual growth rates of population were as follows during the 1980-2002 period.

Provincial Average Annual Growth Rates of Population, 1980-2002

Atlantic	0.23%
Quebec	0.62%
Ontario	1.47%
Prairies	0.35%
Alberta	1.61%
British Columbia	1.89%
Territories	1.60%

Regional average annual growth rates of population were as follows in the United States during the same period.

Regional Average Annual Growth Rates of Population, United States, 1980-2002

Northeast	0.62%
Mideast	0.49%
Great Lakes	0.42%
Plains	0.57%
Southeast	1.38%
Southwest	1.96%
Rocky Mountain	1.74%
Far West	1.85%

During the most recent decade (i.e., between 1990 and 2001), the following North American macro regions experienced the most rapid increases in total population.

Increase of Population in Selected Macro Regions of North America, 1990-2001

Rocky Mountain	29.1%
Southwest	25.8%
British Columbia	24.6%
Southeast	18.2%
Far West	18.3%
Ontario	15.5%
Prairies	12.2%
Plains	9.5%
Great Lakes	9.0%

Source: PRI North American Data Bank.

Several points are worth highlighting from the above tables.

- British Columbia and Ontario are part of the group of rapidly growing macro regions.
- Certain regions (i.e., Rocky Mountain and British Columbia) grew at a rate similar to that of the Southwest, which is generally believed to be the emerging leading economic region in North America.
- The Southeast region surpassed Ontario. This observation prompts us to question whether Ontario is beginning to feel the effects of the disappearance of the US manufacturing belt (see below).

A variety of factors may explain these trends, among them lower wages and land prices in the South, technological changes, the development of air conditioning, the aging of the population, import penetration, the national highway system, water projects, economic development policies, and the relative performance of clusters in different regions. We are testing this hypothesis as part of our project.

Regional Changes in Total Employment: Macro Regions, States, and Provinces

Total employment increased as follows between 1990 and 2001 in selected macro and metro regions.

Increase in Employment in Selected Jurisdictions, 1990-2001

Southwest	43.09%
Rocky Mountain	42.97%
Southeast	25.10%
British Columbia	24.89%
Far West	20.01%
Plains	19.96%
Prairies	18.42%
Great Lakes	16.04%
Ontario	14.89%
Quebec	10.06%
Atlantic Provinces	8.96%
Mideast	8.93%

Source: PRI North American Data Bank.

Given that the top five macro regions are the same in both cases, there exists an obvious positive correlation between population growth rates and employment growth rates as seen in the above tables. Ontario being sixth place in terms of population growth, and ninth in terms of employment, indicates that the effects of North American integration may be beginning to affect it negatively, as it has the Great Lakes region, which was ninth in terms of both population and employment growth.

Growth in Real GDP in US Macro Regions, States, and Metro Areas Between 1989 and 2001[3]

Between 1989 and 2001, real GDP in the United States increased by 3.0% annually on average.[4]

The Rocky Mountain sub-region was the fastest growing (5.0%). It includes Colorado, Idaho, Montana, Utah, and Wyoming. The Great Lakes sub-region grew at a lower rate than the national average (2.7%), and the Northeast region was the slowest growing macro region (2.3%).

Data on growth in GDP by metropolitan statistical area (MSA)and central metropolitan statistical area (CMSA) between 1997 and 2002 indicate that the fastest growth rates (i.e., between 35% and 42%) were observed in Austin, Denver, Houston, and San Diego, all metro areas located in the Southwest of the United States.

Lower growth rates of GDP, in the 17% to 20% range, were recorded for cities located to the north near the Canadian border (i.e., Buffalo, Cleveland, Detroit, and Rochester).

The movement of the auto industry south and the localization of new high tech electronic activities in the south explain some of the territorial recomposition of economic activity. Of particular interest to the Government of Canada is determining if the performance of the Southwest, generally more dynamic than that observed in the Northeast and Midwest, will negatively impact Canadian provinces and metro regions in the context of a more closely integrated North America.

Growth in Personal Income by Metro Region in the United States, 1990-2001

Data on personal income growth by metro region between 1990 and 2001 indicate that all metro areas in the top 10 were located in the Southwest United States.

Except for Honolulu, which is last in the ranked list of MSAs and CMSAs we are examining, US metro regions located near the Canadian border were at the bottom of the distribution of metro areas by rank in terms of growth in personal income between 1990 and 2001. These data are compatible with the movement southwest of the manufacturing belt.

In the 1970s and 1980s, average metropolitan area per capita income growth was as follows: all 250 MSAs 14% and 19%, Northeast MSAs 5% and 32%, Midwest MSAs 13% and 15%, South MSAs 18% and 19%, and West MSAs 15% and 17% (Pack, 2002). Note the high rate of increase in the Northeast MSAs.

Analysis of data on personal income per person for the 1990s indicates the presence among the top 10 of Boston in fifth place with an increase of 69%, Minneapolis in seventh place with an increase of 67%, and Seattle in ninth place with an increase of 65%. These results indicate that describing the process of territorial recomposition as a single movement toward the southwest is not sufficient. One hypothesis we are testing is that clusters are responsible for these results.

Note however that Boston, Minneapolis, and Seattle are not at the top of the distribution in terms of GDP growth and personal income growth. Data indicate the increase in total population in these three metro areas between 1990 and 2001 was relatively low, at 18.6%, 20.7%, and 7.6% respectively versus 55% in Austin, 51% in Phoenix, and 43% in Atlanta and Raleigh. Reasonable short-term performance in per capita terms may be masking medium- and longer-term problems for these areas.

The role and importance of local and regional factors in economic growth is also indicated by data on increases in average remuneration by employee between 1990 and 2001. The presence of Seattle (third) and Boston (fifth) in the ranking of metro areas by average remuneration indicates the influence of metro-based innovation and information technology as determinants of economic development.

Dispersion of the US Manufacturing Belt Toward the South and West, and to Non-Metro Areas

Preliminary analysis confirms the results obtained by Holmes and Stevens (2003) to the effect that the US manufacturing belt has dispersed toward southern, western, and non-urban locations in the United States (2003).

The movement of some of the auto industry (some of it to the Southwest United States and the Mexican *maquiladoras,* and now offshore to China) demonstrates a pattern that may affect other Canadian industries and clusters. The PRI project is aimed at the identification of Canadian clusters and sub-clusters that are competitive enough to develop and thrive north of the border given the integration process. We are also interested in describing and understanding the changes in the origins of exports and imports as the border effect diminishes (Brown, 2003).

Further integration may make for growing complementarities between north-south and interprovincial trade, and may make it possible for certain metropolitan regions (e.g., Montréal, Toronto, Vancouver, and Halifax) to develop as multimodal transhipment points for North American and offshore trade.

Metropolization and Interregional-International Trade

A growing percentage of the gross national product (GNP) is originating in metro regions (metropolization). As a consequence, we are witnessing an increase in interregional-international trade.

Population and employment have increased more rapidly in Canadian metropolitan regions, whereas regions located more than an hour's drive from Canada's urban agglomerations of more than 500,000 people are in demographic decline (Polèse, 2003). This is a result of the growing importance of information and knowledge in our economies, the importance of agglomeration economies that accompany clusters (particularly in services), the importance of proximity in manufacturing of high tech and medium tech products, and limitations on the exploitation of primary resources.

Development of A North American Data Bank

An initial task undertaken in our project involves the development of a data bank to describe the regional dimensions of the integration process in Canada and the United States. We are assembling harmonized and compatible data at four levels of aggregation:

- Canada and the United States;
- macro regions (i.e., groups of provinces and eight or nine regions in the United States depending on the source, Census or Bureau of Economic Analysis);
- states and provinces; and
- CMSAs and MSAs in the United States, and CMAs (25/27) in Canada.

The variables being studied are demographic data, standard labour force and macro-economic variables, employment, wages, number of establishments, clusters, location quotients, specialization indexes, and location in North America.

Our data bank will also allow us to estimate empirically the determinants of innovation and productivity in metro regions. One hypothesis we will test is whether the extent and location of cluster development helps explain some of the Canada-US productivity gap.

The data bank will also allow monitoring of the evolution of regional economies in a North American context, and the assessment of the impacts of policy initiatives.

Statistics Canada and Industry Canada are among the departments that have joined the PRI in this effort to develop a data bank that will be available to all federal government departments.

The Effects of Clusters on Economic Performance

Recent studies are beginning to document, in empirically acceptable ways, the effects of clusters on the level and growth of salaries, innovation, productivity, and export performance of metropolitan regions.

In a recent paper on the economic performance of regions and clusters, Michael Porter (2003) presented the following results of multiple regression analysis.

- About 30% of the regional variation in wages is accounted for by variations in patenting activity (basically an urban activity).
- Traded services industries have 20% higher average wages than traded goods industries.
- Average local wages are correlated to average traded wages (R^2 of 0.69%).
- State economies were, on average, more concentrated in specific traded clusters in 2000 than in 1990, a confirmation that specialization is a growing phenomenon in North America.

- Average wages and patenting are positively and significantly related to the share of traded employment in a region that is in strong clusters (R^2 of 0.377%).

A recent study of 14 high tech metropolitan areas in the United States indicated that they specialize in few products and technologies (Cortwright and Mayer, 2001). Examination of employment concentration, location quotients, patent activity, and venture capital flows demonstrates that specialization is the major pattern found in the more dynamic metro areas.

These observations and conclusions underlie the policy prescription we are testing econometrically to the effect that specialization is essential to the competitiveness of Canadian regions in a more and more integrated North American and hemispheric economy.

A New Role for Policy

Positioning Canada's metropolitan regions and provinces to compete effectively in North America, the western hemisphere, and the world will presumably involve new policy initiatives in a variety of areas.

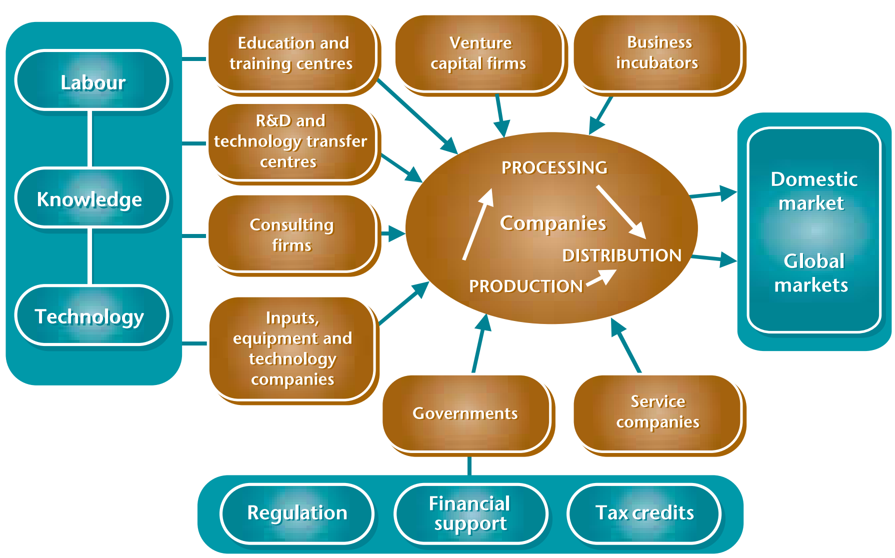
That federal, provincial, and regional-metropolitan government policies influence the development of urban regions in numerous interrelated ways is obvious from a cursory examination of Figure 1.

Industry sector policies, infrastructure, education, and innovation policies, in addition to intergovernmental relations, should be re-examined in light of the cluster specializations developed in Canadian regions.

National, state and provincial, regional and local governments are changing their approaches to economic development. There is growing attention to continental factors, micro-economic determinants of growth, innovation, regional productive systems and clusters, and the accessibility and availability of technology. Also of great importance are the skills of the labour force, the availability of domestic capital and foreign direct investments, advanced multimodal infrastructures, quality of life considerations that attract and keep highly qualified human resources, social capital, and social and environmental questions. Our research aims to provide information on many of these variables, and to test their contribution to metropolitan growth and competitiveness. The PRI project on economic regions should, as a consequence, contribute to policy proposals aimed at improving economic development at the metropolitan, provincial, and national levels.

FIGURE 1

Components of a Productive System



Source: Adapted from the work of Michael Porter and other American and European sources.

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Notes

1 At this stage in our research project, we are concentrating on local-regional-metropolitan clusters, and analyzing data for established political and administrative units (i.e., provinces, states, and metropolitan regions). Economic regions most likely do not coincide with administrative and political units; hence, our interest in work that deals with the identification of economic regions (e.g., Fezer and Sweeney, 2002).

2 The following Northeast and Midwest cities reversed declines: Providence, Boston, Jersey City, Worcester, St. Paul, New York City, Minneapolis, Chicago, and Kansas City.

3 This section draws upon DFAIT (2003).

4 US Bureau of Labor Statistics data on real GDP, 1996 = 100. The concept excludes remuneration of military and public personnel stationed outside the United States.

Canada–US Values

Distinct, Inevitably Carbon Copy, or Narcissism of Small Differences?

Christian Boucher[1]
Policy Research Initiative

"It is the natural tendency for…similar groups of people to exaggerate otherwise superficially minor differences. The more alike the groups, the more they will seek ways to differentiate from each other…. Uniting against others is normal human behaviour." (Sigmund Freud on the Narcissism of Small Differences, 1930).

Canada-US comparisons are always subject to vigorous debate among public policy researchers and practitioners. The extent of similarities and differences in values and belief systems, and their evolution over time, are both important and timely for policy development on the 10th anniversary of the North American Free Trade Agreement (NAFTA). We have heard both arguments: the thesis of inevitability – Canada's values are converging toward US values with growing economic integration with its southern neighbour (Inglehart et al., 1996; Simpson, 2000; Pastor, 2001) – and the thesis of unpredictability or myth of converging values (Lipset, 1990; Adams, 1997, 2003a,b). And most social disciplines have their own explanations for the trajectory that Canadian and American values have taken over the past two decades. But are there real differences between these two theses? Or is it merely semantic?

Most analysts would agree that in a global context, Canada has more in common with the United States than with the other G-8 countries. Nonetheless, whether values and beliefs in Canada and the United States are becoming more similar has profound policy implications for Canada. The main objective of this article is to look at the common and strikingly different characteristics of both societies using values and the belief system of the general public as the main analytical tool, and assess the trajectory over the rapid economic integration of the past two decades.

Perspectives on Canada-US Value Changes

Perhaps the "policy" argument has been the most used in past decades to highlight divergence or convergence of values between both nations. The adoption of the *Official Languages Act* in 1969, followed by the Royal Commission on Bilingualism and Biculturalism, and the *Canadian Multicultural Act* in 1985, was frequently used to highlight the differences between the countries. On the other hand, the introduction of the *Canadian Charter of Rights and Freedoms* in 1981 was used to emphasize the Americanization of Canada, because it limits the power of the state and increases the legal protection of individual rights. More recently, gun controls, the decriminalization of marijuana, same-sex marriages, the Kyoto Protocol, and the war in Iraq are all examples of distinct Canadian fingerprints. The pollster Frank Graves (2003) made the hypothesis that "the new North American trajectory may have been altered following distinct national decisions of North American countries on issues such as Kyoto ratification and the war in Iraq," but concluded after computing his polling evidence that "major (recent) policy disagreements did not have lasting or significant damage to intra-country attitudes."

Others used the "historical" argument to claim that both countries are different. Lipset (1990) argued that Canadian-American value differences

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are attributable to variations in founding circumstances and contrasting historical experiences. Pollster Michael Adams' line of reasoning goes in the same direction. He claimed in his most recent book (2003) that Canada and the United States are "fundamentally different" and "always have been," and argued that the two countries "were separated at birth, organized and governed differently." He suggested that the principles of both constitutions and of nation building diverge from the original intent. Life, liberty, and the pursuit of happiness are the centre of the American constitutional tradition, while peace, order, and good government were the principle elements of the constitutional framework in Canada. He argued that Canada was built by compromise while the United States by conquest. Canada had rebellions, the United States a civil war, dividing even today the North from the South. In Prime Minister Mackenzie King's words, "if some countries have too much history, Canada has too much geography. Unlike the United States, it finds little to celebrate: no revolution, no declaration of independence, no civil war to free the slaves."[2]

The "structural" argument was also made to support the claim of divergence. According to Horowitz (1973), the variations in the prevailing value systems of the two countries may have more to do with their basic structural differences. Canada, he argued, was a case of "lagged development and has been slower to give up the values and lifestyles characteristic of a less industrialized, more agrarian society." This line of reasoning implies that if Canada and the United States become structurally more similar, their values should converge too. There is important evidence of structural convergence between both countries over the past two decades. Consider the domains of post-secondary graduates, women's presence on the labour market, population ageing, and computer and Internet access. Others, like Lipset (1990), argued that structural factors such as ecology, demography, and economy, have had a tremendous impact on the development of values and attitudes toward government on both sides of the border. The geographic immensity, the relatively low population density, and less abundant resources made Canada much more dependent on government involvement in the economy to provide services for which private capital or a profitable market have not been available. In the United States, less emphasis was put on government involvement in terms of economic intervention and protection against a powerful neighbour. There are even some economic historians who advance a theory called the "Laurentian" thesis, which includes the assumption that Canada could not have survived as a separate country without state intervention and economic links to Europe.

The geographic immensity, the relatively low population density, and less abundant resources made Canada much more dependent on government involvement in the economy to provide services for which private capital or a profitable market have not been available.

The "interdependence" argument works at multiple levels, but it is defined largely in economic terms and favours the thesis of value convergence. The two countries have the largest bilateral trading relationship in the world (Fry, 2003); each is the other's most important source of imports and exports, and trade volume has increased threefold over the past decade, and six fold over the past two decades (DFAIT, 2003). The massive volume of American and Canadian investments in each other's country is also well documented. Canada-US trade grew much faster than interprovincial trade in the 1980s and 1990s (Coulombe, 2003), although Canada's regional economies have relied more and more on interprovincial exports as a key source of economic growth since 2000 (SC, 2004). More than two thirds of US merchandise trade with Canada is intra-firm (DFAIT, 2003). Another key trend has been the increased use of imports from each other as inputs into exports to each other (Schwanen, 2003). Canada receives the largest share of its foreign patents from American investors, and the United States receives the largest share of foreign patents from Canadians. (However, each has been falling over time.) In addition to these commercial linkages, Canada is the first source of foreign tourists for the United States, and the United States is the first source of foreign tourists for Canada (Fry, 2003).

TABLE 1

		# of Items	Leader of Change* 1990	2000
I	**Economic dimension:**			
1	Economic outlook (Better off in 1/5 years)	2	NA	NA
2	Support for free markets (% support free market)	4	NA	Can
3	Job attribute: self-actualization (% mention 5)	5	Can	Can
4	Job attribute: Comfort (% mention 5)	5	Can	US
5	Quality to teach to kids: thriftiness (% important)	1	US	US
6	Support for meritocracy (% support)	1	US	US
7	Control over destiny (% control)	1	US	US
II	**Political dimension:**			
8	Interest in politics (% very/somewhat)	1	Can	Can
9	Confidence in government institutions (% confidence)	4	Can	US
10	Confidence in non-government institutions (% confidence)	4	US	Can
11	National pride (% proud)	1	Can	Can
12	Fight for country (% yes)	1	US	Can
13	Cosmopolitanism (% local)	1	Can	US
14	Protest behaviour (% protest)	5	Can	US
15	Post-modern orientations (% post-modern orientation)	6	Can**	Can
16	Environmental ethics (% high environmental ethics)	3	NA	US
III	**Social dimension:**			
17	Situational intolerance: social (% intolerant)	5	US	US
18	Situational intolerence: racial (% intolerant)	2	US	Can
19	Civil permissiveness (% 1 or more behaviours is justified)	4	US	Can
20	Subjective well-being (% well)	1	Can	US
21	Egalitarian spousal relationship (% agree)	3	Can	
22	Quality to teach to kids: care for others (% important)	2	Can	Can
23	Trust in Americans (Canada)/trust in Canadians (United States)	1	NA	US
IV	**Moral dimension:**			
24	Moral permissiveness (% justifiable)	6	Can	Can
25	Quality to teach to kids: religious (% important)	1	US	US
26	Quality to teach to kids: secular (% important)	3	US	US
27	Subjective religiosity (% believe in god)	1	Can	US
28	Church attendance (% once a week and more)	1	US	Can

A full definition of these measures is available on request.

* "Leader of change test" was computed as follows for 1990 and 2000. If, for example, between 1981 and 1990 Canadian values approached American 1981 levels, American values were deemed to have led the values of their northern neighbours. But, if between 1981 and 1990 American values approached Canadian 1981 levels, Canadian values were deemed to have led the values of their southern neighbours.

** Nevitte (1996).

Interdependence arguments can also be extended to the geographical proximity of the United States to Canada. As Krugman (1991) pointed out, "Canada is essentially closer to the United States than it is to itself." Harris and Schmitt (2001) noted that many provinces are "closer to northern US states than distant Canadian provinces." Infrastructure between both countries also forms one immense and interconnected network; rail, electricity, gas pipelines, and the St. Lawrence Seaway are increasingly organized on north-south continental lines (Fried, 2003). At yet another level of integration, Canada and the United States share strategic interests in the defence of the continent.

Finally, the "cultural" argument refers to the wide spectrum of American cultural products, and the volume of cross-border media and communications transactions between the countries. The defenders of this argument are of the view that the cultural differences are lessening as Canadian culture is attacked by the US mass media. About 80% of the Canadian population has access to all the major American television networks. However, review of the sparse empirical literature on the effect of American media on Canadian values reveals no conclusive relationship (Surlin, 1995). American media would impact on Canadian's cognition (e.g., knowledge of US public affairs), but is inconclusive concerning American media effects on attitudes, values, beliefs, and norms.

Data and Methods

There is no consensus on the best way to determine the shape and substance of public values. Both qualitative and quantitative methods (e.g., review of laws, regulations, constitutions, policies adopted by governments, institutional arrangements, and broad measures such as crime rate and level of unionization, and public opinion surveys) have been used in the past. The approach that appears to be the most objective, comparable across time and nations, and broadest in scope comes from survey questionnaires. This paper relied mainly on the three waves of the World Value Survey (WVS) (1981, 1990, and 2000) for which a Canada-US value assessment for all three waves has never been conducted.

Building on previous research on general public values, a framework was developed to analyze, in a thorough manner, both societies, since the implementation of the Canada-US Free Trade Agreement (FTA). The initial task was to reduce the number of data elements under investigation and pay attention to a core set of indicators. Three necessary steps were required. First, about 300 individual survey items were winnowed down to 86, using three criteria:

- a time-series benchmark (Are there at least two points in time?);
- Canada-US benchmark (Was the same question asked both in Canada and in the United States?); and
- significance (Does the addition of this item broaden the research scope?).

The second step grouped these survey items into 28 measures using a combination of methods including

FIGURE 1

A Shift Toward Post-Modern/Secular Values, the Largest Change Characterizing Both Societies Between 1981 and 2000

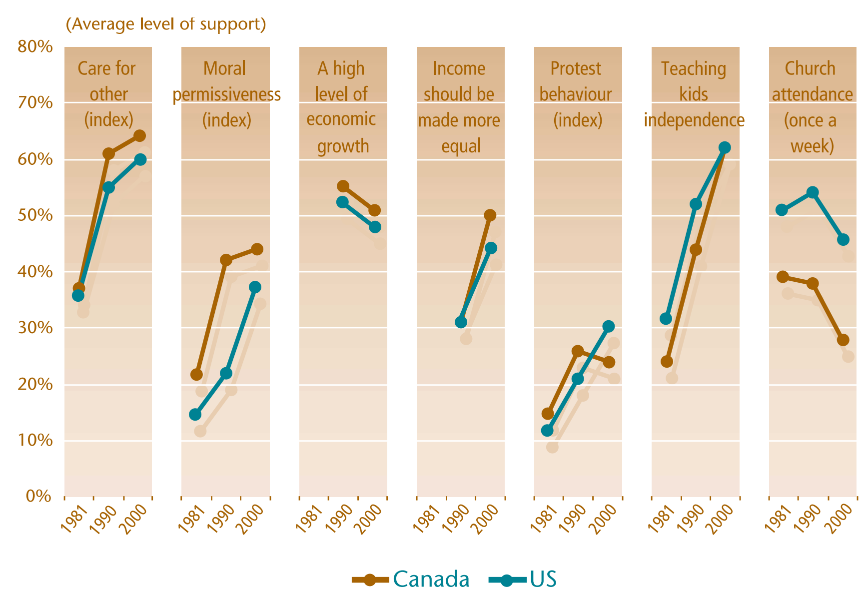
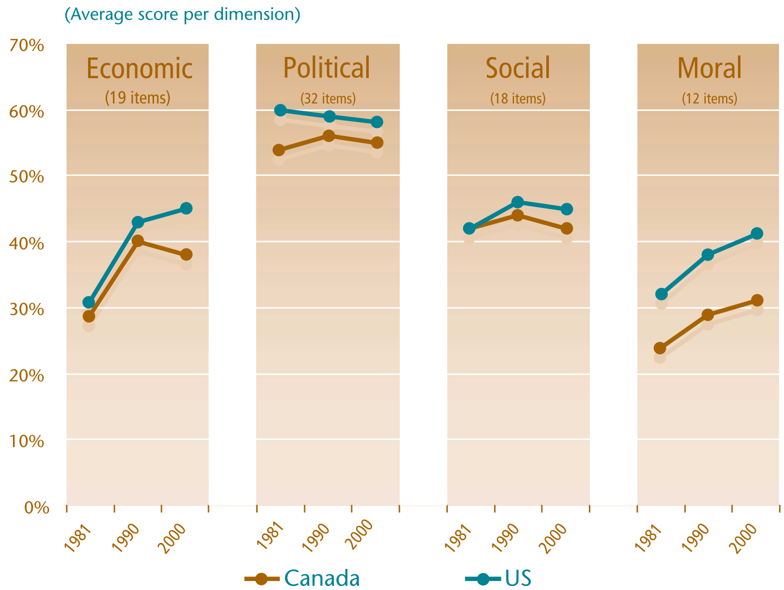


FIGURE 2

Canada-US Difference per Domains



multivariate and bivariate techniques. The third step summarized the 28 measures into four broad dimensions (i.e., economic, political, social, and moral). Table 1 presents the 28 measures and four dimensions.

Analysis

Our findings can be summarized as follows:

1. Canada and the United States have substantially changed over the past two decades. In some cases, significant and mostly unheard movements in value research were observed. The changes that took place are very coherent. They generally support the post-modern thesis that Canada and the United States became much more progressive and secular regarding some aspects of economic, social, political, and moral issues. Figure 1 summarizes a few selected survey items where important changes occurred in both countries between 1981 and 2000, and Figure 2 presents more aggregate figures for each societal domain.
2. The value differences between Canada and the United States are small. Differences, observed across a range of indicators, are often a matter of degrees rather than direction, except for religious and moral issues, where larger gaps are found. This first set of findings goes in the expected direction. After all, Canada and the United States share a unique relationship both economically and socially. Nevitte (1996) argued that in a global perspective, Canada and the United States have very similar values and have more in common than any other nations in the world. The differences between Canadian and US values may be more technical than substantial.
3. The trajectory of the value changes is more complex. Based on the "interdependence" and "structural" analysis, and the claims made by some of the pioneers on Canada-US value research (Nevitte, Inglehart, and Basanez),[3] one would have expected to observe a convergence of values between both countries over the past two decades. This is not happening. Overall, our analysis suggests that Canadian and American values did not converge to a common denominator between 1981 and 2000, and the cumulative evidence suggests that both societies are growing apart. First, Adam's analysis (2003) using a different set of values and methodologies concluded that Canadians were distinct from the United States on 73% of 56 values; with 43% of these values, the differences grew between 1992 and 2000. Subsequent tests provide very similar results. (Of the 86 values reviewed between 1990 and 2000, 47% grew apart.) Second, Nevitte (1996) found that values between both countries were shifting more or less in tandem for the 1981-90 WVS data.[4] This pattern was confirmed in our paper during this same period with the same dataset, but with different value measures. For the paper that is the source of this article, the same "tandem" test for 1990 and 2000 revealed that, in a majority of cases, the trajectories of values between both countries were moving in different directions (only

in 11 of 26 cases was the trajectory the same), offering additional evidence of divergence.

It is important to stress that these differences in trajectories are happening in core topics: support for meritocracy, interest in politics, and protest behaviour. Cosmopolitanism and civil permissiveness decreased in Canada and increased in the United States, while fight for country and secularism increased in Canada and decreased in the United States between 1990 and 2000.

4. The divergence trends in Canada and the United States are not happening across the board, and the line dividing convergence from divergence is small over the past two decades, especially for the political and social dimensions. The moral dimension experienced a strong divergence between 1981 and 1990, and a strong convergence between 1990 and 2000, with a net divergence gap between 1981 and 2000. With the economic dimension, there was a weak trend toward convergence between 1981 and 1990, and a strong trend toward divergence between 1990 and 2000, with a net effect toward divergence between 1981 and 2000. For the political and social dimensions, two conclusions emerge. First, the demarcation between convergence and divergence is small. Figure 2 summarizes the Canada-US differences for each key domain. It is difficult to draw definitive conclusions from these movements.
5. One line of reasoning appears clearer. The earlier assumption that "the US only shows Canada the image of her own future" (Horowitz, 1973) seems implausible in light of these data.[5] The overall pattern is one in which the two countries influence each other on core value domains. What is the evidence of the "cultural lag" hypothesis? Overall, Table 1 suggests that both societies generally lead on values that are nationally recognized. Canadians consistently led in 1990 and 2000 on government post-modern orientations, on collectivism (teach kids the need to care for others), moral permissiveness, job attribute (self-actualization), but also on national pride and interest in politics. The United States consistently led in 1990 and 2000 on support for meritocracy, control over destiny, religiosity (i.e., as a quality to teach to children), social situational intolerance, but also on thriftiness and secularism. Other researchers came up with similar conclusions regarding the thesis of global Americanization. Inglehart and Baker (2000) found that Americanization is occurring internationally largely at the superficial level of Coca-Cola and Big Macs. As they put it, "industrializing societies in general are not becoming like the US [for] its people hold much more traditional values and beliefs than those in any other equally prosperous society."

Our analysis suggests that Canadian and American values did not converge to a common denominator between 1981 and 2000, and the cumulative evidence suggests that both societies are growing apart.

Conclusion

This article suggests that Canadian and American values have changed significantly over the past two decades, with gaps between both societies remaining important in several areas. Lipset may have been right once again when he claimed in the late 1980s that the FTA would not Americanize Canadians. More recently, Adams (2004) concluded that "the adoption of NAFTA in 1994 had no obvious effect on social values north of the border." Ashford and Timms (1992) came to a similar conclusion analyzing the values in Europe from 1981 to 1990. According to those authors, "national culture and opinion in Europe remain robustly diverse in spite of the increasingly close political and economic ties which bind EEC member countries." The research discussed in this article suggests that a similar phenomenon is taking place in North America.

Still, beyond the theses of distinct societies or inevitable carbon copies, the question remains as to whether Canadians are slipping too easily into a narcissism of small differences (i.e., believing that our identity depends on the extent of differences between Canada and the United States, rather than on the similarities and shared values).

What Did The Experts Say?

Yves Poisson, Public Policy Forum

Deepening North American economic integration is possible while maintaining national, political, social, and cultural autonomy. This was the main consensus at the Public Policy Forum's second Rethinking North American Integration conference. The conference focused on the results of a survey conducted by EKOS Research Associates on values and attitudes toward North American integration, conducted in Canada, the United States, and Mexico. Expert speakers from the three countries commented on the results and shared their insights into the course of North American integration.

That economic integration in North America is increasing dramatically has been well known for some time. This integration has not led to the development of a continental identity or political integration in the European Union style. On the contrary, the EKOS research data presented at this conference indicate that national identities remain primary among Canadians, Mexicans, and Americans. Moreover, political autonomy, indicated in Canada by different policies on everything from Iraq to marijuana, has not had a large impact on American public opinion of Canada, and may even have helped it. In other words, Canada and Mexico need not become Americanized politically and culturally to enjoy the benefits of an integrated North American economy.

This phenomenon can be clearly seen in Canadian attitudes regarding North American integration. Although fears of Americanization remain, Canadians are increasingly comfortable with the discussion concerning economic integration, which is seen as separate from political and cultural issues. At the same time, while Canadians, Americans, and Mexicans understand that it is essential to maintain efficient movement of goods and people through the borders, they are increasingly sceptical about the practicality, and the benefit of getting rid of these borders, physically and politically.

Although fears of Americanization remain, Canadians are increasingly comfortable with the discussion concerning economic integration, which is seen as separate from political and cultural issues.

The general consensus among conference participants was that these and other factors, including the political situation in the United States, make it unlikely that further changes of the magnitude of the North American Free Trade Agreement (NAFTA) would happen anytime soon. Instead, incremental change, building on the new confidence and benefits of NAFTA for all three countries, can be used to increase integration. Looking at ways of improving its dispute resolution mechanisms, extending it to previously excluded areas, and increasing the effectiveness of its environmental controls were all seen as possible steps in the medium term.

One of the most promising areas for further integration is environmental policy, where Canadians, Americans, and Mexicans want increased harmonization leading to a "race for the top" within North America. This is especially true for water, toxins, and air pollution, with climate change being more controversial. It is interesting to note that the EKOS research indicates that a majority in each country indicated they would like to see an integrated North American policy relating to environmental quality – the only issue for which this is the case. Also important is the role of environmental issues within trade negotiations. Participants spoke, in particular, about NAFTA's Commission for Environmental Cooperation and the need for increased resources to fulfill its mandate.

The other area seen as desirable was the Canada-Mexico relationship within the North American context. Many participants emphasized the advantages of strengthening this aspect of the North American relationship. Both Canada and Mexico must work to improve their image within the United States and their capacity to lobby for their interests within the US political system. It would be to Canada's advantage for the United States to better understand the complex Canadian-American relationship, which implies an investment on our part. Moreover, the importance of shaping issues in terms of domestic

American interests and gaining allies within the United States who share one's interests, was understood to be vital to the success of any such campaign. Also important is the ability of Canada and Mexico to work together to increase their negotiating power relative to the United States. For this to be a success, real progress must be made to strengthen the Canada-Mexico component of the North American relationship. This would not only involve increasing knowledge of each other, but also a strengthened economic and political relationship.

For more information on this conference, visit the Public Policy Forum web site at <www.ppforum.ca>.

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Notes

1 This article is excerpted from a larger paper. The full version is available on request by email to c.boucher@prs-srp.gc.ca

2 Speech to the House of Common, Ottawa, June 18, 1936.

3 They concluded that the basic values of all Canadian and American societies are converging and becoming more alike as time goes by.

4 Nevitte (1996) found that between 1981 and 1990 the directions of change between both countries were the same on 22 of the 25 dimensions presented.

5 Jeffrey Simpson (2000) claimed that both countries are "becoming more alike" and "this drawing together does not arise because Americans are changing… Canadians are the ones…who are becoming more American," but not the other way around.

The Regional Dynamics of Province–State Relations

Canada and the United States

Jean-François Abgrall
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Canadian provinces and US states have had bilateral relations for a long time. Yet, these relations are now so frequent and so diverse that, more than ever, they have become an essential part of the relationship between Canada and the United States. New memoranda of understanding, compacts, and agreements continuously confirm and add to the vitality of these relations.

Not only is the universe of province-state relations expanding rapidly, but their complexity is also increasing. Better understanding this dynamic and its implications has become an urgent necessity for the two federal governments, particularly the Government of Canada. To appraise the consequences of expanding province-state relations, it is necessary to evaluate the extent of the transformations taking place. But first, we need to start with a thorough description of the actual situation.

The overall objective of the ongoing PRI study is to formulate policy recommendations for the Government of Canada based on the implications of province-state relationships.[1] The thrust of this article is more modest. Its chief aim is to give an overview of the web of relationships among provinces and states. Then we consider some lessons that can be drawn, at this point, from contemporary province-state relations. As well, some hypotheses related to policy implications and recommendations are proposed, but these are simply a glimpse at what seems to be taking shape in the distance. These latter considerations constitute two shorter sections at the end.

Global Para-Diplomacy

Global para-diplomacy refers to links between provincial governments and foreign central or state governments "for the purpose of influencing general trade, investment, and other policies and actions" (Duchacek, 1990:18). Canadian provinces have been involved in global para-diplomacy for a long time, and not simply with the United States. Many provinces have relationships with political entities in Europe, Asia, Africa, and so forth. Yet, in recent years, provincial priorities have definitely focused on relationships with Canada's southern neighbour.

As part of global para-diplomacy, trade missions and official visits are commonplace. The Atlantic Provinces joined forces with the Government of Canada in Team Canada Atlantic. Premier Klein and Premier Campbell undertook a joint mission in Texas and California in late 2003. Once elected, Premier Charest and Premier McGuinty's first initiatives abroad were to meet officials in New York.

More recently, official visits have taken another dimension, as some premiers have not limited their contacts to state officials. Both, Premier Klein and Premier Hamm have paid separate visits to Vice-President Cheney. However, some premiers have expressed reservations about this type of initiative (Dunfield, 2003:1).

Provincial missions abroad have also become part of the diplomatic landscape. Quebec has seven such offices in the United States; Alberta has one, in Portland, Oregon, and it plans to open another one soon in Washington, DC. Premier McGuinty announced his intention to reopen

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some offices for Ontario. Missions and official visits in Canada are also common from US states. Over 10 states have offices in Canada.

Membership in US organizations is another frequent form of co-operation. The Council of State Governments, the National Conference of State Legislatures, the National Governors Association and their regional branches have granted memberships – full, associate, or affiliate – to the governments of the provinces, to their legislative assembly, and to the premiers. Conversely, membership of US states in Canadian organizations does not seem to exist. This points to an asymmetry that is one of the striking aspects of province-state relations.

From all indications, it appears the number of provincial global para-diplomacy relationships with the United States has grown regularly in recent years. The new element here is the direct exchange between some premiers and officials of the US government. Yet, as a whole, the developments of the last decades are a sign of greater co-operation between provinces and states.

We now turn to a more innovative aspect of province-state relationships: trans-border para-diplomacy.

Trans-Border Para-Diplomacy

Trans-border para-diplomacy refers to links between neighbouring provinces and states. Recently, it is in this area that the intensity of activities has been the highest, and is where initiatives are the most innovative, signalling, perhaps, the emergence of cross-border regions.

Two reasons for this could be the fragmentation of international relations leading to the multiplication of "trans-governmental relations," that is, "direct interactions between agencies (governmental sub-units) of different governments" (Keohane and Nye, 1976:4), and a restructuring of these relations around regional priorities.

The Fragmentation of International Relations

The emphasis on economic issues, the focus on trade liberalization, and the ensuing opening of borders to goods, services, persons, and ideas have made international relations a continuation of the domestic functions of the central governments in a number of sectors, such as energy, transportation, and agriculture, but also in the environment, culture, and even public administration. Today, branches and departments of central governments have their own international links. For the same reasons, international relations have become more and more important for the sub-federal governments, given their responsibilities in most of these areas.

The same underlying causes (i.e., emphasis on economics, trade liberalization, and so forth) have led the provinces to pay greater attention to their partners throughout the world and, singularly, to their neighbouring partners. This is not specific to the relations between Canada and the United States; it is happening in Europe as well. In fact, it is an illustration, in the realm of international relations, of a wider phenomenon associated with modernity in general. "[A]s social relations become laterally stretched and as part of the same process, we see the strengthening of pressure for local autonomy and regional cultural identity" (Giddens, 1990:65).

Trade agreements between Canada and the United States, and later with Mexico, as well as the negotiations leading to and following the creation of the World Trade Organization, illustrate and have contributed to the fragmentation of international relations. Sectoral issues were often so complex that they required special negotiations by experts, and they often led to specific agreements or treatments, on services, in agriculture, on the environment, on culture, and so forth. In addition, these negotiations also called for continuous consultations after agreements were signed. Given the shared jurisdictions, the provinces were drawn into the negotiations, and they remained involved in their implementation.

Trans-border para-diplomacy refers to links between neighbouring provinces and states. Recently, it is in this area that the intensity of activities has been the highest, and is where initiatives are the most innovative, signalling, perhaps, the emergence of cross-border regions.

As an example, in agriculture, the States-Provinces Agricultural Accord was established in 1984. When Mexico joined, it became the Tri-National Agricultural Accord. At its annual meetings, representatives of the Canadian provinces, and US and Mexican states discuss the challenges faced by their respective agricultural sectors.

Three bilateral working groups (Canada-United States, Canada-Mexico, United States-Mexico) have been organized. Between Canada and the United States, questions such as animal health affecting trade, agricultural biotechnology, and certification issues are discussed. In addition, Canadian provinces also work closely with, and in some cases are members of, the US National Association of State Departments of Agriculture.

The Development of Trans-Border Para-Diplomacy

As the fragmentation of international relations takes place, and as provinces are more and more involved internationally on sectoral issues, another dynamic is emerging. Neighbouring provinces and states become increasingly aware of the benefits of regional co-operation, thus contributing to a new dimension of Canada-US relations.

Usually, this co-operation applies to the same range of sectors, regardless of the regions. Not surprisingly, it extends mostly in the areas under provincial or shared jurisdiction, or at least of shared interest, such as trade, agriculture, transportation, energy, tourism, technology in general, the environment and, of course, border issues. It may take the form of new organizations, or it may instill new life or provide new mandates to existing ones. But, most importantly, there does not seem to be any set pattern, and the organizational responses vary considerably depending on the circumstances. The same types of organizations can be found in different regions, but each region has its own mix of co-existing organizations.

More and more provinces have signed memoranda of understanding with neighbouring states: Alberta with Montana (1985), Manitoba with Minnesota (1988), British Columbia with Washington State (1992), Ontario with New York (2001) and with Michigan (2002), Quebec with New York (2002). Earlier, these understandings were likely specific, on the environment for instance but, recently, have tended to become more encompassing, mostly calling for general economic co-operation.

As the fragmentation of international relations takes place, and as provinces are more and more involved internationally on sectoral issues, another dynamic is emerging, that of regional co-operation.

At the same time, in some areas, cross-border co-operation appears to transcend the usual bounds of para-diplomacy, suggesting the emergence of cross-border regions.

One striking example is the Pacific Northwest Economic Region (PNWER). The PNWER is the most recent, but also the most sophisticated regional organization of its sort in North America. Its members are British Columbia, Alberta, Yukon, and the states of Alaska, Idaho, Montana, Oregon, and Washington. It is the only organization established specifically for regional co-operation on that scale.

The PNWER's structure is elaborate. It has an executive committee, a delegate council and a private sector council, working groups, and a secretariat. One striking characteristic of the PNWER is its representation, balanced between public and private sectors, Canadian and US members, members of the legislatures and members of the executives, and majority and minority (opposition parties in Canada).

The resolutions passed by the PNWER are clearly marked by regional priorities, whether it is on energy, agriculture, or the environment. Despite that strong focus, the PNWER has not been overly critical of the federal governments. At most, we find a resolution in 2003 urging the US government to remove the embargo on Canadian beef. Yet, it is undeniable that a regional solidarity is manifesting itself. A case in point is the support given by four US states in the PNWER for Vancouver's bid for the Winter Olympic Games, which drew criticism from *The New York Times* (2003).

The next region offering a parallel is the East. The Conference of New England Governors and Eastern Canadian Premiers (NEG/ECP) goes back 30 years to 1973. It is a much lighter institution. It has a twin secretariat, staffed on the United States side by the secretariat of the Governor's Conference, and on the Canadian side, it is under the responsibility of the secretariat of the Council of Atlantic Premiers. The NEG/ECP Conference also relies on working groups or committees, such as the Northeast International Committee on Energy, or the International Northeast Biotechnology Corridor.

At the 2000 meeting in Halifax, the Conference entered a new phase with the establishment of the Standing Committee on Trade and Globalization that works on transportation and border issues, and encourages trade promotion among its members. That meeting also marked the first time the business sector held a forum in parallel with the Conference meeting.

The NEG/ECP has been a useful club where neighbours have had opportunities to discuss issues of common interest. But, it has been much more than that. On many issues, it has sponsored influential studies. In recent years, much work has been done on environmental issues. The Working Group on Global Mercury Assessment presented a report that led to a letter from the Conference to the United Nations Environment Programme sharing its findings and recommendations. Over the years, the Conference has submitted a number of resolutions to the federal governments. It urged repeal of Section 110 of the US *Illegal Immigration Reform and Immigrant Responsibility Act* of 1996 that imposed new controls on foreigners on entry and exit at the US border. On the subject of acid rain, the conference also passed a resolution calling on "the US EPA to reconsider its revision [of the rules governing New Source Review under the Clean Air Act] and recommit to protecting the public health of all citizens" (NEG/ECP, 2003:1).

For all its initiatives, the Conference is not the rallying point that PNWER has become in the West. While cross-border co-operation is also increasing in the East, it does not display the same dynamic of the emergence of a cross-border region. But it is still more than what can be found in other regions along the border.

Still, cross-border co-operation is on the rise everywhere. In the Great Lakes region, Ontario and Quebec are associate members of the Council of Great Lakes Governors and of the Great Lakes Commission (although neither organization has championed cross-regional co-operation much beyond concern for the environment). There are other regional initiatives like the International Association of Great Lakes and St. Lawrence Mayors that has its secretariat in Québec City, or the memoranda of understanding between Ontario and New York and Michigan. But so far, the region does not appear clearly as a working concept except, of course, for the Great Lakes system, which could become one major, but only one, dimension of a regional entity.

In the Prairies, regionalization is still in its infancy. There is co-operation between Manitoba and its neighbours on the management of the Red River Basin, for instance. That province also has a memorandum of understanding with Minnesota, and Saskatchewan has one with Montana, but this does not yet translate into a regional dynamic, despite the efforts of a few, mostly US, non-governmental organizations that try to promote the concept of Northern Great Plains. However, the lack of organizational structure did not prevent Manitoba from participating in a joint mission with US states in Northern Europe on the subject of energy diversification. On that occasion, Manitoba signed a memorandum of understanding with Iceland, and the ambassadors from Canada and the United States were present at the ceremony.

Lessons From Cross-Border Co-operation

The first overwhelming observation is almost tautological: the cross-border organizations' priorities are in the regional dimensions of areas where provinces and states have jurisdictions (exclusive or shared). As organizations, they rarely venture into issues that lack this characteristic. We only know of one example to the contrary, when the NEG/ECP passed a resolution on China on humanitarian grounds, related to the events in Tiananmen Square in 1989.

The situation is more complex when it comes to areas where the provinces and states have jurisdiction, but where the issues transcend the region (e.g., energy or the environment). For example, the PNWER has decided to study some technical aspects of the Kyoto Protocol. However, in areas of shared jurisdiction or shared interests, the organizations have usually worked closely with federal authorities, which is often the case in agriculture, transportation, border security, or the environment. That collaboration does not preclude regional lobbying, which is one raison d'être of these organizations. Yet there is always the possibility that regional viewpoints will trump national priorities, as in the case of acid rain with the NEG/ECP.

Second, provinces and states learn from one another. Recently, at a PNWER meeting, representatives of US states passed a resolution calling for better briefing from their federal government on questions of trade negotiations. They encouraged "State Legislators to review Alberta's International Trade Agreement Implementation Act to determine if it might be applicable in US jurisdictions" (PNWER, 2003:1).

Third, this cross-border co-operation always strives to improve relations between neighbours. Exchange of information is one avenue to that end. But more and more mechanisms have been established to avoid and resolve eventual disputes. The NEG/ECP has established such a mechanism; the PNWER is implementing its own; and the Alberta-Montana memorandum of understanding contains one. This does not always prevent disputes, even local ones, as when Abbotsford, British Columbia, was able to prevent the building of power lines that Suma, Washington, was requesting. In that example at least, the decision of a higher jurisdiction – the National Energy Board – made the difference (Hume, 2004:1).

Cross-border co-operation is on the rise everywhere.

Fourth, co-operation between cross-border partners can lead to common initiatives toward third parties (e.g., the mission Manitoba shared with US states in Europe). However, so far, there have not been that many examples of such joint initiatives. The support by US states of Vancouver's Olympic candidacy is of that nature, and so are a few initiatives, especially in tourism for instance, intended to market New England and the Maritimes in Europe, or the Northwest region in Europe and Asia.

Policy Implications for the Government of Canada

This presentation of a new dynamic in relations between Canada and the United States is, given the complexity of the phenomenon, necessarily brief. It is risky at this stage to draw definite conclusions. Yet, we can share some preliminary propositions, subject to further testing.

In particular, we can start addressing the all-important question of whether the Government of Canada should be concerned by this new regional and cross-border phenomenon.

The two trends that we identified – fragmentation of international relations along sectoral lines and regional restructuring – cannot be ignored. They are now an integral part of Canada-US relations, and they do not show any sign of abating.

As far as regional cross-border co-operation is concerned, it seems to benefit local actors through better understanding and the pooling of common interests. In that way, it is positive for all as it furthers global co-operation between Canada and the United States.

Until now, regional organizations have been largely respectful of their jurisdictional limitations, and they have usually acted as regional relays of national policies. Hence, they should be seen as opportunities in the overall relationship with the United States.

In North America as in Europe, cross-border co-operation is "highly context-sensitive, conditioned by degrees of regional self-awareness, local identities [and] ideological discourses" (Scott, 1999:606), but these are all normal ingredients in a federation. Cross-border co-operation adds a new context to federal-provincial relations, but the heart of the matter remains the same. Not all regions or provinces engage in cross-border co-operation in the same way or to the same extent, and the Government of Canada should integrate these differences in its approach to Canada-US relations.

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Note

1 This article is derived from a continuing study. The first part of the analysis, mostly structural, is completed. The conclusions of the present article are based on that work, The next part of the analysis, more functional, will shed more light, from a different angle, on these regional dynamics. Part one of the study, *A Typology of the Canada/US Relationships,* is available on request.

Economic Integration and Cross-Border Policy Convergence

Social and Environmental Policy in Canadian Provinces and American States

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There is now increasing scepticism among observers that deepening continental economic integration is generating policy convergence between Canada and the United States (Hoberg, 2002). Yet, there are several reasons to suspect that cross-border policy convergence would emerge earlier and more forcefully at the provincial rather than at the national or federal level. In fact, examining patterns of cross-border policy similarity and difference between Canadian provinces and American states – especially in the social and environmental policy fields – may well be a better test of the linkage between economic integration and policy convergence than national-level comparisons.

Our research examines the hypothesis that policy convergence over time will be greater among specific pairs of tightly linked American states and Canadian provinces than is evident in national-level comparisons. We have developed a methodology for identifying these tightly linked pairs, based on various measures of geographical proximity and state-province economic integration. We focus on specific aspects of social policy (levels of social protection and income redistribution) and environmental policy (pollution abatement and control) as these are fields where there has been considerable concern regarding the convergent effects of continental economic integration.

We have found that, in the areas of income redistribution and social protection, as well as expenditures on environmental protection, national patterns of convergence and divergence are not fundamentally challenged by sub-national patterns. At the same time, patterns of similarity and difference over time for various subsets of matching state and province pairs generally differ in degree, if not in direction, from national-level patterns. However, after 1995, there are some indications of a pattern that fits with the contention that convergence may be occurring at the state-province level, which is not evident in national-level patterns.

Sub-National Governments, Continental Economic Integration, and Policy Convergence

While national-level studies are important in terms of furthering our understanding of the relationship between economic integration and domestic policy autonomy, it also is critical to examine this relationship at the sub-national level. This is one of the crucial implications of the decentralizing tendencies associated with globalization. As economic power shifts upward, sub-national governments and regions within countries may find it advantageous in terms of their distinctive economic requirements to "leapfrog their national governments and tie themselves to overarching structures" (Courchene, 1998: 272-273). In the likely situation that some sub-national governments are more economically integrated into international markets than others, these governments may demand more policy-making room to respond to integrating effects and trends. This line of reasoning implies that the policy independence of sub-national units, such as Canadian provinces and American states, will continue to grow as globalization and economic integration proceed.

Indeed, provinces already control some of the most important policy levers for adjusting to increasing economic integration and competitive pressures. Decentralization of the Canadian federation, driven in part by the politics of Quebec nationalism as well as the dynamics of economic integration and globalization described above, have reinforced provincial policy dominance. Second, provinces have distinct economic structures and trading patterns requiring unique policy adjustment, and provincial governments are, arguably, more sensitive than the federal government to the pressures generated by cross-border economic integration and competition. Thus, according to Courchene (1998: 289-291), provinces will increasingly tailor their public policies to the patterns prevailing in the states with which they are integrating and/or competing.

Moreover, regions of Canada are economically integrating not with some amorphous mass called the United States but, rather, with particular American regions and states. Thus, it is crucial to recognize the significance of the American states in various fields of public policy, and the degree to which this significance has been increasing over time. The states have become increasingly important actors in terms of public policy provision, both as a result of the "devolution revolution" and the fact that the 1990s were good years for state coffers. State governments had the resources to improve their policy capacity, take on new responsibilities, and, in many cases, innovate. Thus, examining cross-border policy similarity and difference at the sub-national level may well be a better test of the linkage between economic integration and policy convergence than national-level comparisons.

Convergent effects of cross-border economic integration at the sub-national level, to the extent that they exist, should be evident in social and environmental policy. First, both ought to be particularly sensitive indicators of Canada-US policy convergence since they are seen to be key elements in determining competitive advantage.

Regions of Canada are economically integrating not with some amorphous mass called the United States but, rather, with particular American regions and states.

Second, social policy and environmental policy have become standard focuses in national-level analyses, and they are obvious candidates for an alternative approach complementing these national-level analyses. Finally, these two areas have been central to those concerned about the convergent effects of economic integration.

Identifying Cross-Border, State-Province Pairs

Identifying which pairs or sub-groups of states and provinces to examine for policy convergence depends on the suspected causes of convergence. If the suspected cause is cultural interpenetration or cross-border spillovers (as in the case of trans-jurisdictional pollution), considering neighbouring states and provinces may be most appropriate. If economic integration is the suspected cause of policy convergence, examination of provinces paired with those states with which they have the strongest economic ties (e.g., highest levels of trade) may be best. If policy adjustment in reaction to direct competition is suspected, policy comparisons between provinces and their top competitor states might be considered. As outlined below, the criteria determining the province-state pairs to be compared include the following.

- Geographic Proximity: *Contiguous Provinces/States* match provinces and states that share a physical border and/or direct travel routes, and generates 16 cross-border pairs, while *Nearby Provinces/States* matches provinces with states that are nearer than the nearest Canadian province, which generates an additional 20 state-province pairs. Our *Proximity Index,* which incorporates both distance and population size (population/distance^2), is used to include state-province pairs, which have a higher than the average proximity index (average of the top-five proximity index pairs for each of the 10 provinces) and generates 14 pairs – four of which are not captured in either of the two other criteria outlined above.
- Economic Integration/Competition: *Economic Integration* matches states and provinces based on an index of provincial merchandise trade to individual American states, measured as a proportion of provincial GDP, and includes the top ranking state for each province, as well as second ranking states in those cases where it is above the overall average for top ranking states. *Competition* matches provinces to those

states viewed as top competitors in attracting trade and capital investment.[2] *Benchmarking* matches provinces with those jurisdictions used as primary benchmarks against which they position themselves in a competitive economic market.

Combining these criteria for pairing states and provinces generates 49 state-province pairs (out of a possible 500 pairs) based on pairing the Canadian provinces with a total of 21 different states (See Table A). Each set of state-province pairs thus generated may be compared to each other, to pairings of all states and provinces, and to pairings of Canadian provinces to see if cross-border similarity is higher among any of these subsets and whether convergence within any is more marked.

Empirical Comparisons

Social Protection and Income Redistribution

Our comparisons examine differences and similarities in the net impact of both taxes and transfers on the income distribution by focusing on share gains (the difference in the proportion of final income going to a particular income group after taxes and transfers in comparison with that group's share of market income before

Economic Integration/Competition

- • Economic Integration
- • Competition
- • Benchmarking

Geographical Proximity

- • Contiguous Provinces/States
- • Nearby Provinces/States
- • Proximity Index

TABLE A

Summary of Province-State Pairs

Newfoundland and Labrador						
Maine		•				•
Massachusetts		•			•	•
New York			•			
Prince Edward Island						
Maine		•			•	•
Massachusetts		•		•	•	•
New York			•			
New Jersey					•	
Nova Scotia						
Maine	•	•				•
Massachusetts		•				•
Vermont		•	•			•
New York						
North Carolina				•		
New Brunswick						
Maine	•	•		•	•	•
Massachusetts		•	•	•	•	•
Vermont		•				•
New York		•			•	
Pennsylvania					•	
Québec					•	
Maine	•	•			•	•
Massachusetts		•	•			•
New Hampshire	•	•				•
Vermont	•	•	•			•
New York	•	•	•	•	•	•
Pennsylvania			•			
Ontario						
Michigan	•	•	•	•	•	•
Ohio		•	•		•	•
Pennsylvania		•	•		•	•
Vermont		•		•	•	•
New York	•		•		•	•
Minnesota	•				•	•
Illinois					•	•
Indiana					•	•
Manitoba						
Minnesota	•	•				•
Montana		•				
North Dakota	•	•		•	•	•
South Dakota		•				
Saskatchewan						
Minnesota		•			•	•
Montana	•	•				•
North Dakota	•	•				•
Illinois				•	•	
Wisconsin					•	
Alberta						
Montana	•	•				
Oregon		•				•
Washington		•				•
New York				•		
British Columbia						
Idaho	•	•				
Montana		•				
Oregon		•	•			•
Washington	•	•	•	•	•	•
California					•	

FIGURE 1

Average Difference in Income Share Gains for those in the Bottom Half of the Income Distribution, Between Variously Matched Pairs of Provinces and States

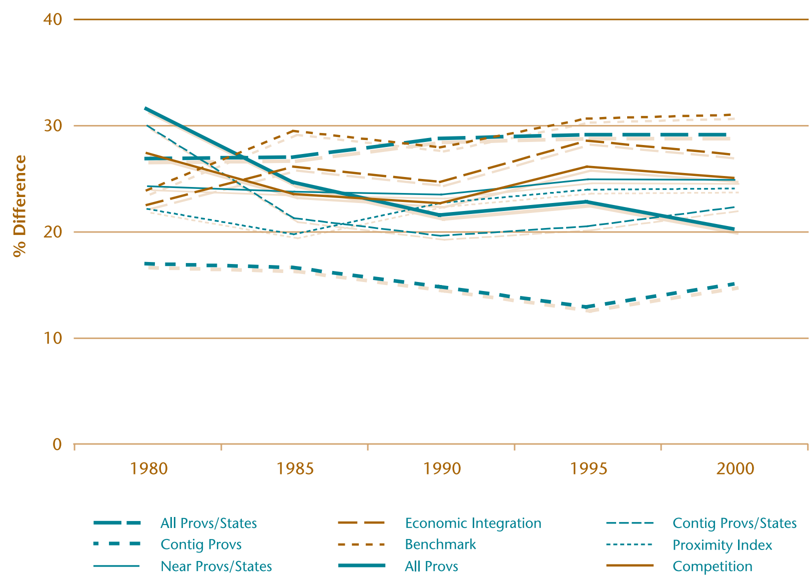
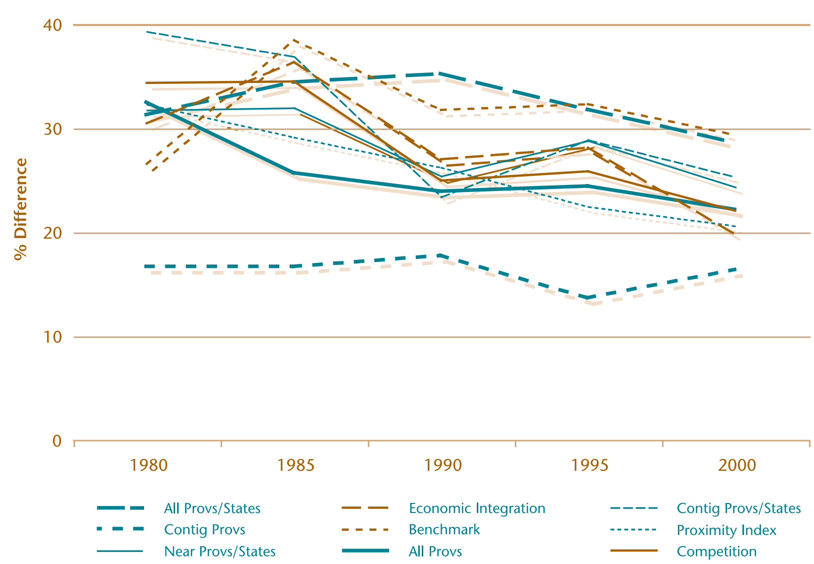


FIGURE 2

Average Difference in Income Share Gains for those in the Top Quintile of the Income Distribution, Between Variously Matched Pairs of Provinces and States



taxes and transfers) for the bottom half of the income distribution, the bottom quintile, and the top quintile.

An examination of the average difference in share gains between matching pairs of all provinces, contiguous provinces, and all states matched with all provinces presents an overall picture of cross-provincial convergence. This is in comparison with continuing distinctiveness between states and provinces in the share gains of the bottom half of the income distribution and the top quintile (See Figure 1).

An examination of average difference in share gains for the bottom half of the income distribution between variously matched pairs of states and provinces reveals an overall pattern of slightly increasing differences over the entire period. A stark exception is *Contiguous States and Provinces,* where there is a striking pattern of convergence from 1980 to 1990, which reversed slightly in the 1990s. While the distinction between our measures of geographic proximity and economic integration/competition was not clear in 1980, the differences between matching pairs are consistently lower for our measures of geographic proximity than for our measures of economic integration/competition after 1990. A similar pattern is evident for comparisons examining the share gains of the bottom quintile.

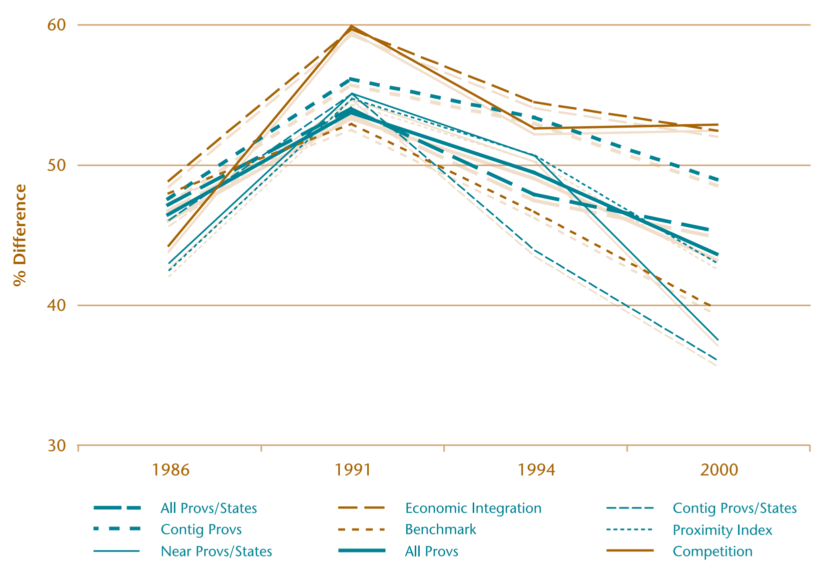
A different pattern is evident for differences in the share reduction of the top quintile. Here, the overall pattern between state-province pairs is convergence (See Figure 2). While the degree of convergence over time and levels of difference at any given point in time vary among our various sets of matching pairs, there are no clear differences between geographically based pairs and those based on indicators of economic integration/competition. In contrast to patterns for the bottom half, by 2000, the two most similar sets of matched pairs were those based on *Economic Integration* and on our *Proximity Index* (taking into account both distance and population). Here too, the general pattern of convergence was more marked after 1995.

The evidence for these income categories generally seems to run contrary to the expected pattern generated by Courchene's analysis, by which differences between provinces should increase, while cross-border jurisdictions should become increasingly similar. Rather, the picture that emerges is a mirror image – cross-border differences have generally increased, while differences among provinces have generally decreased. There is somewhat more support for the expected pattern generated by Courchene's analysis after 1995. Differences among contiguous provinces began to grow rather than decline, as had been the pattern since 1980, although convergence among all provinces is still the pattern. Second, convergence in share reductions for the top quintile among state-province pairs became more marked after 1995.

Distinct patterns among the different income categories are precisely what one might expect if convergence is based on mobility between jurisdictions. For the top quintile (the group that is also likely to be the most mobile across jurisdictions), there is convergence both across provinces and across states and provinces after 1990. For the bottom half of the income distribution, where cross-border mobility is much more limited (both in comparison to the cross-border mobility of the top quintile and in comparison to the cross-provincial mobility of the bottom half), there is a pattern of cross-provincial convergence and cross-border divergence.

FIGURE 3

Average Difference in Pollution Abatement and Control Expenditures, Between Variously Matched Pairs of Provinces and States



Environmental Policy

Measurement of the effects of government intervention in environmental protection is notoriously difficult. Environmental outcome measures do not present a ready-made counterfactual (as in the case of income redistribution) by which one can clearly identify what the situation would have been in the absence of government intervention. Absolute outcome measures (such as air quality) are complicated by factors, such as geography, industrial concentration, and climate conditions, and are contaminated by factors, such as cross-border flows of pollutants. At the same time, output measures (expenditure, level of enforcement, stringency of regulations) may be misleading, as they do not necessarily translate into higher levels of environmental protection. Recognizing these serious measurement challenges, comparing public expenditures on pollution abatement and control (PACE) provides some indication of the commitment of various jurisdictions to undertake environmental protection.

An examination of average differences in PACE between variously matched provinces and provinces/provinces reveals an initial pattern of divergence followed by convergence through the 1990s (see Figure 3). Most significantly, this figure illustrates that provinces are, on average, no more similar to each other as a group, or even to their neighbouring provinces, than they are in general to American states as a group. While this snapshot is in keeping with expectations generated by

Courchene's analysis, the dynamic aspect of this pattern is one of generalized convergence both among states and provinces, as well as among provinces themselves.

Examining our different sets of matching state-province pairs, all the pairings follow a similar pattern. With the exception of benchmark pairings, the differences between matching state-province pairs are consistently lower when paired according to geographic proximity than when paired according to our measures of Economic Integration/Competition. By 2000, average differences among Contiguous Province/State pairs (36.0%), as well as *Nearby Provinces/States* (37.5%), were significantly lower than the average differences among *All Provinces* (43.5%). They were even lower than the average differences among pairs of contiguous provinces (48.9%). In comparison, state-province pairs based on *Economic Integration* (52.4%), and those based on *Competition* (52.8%), are the least similar of any set of province or state-province pairs. These patterns seem to cast doubt on the argument that increased trade is the primary factor driving convergence.

Observations

Our initial research has attempted to gauge the degree to which analysis of cross-border patterns of policy convergence can provide leverage on the question of whether increasing economic integration leads to policy convergence. In the areas we have empirically examined, we make the following observations. First, national patterns of convergence and divergence do not appear to be fundamentally challenged by sub-national patterns. However, there are interesting sub-national patterns that differ in degree, if not in direction, from national-level patterns, and we expect that these differences, when more fully described, should help provide increased analytical leverage on broader questions regarding convergence. Moreover, there is some evidence after 1995 supporting the contention that convergence may be occurring among sub-national, cross-border jurisdictions that is not as evident in national-level analyses. One example is share gains for the top quintile among proximate states and provinces (including distance and population size), as well as for high trading pairs after 1995. Similarly, in the 1990s, convergence among states and provinces in PACE is more marked among contiguous state-province pairs than among all states and provinces taken together.

This analysis suggests that extending our investigation to include additional indicators and aspects of policy outputs is necessary to see if similar patterns to those described above still hold. In addition, developing more detailed comparisons between specific cross-border matching pairs (e.g., British Columbia-Washington, Ontario-Michigan) would be useful. Finally, a more rigorous program of comparing and contrasting matching pairs with different characteristics (e.g., proximity, trade interdependence, etc.) is necessary to help untangle the causal relationships between factors, such as economic integration and policy convergence. Such investigation promises to enrich significantly the existing national-level studies examining cross-border policy influences.

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Notes

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2 Provinces may also undertake policy adjustment in reaction to competitive pressures from American states in the absence of high levels of merchandise trade between the two jurisdictions. In order to get a sense of these competitive pressures, we undertook a written/telephone survey of officials dealing with economic development and chambers of commerce and/or business development councils in the ten provincial governments asking them to identify the American states relative to Canadian provinces which they view as their top competitors both in terms of trade and capital investment. In addition, we asked interviewees which states and/or provinces they used as primary benchmarks as another way of getting at which jurisdictions provinces were looking at as they positioned themselves in the economic environment.

The Evolving Industrial Diversity of Canadian Cities, 1992 to 2002

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Introduction

The study[1] from which this article is derived describes the industrial diversity of Canadian cities.[2] It asks how Canadian cities compare to each other in terms of their levels of diversity and how these levels evolved from 1992 to 2002. This is a period that covers a time of significant structural change in the Canadian economy – driven in part by trade liberalization, continental economic integration, and technological change – that may have impacted the industrial diversity of Canadian cities.

There are two primary reasons why policy makers see diversity as a positive characteristic of urban economies (Quigley, 1998). The first is that diverse economies are thought to be stable economies (Baldwin and Brown, 2003). One-industry towns are vulnerable to a downturn in their key industry, which can lead to high levels of unemployment and the out-migration of workers. Places with a wide spectrum of industries are better able to weather a slump in any one of their industries, because workers are more likely to find jobs quickly in other sectors. The second reason is that diverse economies are thought to be more dynamic. Diverse cities are places where new ideas are formed and most easily transferred across industries; this, in turn, promotes higher levels of growth (Jacobs, 1969; Glaeser et al., 1992; Glaeser 2000; Duranton, 2001).

Throughout this study, diversity is measured using an index that takes into account the number of industries in a city and how employment is shared across them. The larger the number of industries found in a city and/or the more even the distribution of employment across its industries, the higher the index. For ease of exposition, the diversity of each city is measured relative to Toronto, whose diversity level is indexed to 100.

Diversity Across Canadian Cities

There is a high degree of variation in the level of diversity across Canada's urban regions. This is evident in Figure 1, which plots the level of diversity for each urban area against its population level. In 2002, Montréal was Canada's most diversified urban region with a diversity index value of 108. Toronto, Vancouver, and Winnipeg follow closely behind Montréal. The least diverse (most specialized) urban centre was Kitimat, which was approximately one eighth as diverse as Montréal.

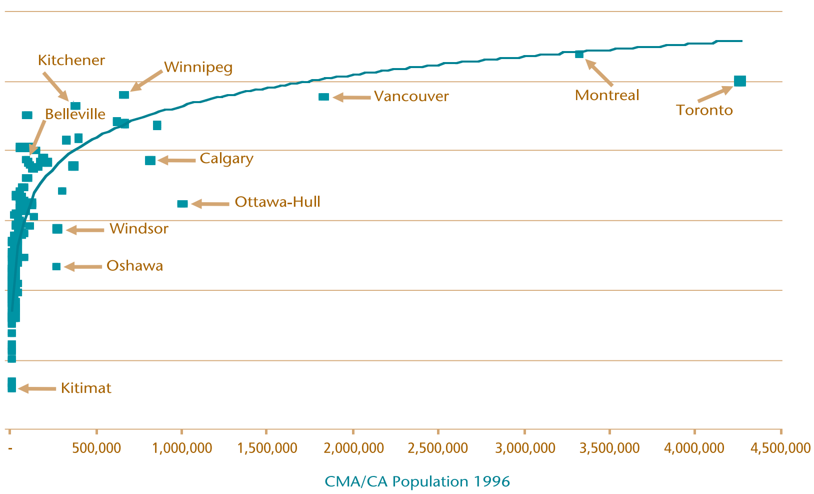
The wide variation in diversity levels across cities is not random. As Figure 1 illustrates, there is a strong positive relationship between diversity and population size. The places with the smallest populations tend to have the most specialized (or least diverse) economies. On the other hand, large urban centres have the most diverse economies.

Arguably, two factors link population size and diversity. First, population growth is driven, in part, by the addition of new industries and the jobs they bring. Second, as the population of a city increases, so does its local market allowing the city to support a wider variety of industries. Increased diversity is both a cause and an effect of rising population levels.

Figure 1 also shows us that the relationship between population and diversity is non-linear. For small urban centres (a population between 10,000

FIGURE 1

Industrial Diversity as a Function of Population, 2002

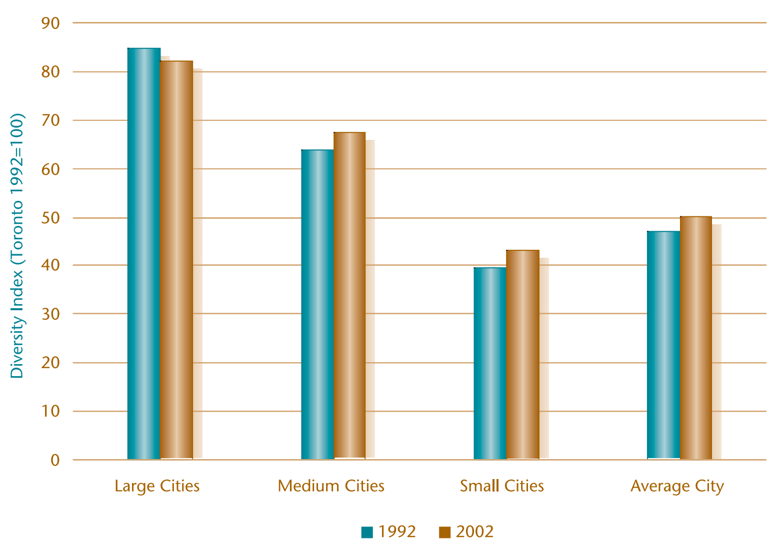


[a]Toronto 2002 = 100.

Source: Special Tabulation, Business Register and the Census, 1996.

FIGURE 2

Average Industrial Diversity by City Size, 1992 and 2002



and 100,000), an increase in population has a very strong positive effect on diversity. For larger urban centres, the relationship between diversity and size is much weaker.

The relatively weak relationship between population size and diversity for large cities likely results from fewer opportunities to add new industries. An increasing population in small cities results in the attraction of many new industries to serve the local market. But for larger centres, industries that rely on local markets to survive are already represented. The industries that are left are those found in relatively few places. These industries are more rare, because they require specific factor endowments (e.g., fish processing), or have strong scale economies (e.g., aircraft manufacturing), or rely on strong agglomeration economies (e.g., financial services). Consequently, there is relatively little opportunity to diversify the economies of large urban areas.

Diversity Over Time

In addition to affecting the levels of industrial diversity, city size is also related to changes in diversity over time (see Figure 2). Large cities classified as having a population greater than 500,000, tended to become less diverse (more specialized) through the 1990s and early 2000s.[3] On the other hand, small (10,000 to 99,000 population) and medium (100,000 to 499,000 population) cities became more diversified over the same period (see Figure 2). Although these changes are relatively small, reflecting the slow pace of urban structural change, they do point to the dispersion of industries toward smaller urban centres.

It is beyond the scope of this paper to test hypotheses as to the sources of these trends in diversification. However, it is possible to place them in the context of two of the structural forces driving change within the Canadian economy over the past decade: trade liberalization and technological change. Theoretically, increased trade should result in less diverse urban economies as they specialize in industries that have a comparative advantage in world markets. The increasing specialization of large cities is consistent with the effects of trade liberalization, but the increasing diversity of small- and medium-size cities is not. The latter trend, however, may be the result of falling transportation and communication costs driven by investments in new information and communication technology. These falling costs may have created an incentive for industry to locate in smaller cities and rural areas to take advantage of lower wages (Kilkenny, 1998).

Conclusion

The level of diversity across Canada's urban landscape varies widely. This suggests the economic stability of urban economies and their potential for growth may vary as well.

The analysis also demonstrates that diversity levels are related closely to the population of an urban area. The smallest urban areas are the least diverse, and the largest urban areas are the most diverse. But very high levels of diversity are not limited to cities whose populations are counted in the millions. Cities with populations around 100,000 often have levels of diversity similar to those found in much larger urban centres.

Over the study period, Canada's economy has become more integrated into world markets and has undergone significant technological change associated with the information technology revolution. Integration into world markets is associated with a decrease in the diversity of large Canadian cities, while the growing dispersion of economic activity toward medium-size and smaller urban centres may be driven by the implementation of new technologies that have reduced transportation and communication costs.

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Notes

1 A longer version of this paper that provides a more detailed analysis of the diversity of Canadian cities and a description of the data and methods used is available from Statistics Canada. (Beckstead, D. and M. Brown. 2003. *From Labrador City to Toronto: The Industrial Diversity of Canadian Cities, 1992-2002.* Insights on the Canadian Economy 11-624-MIE2003003. Analytical Studies Branch, Statistics Canada.

2 Cities are defined as census metropolitan areas (CMAs) and census agglomerations (CAs).

3 This difference is, however, not statistically significant. Nevertheless, this finding is consistent with the declining diversity of manufacturing in the cores of larger cities (greater than one million) over a much longer period.

How Does International Trade Affect Business Cycle Synchronization in North America?

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This article investigates whether increased regional trade between the two countries has led to a pronounced increase in the correlation of simultaneity of economic activity between Canada and the United States.

Since the Canada-US Free Trade Agreement (FTA) came into effect in 1989, the Canadian economy has become more integrated into the US economy. A few numbers put this into perspective. Canada's trade in goods and services with the United States doubled as a percent of gross domestic product (GDP), from an average of 30% in the 1970s to more than 60% in the late 1990s, with much of the rise coming after the FTA in 1989. At the regional level, all Canadian provinces dramatically expanded their exports bound for the United States. Exports to the United States as a percent of GDP doubled from 18.6% to 37.6% between 1989 and 2002, while east-west or interprovincial exports fell from 22.5% of GDP to 19.7%. Closer economic ties between Canada and the United States have raised the question of whether the increased economic integration between the two countries has led to greater synchronization of business cycles or greater co-movement of GDP between the two countries.

The notion of business cycles becoming increasingly synchronized across countries has important implications for the making of national economic policies ranging from broader trade and macro-economic policy co-ordination to establishing a new trade or monetary arrangement. Indeed, business cycle synchronization is an important element of the optimal currency area (OCA) literature, playing a critical role in determining the cost of putting institutional limits on an independent monetary policy. As such, analysis of this issue has received much attention in recent years, because of its high relevance to the European Economic and Monetary Union and to ongoing North American economic integration.

Have the Correlations Changed?

Business cycle synchronization across countries refers to the timing and magnitude of major changes in economic activities appearing increasingly similar. There are two main approaches to measure the synchronization of business cycles (IMF, 2001, 2002). One is the concordance correlation, which calculates the number of periods during which national cycles are in the same phase. The other is the output correlation that measures the similarities in the timing and magnitude of output changes. According to the latter measure, national business cycles are synchronized, if they are positively and significantly correlated with each other. The higher the positive correlations, the more synchronized are the cycles. The output correlation has been the most frequently used measure, and will be the main instrument used in this article.

Figure 1 shows the changes in Canadian and US real GDP from 1950 to 1999.[2] The GDP figures are "de-trended" to focus on business cycle fluctuations. A quick visual examination of this graph demonstrates that, from the 1950s to the 1970s, the changes in Canadian real GDP consistently lagged behind those of the United States by one year. The delayed response of the Canadian economy to changes in economic activity south of the border implied that Canadian policy makers did not have to react to or anticipate policy changes in the United States immediately; they could maintain their policy course until the US business cycles started to affect the Canadian economy a year later. From 1980 onward, however, a new trend emerged that saw the timing of business cycles between the two countries become increasingly similar; the Canadian economy fluctuated almost concurrently with that of the United States, though the magnitude of such changes in the two countries remained substantially different. To measure this observation, we constructed a concordance index over two sub-periods: before 1980 and after 1980.[3] Our calculations showed that the number of years during which Canada and the United States were in the same phase of business cycles, as a fraction of the total number of years, increased from 0.8 from 1951 to 1979, to 0.85 from 1980 to 1999.

Figure 2 introduces the second measure of business cycle synchronization – the correlation coefficients between changes in the US real GDP and that of Canada over the two sub-periods. Real GDP data are calculated using the two different price indexes: the chained-price and constant-price indexes. In both cases, the results support the conclusion of a secular increase in business cycle synchronization between the two countries during the last half century. During the first sub-period (1950 to 1979), the estimated correlation coefficients were 0.586 for the chained-price data and 0.699 for the constant-price data. However, the correlations were considerably higher in the second sub-period (1980 to 1999), rising to 0.873 and 0.856, respectively.

FIGURE 1

Growth of Canadian and US GDP

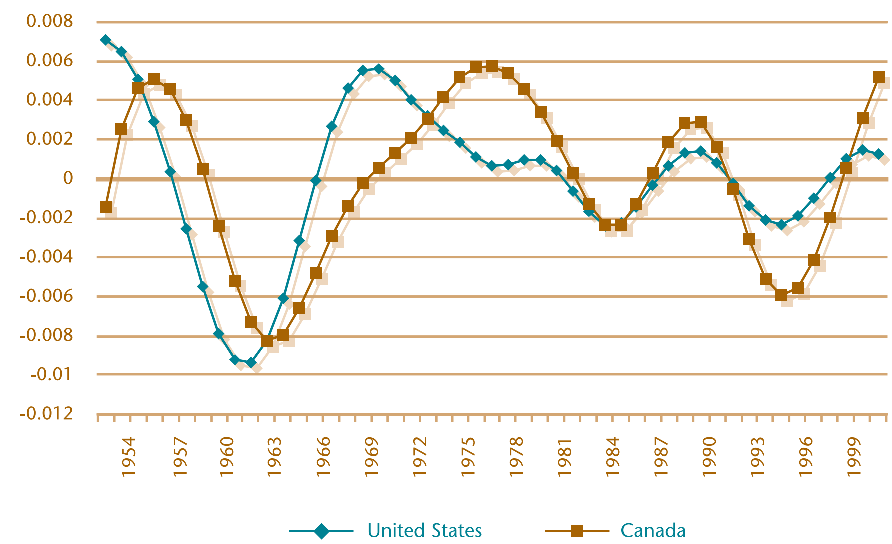
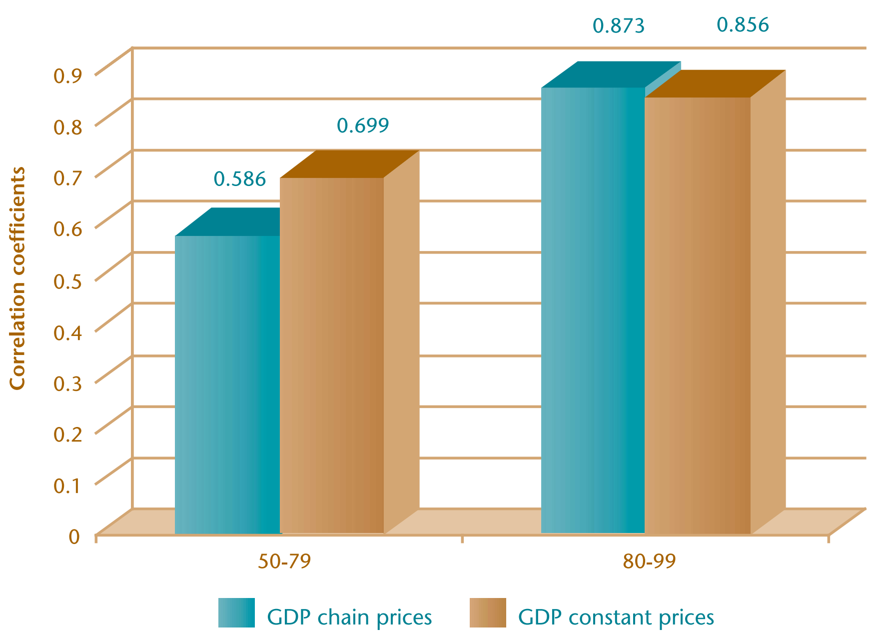


FIGURE 2

Correlation of Changes in Real GDP Between Canada and the United States, 1950 to 1999



As noted above, increased economic integration between Canada and the United States has an important regional dimension, reflecting the rapid expansion of Canada-US regional (province-state) trade. Complicating this matter is the decline in the relative importance of the traditional east-west trading relationship or interprovincial trade relative to north-south trade. To understand the full implications of this change to business cycle synchronization, we have to resort to the provincial data displayed in Table 1, which reports the correlations in changes in real regional GDP among Canadian and United States regions. Several trends stand out, and each is discussed below.

First, between Canadian regions, Ontario's economic activities were highly correlated with its neighbour province, Quebec, with the estimated correlation coefficient equal to 0.926, the highest level of correlations among all Canadian regions. But, as one moves west along the east-west axis, weaker correlations were detected. For instance, the estimated correlation coefficient between Ontario and the Prairies was reduced to 0.48, and that between Ontario and British Columbia was 0.512. It is interesting to note that Quebec maintained reasonably high levels of correlations with all Canadian regions (all above 0.5).

A drastically different picture emerged with the correlations between the regions located at the two extremes of Canada's geo-economic space: the Atlantic and Prairie regions, and the Atlantic region and British Columbia. The estimated correlation coefficients for these two pairs of regions came to -0.085 and 0.074, respectively. Such low levels of correlations – almost like two completely detached economies – was a surprising fact, given that there existed a single monetary policy imposed on all Canadian regions, as well as free labour mobility between regions. These factors allowed for alleviation of differences in regional business cycles, in addition to the numerous social, economic, and infrastructure policy initiatives in place to promote Canada's social and economic unity.

Second, between Canadian and US regions, both Ontario and Quebec reported higher levels of correlations with all US regions than with the rest of Canada, except between these two regions themselves, and between Ontario and the Atlantic region. As expected, changes in economic activities in the Atlantic region were more correlated with that in the US Northeast than with that in many parts of Canada, including Quebec. Similarly, business cycles in the Canadian Prairie region were more likely aligned with those in the US Midwest and South than with the rest of Canada. The exception was British Colombia. It had relatively weak correlations with all US regions (coefficients in the range between 0.359 and 0.48, with the US Midwest showing a marginally higher coefficient), while it maintained relatively high correlations with other Canadian regions, particularly with the Prairies and Quebec. British Columbia's extensive links to other Pacific Rim regions might be a major factor responsible for this trend.

TABLE 1

Correlations of Change in Real GDP Between Canadian and US Regions, 1981 to 1999[4]

		Canadian Regions					US Regions		
		Atlantic	Quebec	Ontario	Prairies	BC & North	Midwest	Northeast	Northwest	South
Canadian Regions	Atlantic	1								
	Quebec	0.539	1							
	Ontario	0.698	0.926	1						
	Prairies	-0.085	0.530	0.480	1					
	BC & North	0.074	0.642	0.512	0.640	1				
US Regions	Midwest	0.274	0.736	0.771	0.630	0.486	1			
	Northeast	0.597	0.691	0.753	0.288	0.359	0.648	1		
	Northwest	0.460	0.725	0.764	0.475	0.459	0.645	0.737	1	
	South	0.262	0.670	0.725	0.649	0.451	0.843	0.638	0.787	1

TABLE 2

Average Correlations of Change in Real GDP Between Canadian and US Regions, 1981 to 1999[5]

	HP-Filter	Differencing	Linear Time Trend
Amongst Canadian regions	0.565	0.496	0.471
Amongst US regions	0.739	0.716	0.681
Between Canadian and US regions	0.650	0.561	0.596

Third, on average, the US regions appeared more correlated to each other than did Canadian regions to them, while Canadian regions were more correlated with the US regions than between themselves. These results are consistent with all calculations based on three different "de-trend" methods (see Table 2).

The results reported above seem at odds with the recent empirical findings in the "border-effects" literature, which claim that after correcting for population sizes and distances, Canada's internal (interprovincial) trade is many times larger than its cross-border trade (i.e., Canada's national economy is more integrated than are the several regional cross-border economies). The border effect between Canada and the United States has been substantially reduced following the FTA, but has remained significant. Accordingly, national policies aimed at promoting a nation's own cultural identity, values, institutions, and rules are bound to create a "home bias," which is expected to lead to a lower level of international trade than otherwise would be the case.

Our understanding of this issue is that the border effect does exist and is significant. That said, we have learned from the above analysis that, in terms of dynamism and correlation of changes in business cycles, the Canadian economy has increasingly integrated itself into the US economy. The question of which factors might be expected to increase the synchronization of business cycles between the two countries is the subject of the next section.

Why Has the Situation Changed?

Fluctuations in growth in any economy may arise, because of shocks to economic growth due to changes in factors such as economic policy, business investment spending, consumption and savings decisions, as well as productivity of labour and capital. Shocks can be transmitted to other countries through various economic and structural linkages, such as international trade and investment, financial markets, and technological spillover as conventionally understood, or through various policy and institutional linkages, such as labour mobility, a common approach to monetary policy, and exchange rate policy co-ordination. In other words, business cycle synchronization could be a consequence of intentional application of the optimal currency area criterion by countries.

By way of illustration, some countries tend to link their currencies deliberately to those of their most important trading partners to capture gains associated with greater exchange rate stability. Similarly, a common approach to monetary policy by monetary authorities could also have a positive impact on correlations of business cycles. This finding motivated Frankel and Rose (1998) to state that countries that are *ex ante* poor candidates to enter a monetary union could satisfy the criteria ex post, because entry to the currency union per se may provide an additional impulse for trade expansion. This, in turn, may result in higher business cycle correlations.

The standard argument about why a rise in international trade would increase the correlation in economic activities between countries is straightforward: the expansion of international trade increases the magnitude of the transmission of shocks between countries. In reality, the impact of trade integration on business cycle correlations could go either way. On the one hand, openness to trade could lead to increasing specialization in production following each country's comparative advantage relative to its trading partners, leading to inter-industry trade. If different types of production are subject to different kinds of shocks, higher trade integration by bringing about deeper specialization could lead to decreasing business cycle correlations (Krugman, 1993). On the other hand, if patterns of specialization in production and trade occur mainly within the industries subject to common shocks, specialization could have a synchronizing effect on the business cycles. In particular, production fragmentation and resulting intensive “back-and-forth” intra-industry trade could significantly increase the similarity in the timing of business cycles between countries.

Empirical Estimation

The principal challenge to the empirical investigation of the effect of trade integration on business cycle synchronization is to isolate the effect of trade integration from that of other transmissions in shaping business cycle synchronization between countries.

In one of the most significant papers in their area in recent years, Frankel and Rose (1998) offered evidence that in the period from 1959 to 1993, OECD countries with closer trade links tended to have more tightly correlated business cycles.[6] Their regression results show that increasing trade intensity by one standard deviation increases the bilateral business cycle correlation by 0.13.

The paper from which the present article is derived attempts to refine Frankel and Rose’s approach by using Canadian and US regional data, and by including intra-industry trade data in the regression analysis. The advantages of our refinements and adaptations are twofold.

- The regional data offer a better isolation of the effect of trade integration, because they focus exclusively on the structural aspect of transmissions (as opposed to also having to consider, e.g., policy differences between countries as in Frankel and Rose).
- The inclusion of intra-industry trade data provides a unique environment to test whether the changes in the structure of trade – rising intra-industry trade between Canada and the United States – has been the key factor responsible for the increasing synchronization of business cycles between the two countries.[7]

Our estimates are broadly consistent with, and close to, those found in Frankel and Rose. Increased trade integration between regions is estimated to have significant and positive effects on the synchronization of regional business cycles between Canadian and US regions. This is because trade between Canadian and US regions is, in large part, dominated by the effects of intra-industry trade, which makes the regions more interdependent.

Conclusion

Despite the adaptations that we made, our results suggest that Frankel and Rose’s general conclusions hold. Increasing trade intensity between Canada and the United States has resulted in a greater synchronization of business cycles between the two countries.

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Notes

1 The views in this paper are those of the authors and are not to be attributed to International Trade Canada or the Government of Canada.

2 The GDP figures are expressed in local currency, and constant 1997 or chained-prices. The GDP numbers are transformed in the following way: first, we take natural logarithms of GDP so the resulting variable can be interpreted as a growth rate. Second, we de-trend the variable using the well-known Hodrick Prescott (HP) filter (using the traditional smoothing parameter of 1,600).

3 The concordance index calculates the number of periods during which national cycles are in the same phase as a fraction of the total number of periods in the sample. If two cycles are perfectly synchronized, in the sense of being in the same state, the concordance correlation coefficient is 1. If the two cycles are uncorrelated, the correlation is 0.

4 The GDP figures in this table are de-trended by using the HP-filter.

5 We employ three different procedures. We de-trend the variables: by using the HP filter, by calculating the first-difference of the variables, multiplying by 100, and by examining the residual from a regression of the variable on a linear time trend.

6 Frankel and Rose used both ordinary least squares (OLS) and instrumental variables (IV), but advocated the IV approach, on the premise that a common approach to monetary policy or the fixed exchange rate might cause a spurious correlation between trade integration and business cycle synchronization. They used the distance and adjacency and language dummies as instruments, based on the success of these variables in explaining trade and the presumption that they are exogenously determined and otherwise unrelated to business cycles.

7 The authors use instrumental variables to estimate the coefficients of trade intensity (as do Frankel and Rose). Three exogenous variables are selected: distances, regional populations, and tariff reductions between Canada and the United States.

Globalization and Well-Being: The Border Effect, the Role of the Nation-State, and Canada-US Economic Relations

John Helliwell
(UBC Press, 2002)

Commentary by André Downs
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Introduction

There is an ongoing debate in the Canadian policy community about the importance of the Canada-US border as a barrier to trade and other economic transactions, and the extent to which the "border effect" could shield the policy process in Canada from global and North American developments.

The publication of *Globalization and Well-Being* by John Helliwell, which won the 2002-03 Donner Prize for best book in Canadian public policy, is a key contribution to this debate. Simply put, Helliwell advances the following explanation for the border effect, and the corresponding shielding effect on domestic policy making.

- The case for national autonomy in the face of globalization has been underestimated, with geography and borders mattering far more than is generally assumed.
- It is cheaper and easier to operate within networks of shared norms and trust, and the density of such networks declines with distance, especially as one crosses national borders; hence, differences in network densities might explain differences in trade and other economic transactions across borders.
- Individual well-being is driven far less by material wealth than prevailing rhetoric and some policy directions would suggest; health and education, for example, have stronger direct and indirect effects on well-being, and also generate strong positive externalities.
- Retaining and advancing domestically determined policy, particularly social policy, remains feasible given the continuing large degree of separateness of the economies and societies of countries.
- The importance of the social and institutional fabric of a society provides much more scope to policy makers to develop policies based primarily on domestic preferences and less on pressures arising from the international and, for Canada, North American environments.

The richness of Helliwell's contribution, which links trade, values, social capital, economic development, and well-being, is a tribute to the knowledge and intellectual capacity of the author, particularly given the complexity of these issues.

However, it can be argued that, given the uncertainty regarding the measure, evolution, and sheltering role of the border effect, Canadian policy makers cannot assume that the border effect allows Canadian governments to promote policies that reflect strictly domestic values and preferences, without judicious consideration of international, particularly North American, developments.

The Origins of the Border Effect

To shed some light on this critical policy debate, it is essential to examine the theoretical underpinnings and empirical evidence supporting the concept of border effect.

A basic tenet in international economics is that distance and size matter in shaping the volume of bilateral trade between nations. Similar to the gravity equation used in physics, the gravity model assumes that trade flows are largely determined by physical distance and economic size. Size is represented by real gross domestic product (GDP), and distance captures transaction costs, particularly transportation costs.

A seminal finding by John McCallum (1995) is that, in addition to the impact of distance, national borders reduce trade by more than what would have been expected on the basis of tariff protection and other formal trade barriers. McCallum examined interprovincial and province-state trade, and the magnitude of the border effect with the United States, and concluded that trade between two provinces was more than 20 times more intense than trade between a province and a state. In other words, given bilateral distance and the relative size of regions, intranational trade was more than 20 times more intense than international trade.

The release of this paper created a shock wave in the economic research community, since it was widely expected that the extent of economic linkages between Canada and the United States would be much higher in light of the low formal trade barriers, the significant reduction in transportation and communication costs, and the intensity of economic and social networks linking the two countries. The border effect was considered a challenge to conventional economic wisdom.

Explaining this paradox remains an important component of the research agenda as the estimated border effects in the literature represent a direct challenge to the widespread view about the level of economic integration between trading nations, more specifically, between Canada and the United States.

Revisiting the Border Effect

Several studies inspired by McCallum's work replicated the exercise for other countries and other periods, for example, Wei (1996) and Helliwell (1998). In some cases, the effect was found to be surprisingly large.

However, research refinements and the use of post-Free Trade Agreement (FTA) and post-North American Free Trade Agreement (NAFTA) data, which were not available at the time of McCallum's initial research, revealed a rapid decline in the estimates of border effect.

Refining McCallum's methodology and using the new data, Helliwell estimated that the rapid increase in north-south trade observed after the implementation of the FTA reduced the border effect from 17 in 1981 to about 12 in 1996, with most of the decrease occurring prior to 1994. Helliwell also estimated the border effect for service industries to be a lot higher than for goods with a ratio ranging from 29 to 42 for the 1988 to 1996 period.

Several broad answers have since been suggested outside the context of the gravity models to explain the persistence of the border effect. One explanation is that economists have consistently underestimated the role of less quantifiable cross-border costs, such as currency risks and non-tariff barriers. They may have also ignored important social factors, such as historical ties, social and cultural affinities, and common languages as additional explanations to the gravity-adjusted bilateral trade patterns. This is essentially the hypothesis put forward by Helliwell.

A second explanation is firm location: even when border-related trade costs are small, firms will choose to avoid them altogether by locating within the same national boundaries as the bulk of their customers and suppliers, therefore reducing the need for cross-border trade. This latter explanation is particularly important for the Canada-US relationship given the relative size difference between the two countries and the importance of scale economies.

Research using more sophisticated gravity models and newly available data on interstate and province-state trade has also shed new light on the border effect puzzle. For example, Anderson and van Wincoop (2001) derived a border effect equation from a theoretical model of multilateral trade and demonstrated that the simpler, non-theoretical approach used by McCallum and others is biased. Their comparable estimate of the border effect was 10.7.

Anderson and van Wincoop's key explanation was that the US economy is much larger and more diversified than the Canadian economy, and US states have more trade opportunities than Canadian provinces. This implies that modest trade barriers between the two countries generate a substantial border effect for Canadian provinces, but have limited impact on the trade opportunities faced by US states. Anderson and van Wincoop referred to this phenomenon as multilateral resistance.

In addition to non-tariff barriers, social factors, size effects, and multilateral resistance, Coulombe (2002) showed that geography and economic density are also essential to understand the border effect. Canadian provinces are, on average, further from their potential trading partners than US states, and their potential trading partners have less economic density. In that sense, borders do matter, but it seems much more for a small country – from an economic standpoint – than for a big one.

Promising directions for research point to the influence of industrial and spatial structure in North American regional trade, in particular the level of specialization of Canadian regional economies and the role of industrial clusters. Brown (2003) and Coulombe (2003) have already introduced such determinant factors by showing that international trade of Canadian regional economies appears to complement interprovincial trade, rather than substitute for it as was commonly believed.

As Coulombe (2003:13) pointed out, "the expansion of north-south trade increased the degree of specialization of Canadian regional economies. Given the core-periphery structure of the Canadian economy, this might stimulate trade between the periphery and the core provinces, especially for intermediate goods and primary products."

The academic debate generated by McCallum and Helliwell on the border effect has helped demystify the dynamics of cross-border trade between Canada and the United States. But the debate also shows that while the gravity model is appealing for its simplicity, it has its limits, and further research is required to guide the policy process.

Policy Ramifications

The border effect debate has implications that go far beyond the purely academic dimension. For policy prescription, the existence of a border effect can be interpreted in two ways. First, the border effect can be viewed as a shield that provides Canada with some policy discretion. Using McCallum and Helliwell's results, some have downplayed the importance of securing North American economic linkages, and perhaps have become complacent about some policy challenges. As Helliwell wrote in *Globalization and Well-Being* (2003:19): "The McCallum result suggests strongly that national economies have a much tighter internal structure than was previously thought and, hence, that the extent of globalization is much less than is commonly supposed".

At the same time, however, the persistence of the border effect suggests that Canada can generate further trade and economic gains by reducing the remaining resistance to Canada-US bilateral trade and economic linkages. Indeed, one can argue that there are still some substantial gains to be harvested from the elimination of the remaining trade barriers. A key argument here is that estimates of the border effect for US interstate trade and for the internal trade of the European Union are much lower (i.e., about 1.6), suggesting that the Canada-US border effect could fall substantially. Indeed, Anderson and van Wincoop (2001) estimated that the elimination of the remaining trade barriers between Canada and the United States could increase Canada-US trade by 44%. Coulombe (2002), extrapolating from their analysis, showed that eliminating trade barriers between Canada and the United States could generate a 25% increase in Canada-US cross-border trade.

This prognostic is supported by both the brief survey of research presented above and the evolving nature of the North American economic space, which indicate that:

- estimates of the border effect can be very sensitive to basic assumptions, estimation methods, and the benchmark used; and
- the border effect is still significant, but has declined substantially with trade liberalization measures such as the FTA and NAFTA.

There is widespread agreement that several factors, such as the absence of a single currency, the existence of non-tariff barriers, the role of local networks, shared values and identity, and social capital, support the maintenance of a border effect. However, the remaining uncertainty regarding the size, future direction, and the regional differences of the border effect warrants further research.

Implications for Canada's Economic and Trade Policies

In *Globalization and Well-Being,* Helliwell argues that Canada should rely primarily on a multilateral trade approach, while reducing Canada's reliance on its bilateral linkages with the United States. His reasoning is largely based on the assumption that any intensification of the Canada-US economic relationship would jeopardize Canada's ability to pursue independent economic and social policies, and on the assumption that stronger economic growth is projected outside the North American continent.

However, the evolution of the Canada-US economic relationship over the past 15 years does not support this contention. Canada has been able to continue to provide education, health, and social policies that are tailored on domestic preferences. The experience of the European Union is also proof that countries can maintain independent social policies even as economic integration proceeds. Hence, the concern that Canada will lose its policy independence should economic integration with the United States proceed further is not supported by evidence. In most cases, policy convergence is due to the existence of similar social trends and pressures bearing on public policies (e.g., aging, innovation, and taxes).[1] If anything, the design and delivery of social policies seem to have diverged under NAFTA, and the same is true of many areas of social policy in the European Union.

In addition, while it is expected that economic growth will be faster in some regions of the world than in the United States in forthcoming decades, because of an upward convergence phenomenon, the United States will remain the most convenient and attractive market for Canadian business to target. As such, it is crucial to maximize the fluidity of Canada's economic linkages with the United States through policy initiatives that will reduce remaining obstacles to trade and investment, including regulatory differences, rules of origin, and impediments to factor mobility.

It needs not be an either/or choice. Canada should seek advantageous trading opportunities by adopting a multi-pronged strategy aimed at maximizing economic opportunities with both the United States and the rest of the world. In recent years, the US economy has been the engine of growth of the world economy and Canada, because of its proximity, historical linkages, and increasing openness, has witnessed unprecedented growth in its trade with the United States. Should economic growth outside North America be more robust in the future, a similar pattern would emerge as Canadian firms capitalize on strong economic growth abroad. Moreover, Canadian firms should use their access to the North American market as an opportunity to become more competitive and as a springboard to third country markets. Hence, Canada should adopt policy options that will keep opportunities on both fronts – United States and abroad – open.

Most of us agree with the thrust of Helliwell's argument that the economic separation of nation-states, as evidenced by the border effect, will continue to allow governments to develop education, health, social, and other policies that reflect, and should reflect, primarily domestic preferences. At the same time, however, it is important for governments to pursue policy initiatives that create trade and economic opportunities, which in turn contribute to the well-being of the general populace.

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Note

1 This was a key conclusion at a workshop organized by Industry Canada and Human Resources Development Canada, Social and Labour Aspects of North American Linkages, held in Montréal on November 20-22, 2002.

Expanding Regulatory Co-operation with the United States

A PRI-SSHRC Policy Research Roundtable

Doug Blair
Policy Research Initiative

It has long been recognized that there is merit in expanding regulatory co-operation with our largest trading partner, the United States. This is evidenced, in part, by the government's policies on regulation making, as well as the numerous agreements on regulatory co-operation and the vast network of informal collaboration between regulators in our two nations.

However, there is also mounting evidence that, to date, Canada-US regulatory co-operation has not been maximized, the costs of regulatory differences with the United States can be substantial, and the benefits for Canada of maintaining a separate regulatory system are, in some cases, questionable.

On February 13, 2004, the Policy Research Initiative (PRI) and the Social Sciences and Humanities Research Council (SSHRC) co-hosted a policy research roundtable to discuss the issue of enhanced regulatory co-operation between Canada and the United States. The roundtable brought together academic experts, government officials and stakeholders to share their research, insights, and suggestions.

The Policy Context

The roundtable began with a presentation on the underlying policy context for regulatory co-operation by Munir Sheikh, Associate Deputy Minister of Finance.

The Canadian policy for making regulations is already well articulated.[1] The overall objective is to maximize the well-being of Canadians, based on economic, social, and security objectives, while effectively managing the socio-economic trade-offs that can emerge. Sheikh argued that the development of the best possible regulations must remain the goal and, in some cases, co-operation with US regulators can play an important role in achieving this goal. He used a number of examples to illustrate his points.

In the area of drug approvals, where access to safe, effective drugs is a common objective, Sheikh noted that Canada is slower than the United States in drug approvals, and is subject to a "small country" disadvantage (i.e., Canada must deal with essentially the same number of drug submissions as the United States, but with only one tenth of the regulatory resources). Therefore, Canada simply cannot afford a totally independent function, and must develop a highly efficient system.

Conversely, Sheikh pointed out that in the financial sector and business start-ups, Canada's regulatory approaches are more efficient than in the United States. In these instances, harmonization is not really an option worth pursuing.

Sheikh suggested that one model of "smart regulation" would involve benchmarking against US regulations as a starting point, and diverge when it is in Canada's interest to do so. Information about effectiveness of regulations should also be collected, coupled with international efforts to harmonize data requirements, application formats, risk assessment, and decision-making processes.

Why Focus on Regulatory Co-operation with the United States?

John Noble, Carleton University, presented the reasons why he felt Canada should focus its international regulatory cooperation efforts on the United States.[2] Noble noted that there is a

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strong precedent for the expansion of Canada-US regulatory co-operation by highlighting that both Canadian government officials and private firms have developed vast networks with their US counterparts. These relationships form the foundation for further co-operation, as they ensure that Canadian interests are reflected in US choices, and that US priorities and decisions are factored into Canadian preferences.

In addition, there is already a high level of convergence between the goals and objectives of both regulatory systems. What requires attention is less a question of fundamental principles and design, and more a question of the details and approaches to implementation. Many of the regulatory reforms required to eliminate the minor differences between Canadian and American regulations could be done on a purely unilateral basis.

Noble closed his presentation by highlighting the need for strong political commitment to make further progress. He suggested that a new round of trade talks focusing on the ways in which NAFTA can be improved might be the only way to ensure that both countries focus the necessary attention on regulation and furthering regulatory co-operation.

What Is the Role of Regulatory Co-operation in Improving Productivity, Innovation, and R&D Investment?

The next presentation helped to frame the discussion within the broader context of how regulatory co-operation and co-ordinated approaches can help productivity, R&D, and innovation. John de la Mothe, University of Ottawa, put forth the idea that knowledge is an international activity. There is no sovereignty over knowledge; it flows freely across borders, regardless of geo-political boundaries.

De la Mothe's comments echoed John Noble's, stating that much of the co-ordination of ideas and co-operation between regulators is taking place on an informal plane, well below the radar of the federal government. De la Mothe argued that virtual levers are the new drivers for institutional co-operation, and that it is the role of the federal government to foster their creation.

According to de la Mothe, the relationship between innovation clusters and regulations is an area that needs to be much better understood. Canada must turn its focus to finding a better Canadian regulatory approach, representative of all interests involved. At present, the Canadian system is burdensome, and he concluded that there is no concrete proof that it provides any better protection than that of the United States.

Potential Gains, Challenges, and Opportunities

The regulatory regime is not a static entity, commented André Downs of the Policy Research Initiative. Downs noted that Canada's domestic regulatory reforms were ongoing, and that progress over the past 25 years has led to a much less restrictive environment. However, while Canada's regulatory system appears competitive on an international level, we fare poorly in a North American context. Our regulatory system is much more restrictive on our economy than the US system.

He further noted that although the level of restrictiveness of Canadian regulations regarding foreign direct investment (FDI) has declined over time, it is still much higher than both the OECD average and the US level. In comparison with the United States, Canadian FDI-related regulations are more restrictive in all economic sectors, particularly in the areas of transportation, electricity, financial services, and telecommunications.

Downs highlighted that this is an important consideration, because empirical studies generally demonstrate a statistically significant relationship between regulations, productivity, investment, R&D, and exports. This has been demonstrated in research done by the OECD, which illustrates that convergence of regulations in the OECD could increase goods and services exports by approximately 10 and 30%, respectively, and FDI by 10%. Additionally, tight regulations of product markets negatively affect both domestic investment and FDI, and also reduce the speed of technological catch-up. Drawing a parallel with John de la Mothe's presentation, Downs highlighted that restrictive regulations have a negative impact on productivity and growth.

He also noted that OECD estimates suggest that elimination of the existing regulatory gap between Canada and the United States could increase total factor productivity (TFP) growth by about 0.22 percentage points. This is quite substantial when one considers that TFP growth in the 1990s was less than one percent.[3]

Canada-US Regulatory Co-operation: Approaches and Examples

Doug Blair, also of the PRI, built on the points presented by André Downs. He highlighted that there are many types of benefits to be gained through expanded regulatory co-operation, and that harmonization is not necessarily the ultimate goal. In some cases, unilateral action by Canadian regulators to make their approaches more compatible with the United States may be the best option. What is important, argued Blair, is selecting the appropriate mix of policy tools to allow Canada to leverage US regulatory resources to our own advantage.[4]

The PRI's research into regulatory co-operation showed there are a broad range of instruments in the regulatory co-operation toolbox, from the basic sharing of information to recognition of equivalence and harmonization. Blair drew three conclusions from the PRI's research into international experiences: regulatory co-operation usually results from pressures for economic integration, regulatory co-operation takes time, and political commitment is required to ensure that it is carried through.

Blair then posed the question whether more can be done within the context of North American integration to reduce costs by expanding regulatory co-operation with the United States. He gave a number of examples of where such co-operation has or could increase net benefits to Canadians by reducing compliance costs while maintaining regulatory protections.

The PRI's research suggests that it is common practice for Canadian regulators to speak to their American counterparts on a daily basis. Such interactions have led to a growth in knowledge and understanding of each other's regulatory systems, and a general increase in mutual confidence. Blair concluded that after years of confidence building, regulators should be well positioned to take more concrete steps toward co-ordination with the United States.

Can Regulatory Collaboration Improve Safety in Health Care?

According to David Griller, SECOR Consulting, Health Canada has typically been slower in reviewing drugs than the United States and other countries where regulatory standards are high. The United States manages to conduct its review in a much more profound and timely manner than elsewhere due to the sheer amount of resources invested.

Griller suggested that Canada is being unrealistic if it thinks it can carry out the same quality and number of reviews. However, he does believe collaboration between the two countries is possible, as long as any arrangement is built on the mutual respect of the competencies of both partners.[5]

Griller concluded by noting that collaboration with the Federal Drug Administration makes sense. He noted that it could lead to more expedient reviews of a higher quality, while freeing valuable health resources in Canada to focus on areas of highest risk. He argued that the logic for such a move was sound, but wondered how long it would take to see concrete action on this front.

Regulatory Co-operation: An Ongoing Debate

The presentations were followed by discussion of the issues by federal regulators, academics, and industry representatives.

John Arseneau, Environment Canada, pointed out that the primary goal of environmental regulations is to protect the environment, although economic efficiency and societal values are taken into account in the regulatory process. Regulators have a responsibility and accountability to the public for delivering, first and foremost, on their primary mandates.

While regulatory co-operation with the United States for many environmental issues has proved to be very advantageous, in the area of new substances, progress is more difficult, because of a lack of transparency within the US approach. Arseneau explained that these difficulties stem from the fact that the US regime for new chemicals is about 30 years old, and so lags behind other jurisdictions with respect to information sharing (among regulatory agencies) and documentation. The Canadian government and the US Environmental Protection Agency, along with industry from both countries, have a co-operative mechanism in place to promote and facilitate regulatory convergence. Environment Canada is also leading work at the OECD to overcome these obstacles on a larger scale.

Judith Lockett, Health Canada, provided a brief update to the group about regulatory co-operation efforts in her department. In particular, Lockett mentioned that the Health Products and Food Branch signed a memorandum of understanding with the US Food and Drug Administration in November 2003 on the sharing and exchange of information on therapeutic products. The work done via this memorandum will inform decision-making authorities and promote closer co-operation on matters of mutual interest.

Some participants noted that the discussion about departmental progress and future plans for regulatory co-operation echoed similar policy discussions taking place over the past 10 years. There was a sense that little real progress had been made.

Richard Paton, Canadian Chemical Producers Association, expressed a degree of frustration when stating that Canadian regulators do not take into account the realities of the markets they are regulating. He argued that companies are choosing not to come to Canada due, in part, to regulatory costs and burdens. What concerned him most was his impression that no one within government cared enough to try and change the regulatory system and reconcile some of the inherent barriers. His core message was that economic and competitiveness issues must be given prominence in discussions about regulation, and that regulators recognize these issues in their policy decisions.

The discussion paper presented by David Griller raised many questions similar to the arguments put forth by Paton, and this line of thinking was reinforced by Bruce Valiant of Organon Canada Ltd. Valiant argued that denying access for Canadians to a drug deemed safe by the Federal Drug Administration as well as millions of Americans is denying Canadians their basic human rights.

However, despite the frustrations expressed at the system, past and present, there was a clear sign that new ideas and approaches are being considered. The PRI will be conducting further research on these issues in an effort to provide better quantification of costs and benefits of regulatory convergence. An interim report of these findings is expected by June 2004.

Notes

1 See *Government of Canada Guide to Making Federal Acts and Regulations,* available at <www.pco-bcp.gc.ca>.

2 Noble presented highlights from a paper prepared with Michael Hart, entitled "Smart Borders Require Smart Regulations: The Impact of Regulatory Differences on Trade and Investment between Canada and the United States." This research focuses on the identification of regulatory areas where small differences in standards or approval processes impose significant processing delays and/or cost burdens on Canadian businesses selling goods into the US market, and which could impact business decisions on locating foreign direct investment in North America.

3 A more detailed discussion of PRI research in this area can be found in F. Ndayisenga's "Economic Impacts of Regulatory Convergence Between Canada and the United States" in this issue of *Horizons*.

4 Blair, Doug. 2004. "Canada-U.S. Regulatory Cooperation: Approaches and Examples: Background Paper for a Presentation to the PRI-SSHRC Policy Research Roundtable February 13, 2004." Available on request from the PRI. Contact Doug Blair at 613.947.3912 or d.blair@prs-srp.gc.ca.

5 A more detailed discussion of these issues can be found in D. Griller's "Can Regulatory Collaboration Improve Safety in Health Care?" in this issue of *Horizons*.

BOOKMARK

NAFTA: A Ten-Year Appraisal

NAFTA entered into force in 1994 after much debate about the potential merits and costs. To provide a factual basis for this ongoing debate, Hufbauer and Schott provide an evaluation of NAFTA's performance, comparing actual experience with both the objectives of the agreement's supporters and the charges of its critics. The authors examine the economic performance of NAFTA, the dispute settlement provisions, NAFTA and the environment, labour cooperation, the energy market and the North American auto market. In addition the authors examine future challenges and opportunities in the trade and investment relationships among the three partner countries, and the broader implications for new trade initiatives throughout the hemisphere.

For further information please visit the Institute for International Economics web site at <http://www.iie.com/>.

Hufbauer, Gary Clyde, and Jeffrey J. Schott. 2004. *NAFTA: A Ten-Year Appraisal.* Washington, DC: Institute for International Economics (forthcoming).

Canadian National Conference and Policy Forum on Drinking Water

April 3–6, 2004
Calgary, Alberta

Ian Campbell
Policy Research Initiative

Most Canadians have clean safe drinking water delivered to their homes through an invisible network of pipes. Boil-water advisories happen, but almost always in other communities. The memory of Walkerton is fading, and once again, most Canadians take their drinking water more or less for granted.

Not so the people charged with supplying it.

The Canadian National Conference and Policy Forum on Drinking Water met in Calgary, Alberta, to discuss various issues around drinking water. Presentations exposed some major undercurrents in current drinking water policy thinking in Canada.

One major undercurrent was the sense that some provincial regulators may have gone overboard since Walkerton, imposing extensive and onerous new regulations on utilities. The Walkerton crisis (in which seven people died from contaminated municipal water in 2000) was not due to inadequate regulation, but rather a failure to observe and enforce existing regulations. Even more importantly, it was due to a lack of training of the personnel operating the municipal water treatment plant. They did not know how to respond appropriately to test results that strayed from what they were used to seeing. The more useful "fix" that many participants felt we need is better integration of the water system – protection of water quality from source to tap.

The imposition of new regulation and reporting requirements on utilities, which are often stretching their resources to fulfill existing obligations, may in fact jeopardize public health by distracting utilities from the main task of ensuring the water is safe. Whether one buys into this argument, clearly, any new regulation should be evaluated for its cost as well as its benefit.

Another major undercurrent was the sense that drinking water guidelines have become excessively focused on trace chemicals of an unknown, but likely insignificant health risk. *Giardia, Cryptosporidium,* and *E. coli*[1] are the real major health threats in Canada's drinking water. Many of the chemical threats, such as heavy metals, pesticides, or endocrine disrupting chemicals, pose what are, in fact, negligible lifetime exposure risks at the levels in which they are found in most Canadian raw water. And yet, utilities in some provinces are required to measure and report on an ever-increasing list of chemicals, which may or may not be present in their systems.

Another theme was the funding of utilities, which is often seen as inadequate. There was general agreement that consumers should be charged the full cost of supplying their water. This would not only better fund the utilities, it would also encourage consumers to reduce their water usage, saving the need to expand many water treatment plants during a time of fiscal restraint.

Even more generous funding, however, is not likely to solve another serious issue entirely: the shortage of highly qualified personnel to operate and maintain water treatment facilities, particularly in remote communities. As with many Canadian industries, utilities in Canada are facing a wave of retirements. The need for trained operators is acute.

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Perhaps the most intriguing theme to emerge was that of risk assessment and risk communication. Many attendees questioned the usefulness of emphasizing the measurement and removal of trace chemicals from water. The public has come to perceive disinfectant by-products (organic compounds formed during the treatment process, often containing chlorine) as posing a serious health threat, when in fact, concentrations of these products in drinking water mean lifetime exposure risks are less than the risk of being killed by lightning. There was a general agreement that while Canadians should not take clean and safe drinking water for granted, they should also not be made to worry unduly about insignificant risks.

The matter of risk assessment and communication naturally leads to a discussion of how to make decisions in the face of uncertainty. The case of the town of Erickson, British Columbia, was much discussed. Erickson refused to have chlorine added to its drinking water, fearing the chlorination by-products might cause cancer – as Health Canada data suggest could happen. However, the town's water supply was contaminated with *Giardia,* and occasionally with *E. coli,* and while long-time residents had developed immunity to the local strains, visitors to the community routinely became ill. While an agreement was eventually reached (a more expensive ultraviolet treatment of the water, with only trace amounts of chlorine added to keep bacteria from growing in the distribution system), the dispute arguably rests on the public's lack of understanding of the relative probabilities of illness or death from Giardia compared to the risks from chlorination by-products.

This case illustrates the perils of the precautionary principle, which is often invoked in the world of sustainable development: that action should not await scientific certainty when there is a risk of harm. Science can inform of known and possible but uncertain risks, but cannot decide for us. While the Province of British Columbia invoked the scientific certainty that people in Erickson would get sick if the water continued to be untreated, the people of Erickson invoked the precautionary principle with regards to the long-term health risks of chlorination by-products. In the tug-of-war between the known and the unknown risks, both sides preferred the devil they knew – they just knew different devils.

Note

1 *Cryptosporidium* is a chlorine-resistant protozoan, which occurs in human and bovine feces. It may therefore occur in most populated regions of Canada. It causes potentially severe diarrhea, and is among the major health threats in Canadian water. (*Cryptosporidium* was the cause of the outbreak in North Battleford in 2001.) *Giardia* (beaver fever) is also a diarrhea-causing protozoan, and occurs in human and animal feces. It can occur anywhere in Canada. *E. coli* is a bacterium, which occurs mainly in human and cattle feces. Many strains of E. coli are benign or even beneficial, but the strain *E. coli* 0157:H7 (hamburger disease) can be lethal, as it was in Walkerton.

BOOKMARK

Social Capital and Immigrant Integration

Scheduled for distribution in July of 2004, the Journal of International Migration and Integration is pleased to announce a special issue entitled *The Role of Social Capital in Immigrant Integration.* The publication endeavours to further the understanding of social capital, both as a theoretical concept and as a policy tool, especially as it is applied to immigrants and minorities. The application of the study of social capital in this way arises from the need to improve social integration and labour market outcomes for these groups. The idea of using social capital as a policy tool to better the condition of marginalized groups is certainly appealing, but the state of knowledge at the present time is still too imprecise to warrant its use by policy-makers in bold social engineering efforts.

To order a copy of this special issue, please contact JIMI's editorial office by email at jimi@ualberta.ca or by telephone at 780.492.0635. Visit JIMI online at <jimi.metropolis.net>.

Kunz, Jean L., and Peter Li, eds. 2004. *Journal of International Migration and Integration.* Volume 5, Issue 2.

Data Gaps in Service Industries

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Introduction

Service industries account for about two thirds of gross domestic product (GDP) and close to three quarters of total employment in the Canadian economy, and their importance is growing. Information and communication technology (ICT)-intensive and knowledge-based industries are increasingly service industries. And service exports are about 13% of Canada's total exports of goods and services. For a variety of reasons, data on service industries are limited in scope and not as reliable as that on goods-producing industries. Moreover, service industries have received far less attention than manufacturing and other goods-producing industries in data development and policy research. As a result, important data gaps have developed, undermining our ability to understand the performance of the Canadian economy and the dynamics of North American economic integration. For the development of sound policies that can improve the living standards and quality of life of Canadians, it is essential to have comprehensive and timely data on service industries.

Data Gaps in Services Output and Prices

Service industries presenting data gap problems can be grouped into two broad categories. One category comprises industries that present conceptual problems of output measurement and for which real output is often estimated by using input measures, such as employment or hours of work. As a result, productivity growth in these industries is, in essence, assumed away. The other category regroups industries where conceptual problems are not a serious impediment to data development, but where more resources need to be devoted to improving timeliness and coverage. Priority should be given to developing reliable data on output and prices in areas where methodological problems are not pervasive, while also pursuing methodological work in concert with other statistical agencies and international organizations such as the OECD. In line with this objective, Statistics Canada is preparing new data sets, including greater industry detail on wholesale and retail trade services to be released in June 2004.

Our recommendations for service data development are the following.

- Develop output and price data on finance, insurance, real estate, professional, scientific, and technical services, which contribute more than one third of value added in the services sector. Statistics Canada's plan to develop price indexes for business services will be a useful addition in this direction.
- Develop data on investment, technology adoption, innovation, capital stock, and labour force skills for ICT-producing industries, as well as for major ICT-using industries, such as finance, insurance, wholesale and retail trade, and professional, scientific, and technical services. These data are essential for understanding the productivity and innovative performance of service industries.

Data Gaps in Services Trade

Unlike for goods, trade data on services are based on sample surveys of companies, supplemented with customs record information. The data set published in the Balance of International Payments provides information on transportation, commercial, government, and travel services. About 30 categories of commercial services are available, with a regional breakdown. This commodity-based information is then used to produce total exports and imports for 27 North American Industry Classification System (NAICS)-based service industries, which are reported in the input-output (I-O) tables. In the I-O data set, however, there is no country ventilation. For analytical purposes, the information lost in the process is significant.

Other data problems arise, because of the way services are traded, and keeping track of the developments in that area is crucial. For instance, services have become more tradable with the advent of e-commerce. But so far, we lack information on the services being offered via e-commerce.

Having to rely on surveys for services trade, rather than customs data which track goods, Statistics Canada is faced with constraints related to confidentiality as well as the response burden for business. Consequently, it is expected that less detail will be publicly available by industry and country for services trade than for merchandise trade. That said, much improvement is not only feasible but imperative, in particular in light of the growing importance of trade in services.

As we move more and more to a service economy, sound and effective policy development is hampered by the lack of comprehensive and accurate data on service industries in general and services trade in particular.

Our recommendations to advance the development of service trade data include the following.

- Develop data sets linking service industries (NAICS) with trading partners (countries where possible).
- Increase the level of detail in commodity and industry (NAICS) data for cross-border trade to the extent that it does not breach confidentiality agreements.
- Expand the sample of the survey on international transactions in services and maintain a frequency that allows quality longitudinal analysis.
- Provide information on characteristics of enterprises involved in exports and imports of services.
- Improve the comparability of Canadian trade in services data with that of other countries by using the recommended international naming convention and concepts.

Conclusion

To sum up, data gaps in the services sector are much more significant than those in goods-producing industries. As we move more and more to a service economy, sound and effective policy development is hampered by the lack of comprehensive and accurate data on service industries in general and services trade in particular. We believe it is essential that resources be devoted to enhance the coverage and quality of service industry output, price, and trade data.

Environmental Scan Initiative

Valerie Howe
Department of Justice

Scanning is an important part of any government department's effort to formulate plans, policies, and strategies – in short, to plan its future course of action. An understanding of the environment is gained from a scan of internal and external factors and trends that have the potential to influence the organization or department. This article provides an update on the different types of scanning activities ongoing within the federal government, profiles the Environmental Scanning Practice (ESP) group, and introduces a new interdepartmental initiative to create a government-wide scan. The initiative will be based on input from government departments that have expressed a strong interest in participating.

Generally, a typical scan is a report capturing a view of the environment around the organization. The purpose is to detect new, relevant events and facts. The macro-environment is generally captured under five broad areas expressed in the acronym, STEEP. Those areas, which generally become chapters in the scan, are:

- S socio-cultural,
- T technological,
- E economic,
- E environmental, and
- P political (governmental).

More detailed scans also provide key information about an organization's internal capacity to respond to environmental pressures.

Scanning within the Government of Canada

Virtually all departments have discovered the benefits of conducting a scan of their individual environments. A common challenge is that of integrating different types of scans and strategic information within departments – and of accessing the best information from other members of the federal departmental community. By way of research, interviews with about 30 international scanners,[1] and work by the community of practice, a number of dimensions have been identified. Scans, both within the federal government and elsewhere, vary in terms of when they are done (regularly, cyclically), the focus or breadth of scope, and how the scan fits within the organization.

The content of a department's scan can vary widely. Some scans can be comprehensive, while others focus on specific topics, for example, a scan of risks or one on legal issues. Finally, other important areas of variation include the detail of statistical content and analysis, the extent to which senior researchers and analysts contribute their expertise, and whether or not the scan draws implications and conclusions from the information discovered. For example, the question might be asked, what does it mean for us if globalization is affecting everything? Some scans draw implications; others leave this to the management client.

The Community of Practice

An interdepartmental working group on scanning has been meeting for more than two years. It was established at the request of the Interdepartmental Directors General of Policy Network, an informal group, and put into place by the Chair of that group, Michelle Gosselin, Director General, Policy Integration and Co-ordination, Department of Justice. After sharing scans for the first year, the group transformed itself into a practice group, and developed terms of reference.

Valerie Howe is a Senior Research Officer in the Research and Statistics Division at the Department of Justice.

1. Act as a community of practice on environmental scanning and analysis methods.
2. Build expertise in environmental scanning and analysis.
3. Share resources and develop content for scanning.

More than 20 departmental representatives meet once a month to discuss, network, and conduct workshops to enhance the scanning capacity of both individual departments and the federal government as a whole.

The Co-ordinated Scan

Now in its third year, the ESP group decided it was ready to take on a major initiative – the development, as a pilot, of the first scan co-ordinated across the federal government. The plan builds on what we have learned about scanning within the government. The model calls for each department to distill its special knowledge of specific task areas into one-page briefings on important topics. The content will cover each of the elements of the STEEP model, with the addition of Canada in the world, making this a STEEP-W exercise. Statistics Canada will make a vital contribution with data that will ground the domestic analysis. The ESP group has decided to begin with the topic of Canada in the world, drawing upon, and contributing to, recent work by Foreign Affairs and the Department of National Defence.

The hope, perhaps optimistic, is to have a first draft of the complete scan in the fall of 2004. Then, many next steps can be developed. These include analytical discussions on each chapter, and structured or unstructured discussions involving senior policy makers, analysts, and researchers. If your department is not yet involved, and would like to be, please send an e-mail with your contact information to the author to be added to the mailing list.[2]

Notes

1 Howe, Valerie. *Best Practices in Environmental Analysis: Interviews with Leading Practitioners*. DOJ, Research and Statistics Division, forthcoming.

2 Valerie Howe can be reached at vhowe@justice.gc.ca.

BOOKMARK

Designing Government

How do governments govern today and how well do they do it? How do governments choose the tools or instruments they will use to get things done? In today's world, how could these decisions be improved from the standpoint of efficiency, effectiveness, legitimacy and accountability? *Designing Government* brings together leading experts to examine the instrument choice perspective on government and public policy over the past two decades. The authors examine such issues as accountability, effectiveness, sustainability, legitimacy, and the impact of globalization.

Moving beyond the traditional regulatory sphere and its preoccupations with deregulation and efficiency, the authors trace the complex relationships between instrument choices and governance. The book encourages the reader to consider factors in the design of complex mixes, such as issues of redundancy, context, the rule of law and accountability. These latter factors are especially central in today's world to the design and implementation of effective instrument choices by governments and, ultimately, to good governance. The authors conclude, in fact, that seeing instrument choice itself as part and parcel of designing government and achieving good governance is both the promise and the challenge for instrument-based perspectives in the years ahead.

Eliadis, Pearl, Margaret M. Hill, and Michael Howlett, eds. 2004. *Designing Government: From Instruments to Governance*. Montréal: McGill University Press (forthcoming).