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National borders still matter despite globalization, says economist

Common perceptions about the extent of globalization are based much more on myth than on fact, says economist John Helliwell. Distance and national borders, he notes, have surprisingly large and continuing effects on the patterns of economic life. Yet, while liberalized international flows of goods, services, capital, and people present opportunities that Canadians ought to seize, Helliwell argues that Canada still has wide scope for autonomous policy. It is not the forces of globalization, but Canadians' own choices, based on their own needs and aspirations, that will determine their future prosperity and quality of life.

Helliwell — Professor of Economics and McLean Chair of Canadian Studies at the University of British Columbia and a Research Fellow of the C.D. Howe Institute — made his remarks in the C.D. Howe Institute's annual Benefactors Lecture, delivered in Toronto today.

Helliwell presents evidence about the global, national, and local structure of economic life, and shows that, although globalization has some substance, it has nothing like as much as reported in the media and presumed in much of the professional literature. He also concludes that the much-discussed brain drain from Canada to the United States is small by historical standards and generally limited to specialized occupations.

Helliwell also examines the effects of globalization on economic and social welfare generally by looking at its influence on incomes, health care, education and knowledge, and social capital; in each case, he concludes, the influence of globalization seems to be small.

Helliwell says the evidence on globalization brings both good and bad news for Canada's future. The good news is, first, that despite many increases in the strength and depth of international linkages over the past 40 years, countries' internal economic and social structures remain much tighter than is commonly believed. Second, small countries remain as viable and vibrant as they were decades ago. Taken together, this evidence suggests that globalization does not pose a threat to the viability and independence of the smaller countries.

The bad news is that the good news is not more widely known and hence put to proper use. Well-designed national and international policies, Helliwell says, would reflect the fact that, for now and the foreseeable future, geographic, social, and political distance act to make it cheaper and safer to use familiar and trusted institutions and pathways. If new and

better institutions and pathways are to be built, whether within or across national borders, it will be important to do so in ways that broaden rather than diminish the underlying bedrock of shared trust.

The Benefactors Lecture, which is presented annually in the fall, was sponsored this year by Noranda Inc. Past lecturers include economists Paul Boothe, Thomas J. Courchene, Pierre Fortin, Richard Harris, Richard G. Lipsey, John McCallum, and D.G. McFetridge, and political scientist Richard Simeon.

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For further information, contact: John Helliwell, e-mail: john.helliwell@ubc.ca; phone: (604) 822-4953;
Kristine Gray (media relations), C.D. Howe Institute
phone: (416) 865-1904; fax: (416) 865-1866;
e-mail: cdhowe@cdhowe.org; Internet: www.cdhowe.org

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Communiqué

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Malgré la mondialisation, les frontières nationales importent toujours, affirme un économiste

L'opinion générale à l'égard de la mondialisation et de son envergure relève davantage du mythe que des faits, affirme l'économiste John Helliwell. D'après lui, la distance et les frontières nationales ont un effet remarquablement important et permanent sur la structure de la vie économique de tous les jours. Bien que la libéralisation du flux international des biens, des services, des capitaux et des gens offre des possibilités dont les Canadiens devraient tirer profit, M. Helliwell soutient que le Canada est encore doté d'une grande marge d'autonomie politique. Ce ne sont pas les forces de la mondialisation, mais le propre choix des Canadiens, motivé par leurs besoins et désirs, qui déterminera leur prospérité et leur qualité de vie future.

M. Helliwell, qui est professeur d'économie et titulaire de la chaire McLean d'études canadiennes à l'Université de la Colombie-Britannique, et chargé de recherche invité auprès de l'Institut C.D. Howe, a fait ces remarques dans le cadre de la conférence annuelle des bienfaiteurs de l'Institut, donnée aujourd'hui à Toronto.

Avançant des preuves sur la structure mondiale, nationale et locale de la vie économique, M. Helliwell démontre que même si la mondialisation présente certaines qualités concrètes, elle ne se rapproche pas de l'envergure que lui donnent les médias et une grande partie de la documentation professionnelle. Il conclut également que l'exode des cerveaux du Canada vers les États-Unis, un sujet tant débattu, n'est que modeste selon les normes historiques et se limite généralement aux professions spécialisées.

Le conférencier examine aussi les effets de la mondialisation sur le bien-être économique et social en analysant l'influence qu'elle a sur les revenus, les soins de santé, l'éducation et le savoir, ainsi que le capital social; dans tous les cas, il estime que la mondialisation ne semble avoir eu qu'une influence modeste.

M. Helliwell explique que ces faits sur la mondialisation présentent de bonnes et de mauvaises nouvelles pour l'avenir du Canada. D'une part, malgré le resserrement et l'intensification des liens internationaux au cours des 40 dernières années, les structures économiques et sociales internes des pays sont bien plus hermétiques qu'on ne le croit généralement. De plus, les pays de petite taille sont tout aussi viables et vivants qu'ils l'étaient auparavant. Dans l'ensemble, ces facteurs suggèrent que la mondialisation ne pose pas de menace à la viabilité et à l'indépendance des pays de taille modeste.

D'autre part, ces facteurs positifs ne sont pas de notoriété suffisamment publique pour être utilisés à bon escient. Des politiques nationales et internationales bien conçues, souligne M. Helliwell, devraient reposer sur le fait que, maintenant et dans l'avenir immédiat, la distance géographique, sociale et politique signifie qu'il est moins coûteux et plus sûr d'adopter des institutions et des voies qui sont familières et fiables. Si l'établissement d'institutions et de voies meilleures s'impose, qu'elles soient nationales ou transfrontalières, il importe de le faire d'une manière qui élargira plutôt qu'elle ne rétrécira les assises de confiance mutuelle.

La conférence des bienfaiteurs, donnée chaque année à l'automne, est parrainée cette année par Noranda Inc.. Au nombre des conférenciers passés, figurent Paul Boothe, Thomas J. Courchene, Pierre Fortin, Richard Harris, Richard G. Lipsey, John McCallum et D.G. McFetridge, ainsi que le politicologue Richard Simeon.

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– 30 –

Renseignements : John Helliwell, courriel : john.helliwell@ubc.ca; téléphone : (604) 822-4953;
Kristine Gray (relations avec les médias), Institut C.D. Howe,
téléphone : (416) 865-1904; télécopieur : (416) 865-1866;
courriel : cdhowe@cdhowe.org; site Web : www.cdhowe.org

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C.D. Howe Institute

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The Institute was created in 1973 by a merger of the Private Planning Association of Canada (PPAC) and the C.D. Howe Memorial Foundation. The PPAC, formed in 1958 by business and labor leaders, undertook research and educational activities on economic policy issues. The Foundation was created in 1961 to memorialize the late Rt. Hon. Clarence Decatur Howe, who served Canada as Minister of Trade and Commerce, among other elected capacities, between 1935 and 1957. The Foundation became a separate entity in 1981.

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C.D. Howe Institute
125 Adelaide Street East
Toronto, Ontario M5C 1L7
tel.: 416-865-1904; fax: 416-865-1866;
e-mail: cdhowe@cdhowe.org
Internet: www.cdhowe.org

C.D. Howe Institute
Benefactors Lecture, 2000

Globalization:
Myths, Facts, and Consequences

John F. Helliwell

Professor of Economics and
McLean Chair of Canadian Studies,
University of British Columbia,
and
Research Fellow,
C.D. Howe Institute

Toronto, October 23, 2000

Sponsored by
Noranda Inc.

Foreword

Globalization is the defining buzzword of our day. Enthusiasts hail a world without borders, empowering individuals and unleashing prosperity. Detractors fear unconstrained business and the erosion of democracy by international organizations. On both sides, overstatement rules.

Listening to and participating in the debate over globalization, we at the C.D. Howe Institute felt a strong need for more reliable facts and level-headed reasoning. So we asked an outstanding Canadian economist, John Helliwell, Professor of Economics and McLean Chair of Canadian Studies at the University of British Columbia and a Research Fellow of the C.D. Howe Institute, to explain how declining costs of transportation and communication are changing the world — and how they are not. And we invited his views on how the environment for Canadian economic and social policy is changing — and, again, how it is not.

In the Benefactors Lecture, 2000, Dr. Helliwell rises impressively to the challenge. He shows that, although walls between nations are thinning, national borders still matter, and he advances several ideas about why they are so durable. While liberalized international flows of goods, services, capital, and people present opportunities that Canadians ought to seize, Dr. Helliwell argues that Canada still has wide scope for autonomous policy. It is not the forces of globalization, but Canadians' own choices, that will determine their future prosperity and quality of life.

The Institute's aim in presenting the Benefactors Lecture series is to raise the level of public debate on issues of national interest by presenting diverse points of view. In doing so, the Institute hopes to give Canadians much to think about, including information they need to exercise their responsibilities as citizens.

I wish to thank our benefactor for this year's lecture, Noranda Inc., and in particular David W. Kerr, President and Chief Executive Officer, whose support also enabled us to make copies of the lecture available free of charge.

The text of the lecture was copy edited by Lenore d'Anjou and prepared for publication by Barry A. Norris and Wendy Longsworth. As with all C.D. Howe Institute publications, the opinions expressed here are those of the author, and do not necessarily represent the views of the Institute's members or Board of Directors.

Jack M. Mintz
President and Chief Executive Officer
C.D. Howe Institute

Commentators widely and perhaps increasingly report that globalization has sharply diminished the importance of national borders, to the extent of leaving little scope for meaningful policies at the national level. This view comes in at least two versions. One is that the decreasing costs of transportation and communications — from ships through trains and the telegraph to the telephone, television, cheap air travel, and the Internet — have made distance increasingly irrelevant. This is McLuhan's global village, with implications for policies that depend on the viewer's perspective. A second, non-McLuhan version of the "nations do not matter any more" view accepts the continuing importance of geographic distance but implicitly argues that political distance is becoming irrelevant. Some set of assumptions of this sort lies behind the view that within North America the important linkages and synergies are within geographic regions, whether as small as Silicon Valley or Ottawa's Silicon Valley North or as large as Ontario or Cascadia.[1]

What are the policy implications of this widely presumed withering of the nation-state? Those who agree that globalization has sharply diminished the importance of national borders, perhaps to the point of irrelevance, have a wide range of policy perspectives. At one extreme is a "down with all governments" view, whereby a disappearing role for national policies is much welcomed. Anyone with this outlook regards the possibility of supernational replacements for national policies as pie in the sky or as evidence of an ominously encroaching world government operating beyond citizen control. From a more international perspective, decreasing scope for national policies is seen to create a corresponding need for internationally or globally harmonized approaches to a rules-based system. One might think of this outlook as a world federalist interpretation of the "distance does not matter any more" view.

I am grateful for comments on earlier versions from Bob Evans, Pierre Fortin, John McCallum, Jack Mintz, Finn Poschmann, John Richards, and Bill Robson. I am also grateful for continuing support of the underlying research by the Social Sciences and Humanities Research Council of Canada, and for the research and editorial assistance of Aneta Bonikowska, Aileen Battye, and David Helliwell.

1 Because geographic and political distances make such a difference to information flows, it is perhaps worth reminding readers east of the Rocky Mountains that Cascadia is a gleam in the eye of some who live British Columbia, Washington, and Oregon. Since the political basis for such a region (whose name derives from the Cascade Mountains that span it) lies mainly in shared geography and perceptions that their respective national governments are both ignorant and uncaring, a new nation is not in serious prospect. However, transborder conversations at the regional level are likely to focus attention on problems particular to the region, including international border issues.

A third perspective, in evidence among some of the protest groups at the World Trade Organization (WTO) meeting in Seattle and the International Monetary Fund (IMF) and World Bank meetings in Washington, is that globalization is the result of forces operating in the joint interests of rich-country capitalists and poor-country oligarches, with the international financial institutions acting as their lackeys. The policy implications of this perspective range as widely as the views represented in the protests.

In this lecture, I argue that the common perceptions about the extent of globalization are based much more on myth than on fact. Distance and national borders have surprisingly large and continuing effects on the patterns of economic life, and these effects both permit and require a set of policy choices much different from what would be considered by anyone who thinks of the global economy as a seamless unit.

I divide my argument into four main parts. In the first, I present evidence about the global, national, and local structure of economic life. The burden of this evidence is that globalization has indeed some substance but nothing like as much as reported in the media and presumed in much of the professional literature. The second part turns to the much-discussed brain drain from Canada to the United States and concludes that the loss is historically small except perhaps for individuals with very high incomes and in some highly specialized fields. The third section examines many facets of human well-being; all could be affected by globalization, but its influence seems to be small. Finally, I consider the consequences for Canadian policies, both domestic and international.

The Economic Separation of Nation-States

In the mid-1990s, just as John McCallum (1995) was reporting his startling finding that in 1988 Canadian provinces had merchandise trade flows with each other that were 20 times greater than those between Canadian provinces and US states of equivalent size and distance, Charles Engel and John Rogers (1996) were independently discovering that short-term price linkages between cities diminished with distance within Canada and the United States and were enormously less across the international border. Indeed, subsequent research using the Engel and Rogers data shows that, for the consumer prices they examine, there is no crossborder linkage at any distance (Helliwell 1998, 68). (These two independent findings are mutually confirming. One expects to find that, where trade linkages are less dense, price linkages are also weaker.)

Once lodged on the radar screen, which took some time, these findings have led to a host of studies designed to see how general and persistent these border effects may be. How have the border effects changed in the wake of the unexpectedly large expansion of Canada-US trade following the Canada-US Free Trade Agreement (FTA)? If the national border between the United States and Canada is of so much importance for merchandise trade, what can one expect to find for services? Is capital more easily mobile? Do the results apply to other countries as well? Do they apply equally in all provinces and to all industries? If not, do the patterns tell some consistent story?

What Is the Current Effect on Markets for Goods and Services?

First, what of the effects of the FTA? My most recent attempts to assess the post-FTA evolution of border effects for merchandise trade between Canada and the United States, using data revised and extended since those of McCallum (1995), show a post-FTA reduction of about one-third, consistent with the rise of Canada-US trade flows by about 50 percent relative to the values that would have been expected to follow from increases in population and income in the two countries. As for the pattern of adjustment, little change appeared until 1990; following came a fairly sharp increase of north-south trade densities from 1991 through 1993 and rough constancy for 1994 through 1996. Thus, in 1996 the typical Canadian province traded twelve times as much with another Canadian province as with a US state of similar size and distance.

If the border did not matter at all, then interprovincial trade flows would exactly match those between provinces and states. Thus, Ontario would trade ten times as much with California as it does with British Columbia, since California is more than ten times larger than British Columbia, while the two are both roughly the same distance from Ontario. Yet trade between Ontario and British Columbia is actually larger than that between Ontario and California.[2]

2 To avoid possible confusion, I should point out that goods shipped from Ontario through British Columbia to foreign markets, whether in the United States or overseas, are excluded from the data on trade between Ontario and British Columbia. Likewise, South Korean cars imported through Vancouver on their way to Toronto are not included in the statistics on exports from British Columbia to Ontario.

The Market for Goods

The main basis for the interprovincial trade data is a survey of manufacturers asking them to divide their shipments by ultimate destination. These data, combined with transportation data for specific commodities, are used to allocate each province's interprovincial exports to the interprovincial imports of each of the other provinces. Canada thus has more complete and consistent measures of internal trade than does any other country.[3]

This fact, combined with Canada's large size and closeness to the United States, makes it easy to separate the important effects of distance from those of national borders. For most countries, foreign markets are, on average, much farther away than are domestic markets, so that the border variable is correlated with the distance variable, thus creating possible difficul-

3 Most of the studies of the border effect between the United States and Canada compare interprovincial with province-state trade, since no comparable data exist for interstate trade in the United States. Two recent studies attempt to fill in the picture by the use of the 1993 US Commodity Flow Survey (United States 1996). Hillberry (1998; 1999) combines special tabulations of these data with estimates of surface shipments from US states to adjacent Canadian provinces. This methodology produces an estimate of the border effect in 1993 of 20.9, about 70 percent larger than the 12.3 estimate based on 1993 Canadian data for interprovincial and province-state shipments (Helliwell 1998, 22). By contrast, van Wincoop (2000) combines the Canadian data for province-state trade with the US Commodity Flow Survey data to estimate a 1993 border effect of only 1.3. He argues that Hillberry's estimate of transborder shipments represents a severe undercount and therefore an overestimate of the size of the border effect. Hillberry argues, on the other hand, that, by using comparable sources for both interstate and state-province shipments, he is reducing the likely extent of data mismeasurement.

The fact that the Hillberry results are significantly larger than those based on the Canadian data suggest that undercounting may indeed be larger for export shipments than for those moving interstate. However, the van Wincoop results have even more troubling features. They imply that the density of interprovincial shipments in Canada is almost ten times greater than that of interstate shipments in the United States. Van Wincoop argues that, in theory, this result may occur because the greater size of the US economy means that producers and consumers do not have to go so far afield to get the range of product choice they need. Yet, despite some evidence of greater mobility of goods, people, and capital among Canadian provinces than among US states, none of the evidence is of anything like the sort to match data suggesting that interprovincial trade flows are ten times as intense as those among states.

If van Wincoop's interpretation is correct and border effects are thus much larger for small economies than for large ones, then the large post-FTA increases in transborder trade would have been accompanied by large reductions in interprovincial trade. However, although Helliwell, Lee, and Messinger (1999) find some evidence of post-FTA trade diversion from provinces to states, it is nothing like large enough to support van Wincoop's hypothesis. Thus, my preliminary judgment is that, when compared with the Statistics Canada estimates for either interprovincial or province-state trade, the US Commodity Flow Survey data materially understate the levels of interstate merchandise trade.

ties in distinguishing the two effects. For Canada and the United States, things are rather different, since Canada can be seen as the top row of an eleven-row rectangle with the United States represented by the lower ten rows. The top row also sags south in its populous middle, since more than half of the Canadian population lives south of the 49th parallel, nestled within the industrial heartland of North America. As a result, the average distance between Canadian provinces is almost exactly the same as the average distance between the provinces and the 30 states used in the trade-flows study, which include the border states and the largest of the rest (McCallum 1995; Helliwell 1996c; 1997; 1998). Thus, the effects of distance are easy to distinguish from those of the border itself.

Much of the attention on the McCallum and subsequent studies focuses on the effects of the border, but, as Grossman (1997) and Hazledine (2000) emphasize, the effects of distance are equally striking. Distance has a dramatic trade-reducing effect, with each 1 percent increase in distance being associated with an approximately 1.5 percent reduction in interprovincial or province-state merchandise trade. This distance effect is quite separate from the border effect.

For merchandise trade, the crossborder and within-Canada distance effects are equally large (Helliwell 1998, 68) so the border effects are not due to per kilometer transport costs' being higher for transborder shipments. More to the point, the distance effects are so great that they cannot represent just shipping costs, whether domestic or international. There is also no evidence of reduction in the distance effect over the 1988 to 1996 period (for which the interprovincial and province-state trade data are available). Thus, when the time comes to consider the reasons for large border effects, we should be looking for factors that could explain equally well why distance still has such a large separating effect.

The Market for Services

No one keeps data for services that are counterparts to the interprovincial and province-state trade data underlying the estimates for merchandise trade. Data for total interprovincial and Canada-US trade in services can, however, be used in conjunction with the results in hand for merchandise trade to give an approximate estimate of the border effects for services.

These effects appear to be between two and three times as large as those for merchandise trade, with values of about 30,[4] and show no apparent

4 That is, 30 times less than one would expect in the absence of an international border. For simplicity, I henceforth report the size of border effects simply as numerals.

decline over the 1988–96 sample period (Helliwell 1998, 38). It is tempting to dismiss these results — noting that services in general are mostly not traded, so what else would one expect to find? — but that conclusion is too facile since the comparison is not between the traded and nontraded services but between two groups of traded services, those sold interprovincially and those sold across the Canada-US border. As already noted, this large border effect is not simply a distance effect in disguise, since the average interprovincial distances are as great as those between provinces and states. Thus, the border effects for traded services are larger than those for traded merchandise, a result that should be borne in mind when trying to develop a general explanation for the size and prevalence of border effects.

Evidence from Other Countries

Attempts to estimate border effects for other groups of countries are bedeviled by the lack of subnational trade and distance data. In the absence of full spatial disaggregation of production and shipment data, the current procedure in most studies is to use input-output data for domestic shipments (equal to total shipments minus those exported) and to develop some approximation for domestic distances. Wei (1996) approximates the internal trade distances by using one-quarter of the distance from a country to its nearest trading partner, a procedure also used by Helliwell (1998).[5]

Subsequent research finds that Wei's distance approximation generally underestimates, often by a large amount, the numbers derived from procedures more closely grounded in analytic geography and the actual distribution of population and economic activity within each country. The latest estimates of border effects for countries in the European Union (EU) are between 6 and 10 (Nitsch, forthcoming; Chen 2000) or between 12 and 19 (Head and Mayer, forthcoming), about 10 or more for countries of the Organisation for Economic Co-operation and Development (OECD) in general (Helliwell 1998, 51), and much larger still for developing countries (ibid., 55).

5 Wei (1996) obtains small estimates of border effects for countries of the Organisation for Economic Co-operation and Development, which Helliwell (1998) finds to be due to an inappropriate definition of third-party trade potential and to the convention Wei adopted of reporting border effects applicable to the few countries sharing common language, a common border, and membership in the European Union. Nitsch (2000) objects to Wei's procedure on the grounds that it falsely involves the size and shape of the neighboring country in the calculation of domestic distance; Helliwell and Verdier (1999) and Chen (2000) criticize it as inconsistent with the logic of the underlying gravity model and as ignoring available information about the size and distribution of internal economic activity.

The estimated levels of nontariff barriers cannot explain the pattern of border effects across industries in the EU (Head and Mayer 2000). This finding supports the view I take here: that border effects reflect national tastes and networks, rather than policy-related barriers.

How Mobile Is Capital across Borders?

If domestic goods markets are much tighter than international ones, one expects to find the same thing true of capital markets. The commonly made assumption of perfect international mobility of capital requires the prevalence of a single global real interest rate, which, in turn, requires that prices move to maintain purchasing power parity between national currencies, an assumption that is rejected strongly by the Engel and Rogers (1996) results already quoted. This insight raises the likelihood that Feldstein and Horioka (1980) are correct in their original inference that high correlations between national savings and domestic investment imply low international mobility of capital.[6]

One way of checking this interpretation against competing theories is to compare savings-investment correlations across countries with those for subnational units within the same country. If Feldstein and Horioka are right in concluding that a large positive correlation between savings and investment at the national level signals low international capital mobility, then one expects to find that the correlation is smaller, or even vanishes entirely, across provinces or regions within a country. Helliwell and McKitrick (1999) combine Canadian provincial savings and investment rates with national data from other OECD countries and find that the strong correlation at the national level is completely absent among the provinces, thus providing strong support for the Feldstein and Horioka interpretation. Positive correlations between subnational savings and investment rates, using somewhat less complete data than is available for the Canadian provinces, are similarly absent in Japan (Dekle 1996), the United States (Sinn 1992), and the United Kingdom (Bayoumi and Rose 1993).

Other types of evidence also indicate low international linkages of national capital markets. Investors systematically prefer to hold home-country rather than foreign equities (French and Poterba 1991; Baxter and Jermann

6 A large subsequent literature explores what has become known as the Feldstein-Horioka puzzle. This literature continues to find high correlations, of the sort discovered by Feldstein and Horioka, in both cross-section and panel data sets. While their empirical finding has been confirmed many times, there remains some skepticism about their conclusion, since some theoretical models with perfect capital mobility still give rise to such correlations.

1997); there is no evidence that savers use international capital markets to smooth their consumption in the face of income shocks (Backus, Kehoe, and Kydland 1992); and exchange rates are highly volatile and apparently unrelated to changes in fundamentals beyond a relatively weak long-run tendency toward purchasing power parity (Meese and Rogoff 1983; Baxter and Stockman 1989).

Why Do National Borders Separate Markets So Strongly?

Despite the continuing prevalence of theoretical models that assume perfect international mobility of goods and capital, the empirical evidence outlined above is starting to receive more theoretical attention. Obstfeld and Rogoff (2000) list six of the empirical findings given above (the border effects in trade, the Feldstein-Horioka puzzle, the home bias in equity holdings, the lack of consumption smoothing across countries, the border effects in prices, and the volatility of exchange rates) as the major unresolved puzzles of international macroeconomics. Seeking to find the simplest extensions to standard theory that would account for these puzzles, the authors argue that the combination of significant international transactions costs and prices that are sticky (or fairly rigid) in terms of domestic currency is sufficient to explain all of them.

Two More Puzzles

The idea of tackling the whole set of related puzzles together is, in my view, exactly the right way of proceeding. I do not think Obstfeld and Rogoff (2000) go quite far enough, but some slight extensions of what they propose are likely to do the trick. What more is likely to be required? First, a recognition of two puzzles beyond their list of six: to the exceptionally strong effects of distance in reducing the density of economic relations, and to the fact that forward exchange rates are even worse than spot exchange rates as predictors of the future value of a currency.[7]

Extending the puzzle list invites an extended interpretation of the reasons for border effects. Obstfeld and Rogoff rightly focus on transactions costs, but they would do better to consider a broader range. The costs of doing business depend on the extent of networks of association and trust.

7 Obstfeld and Rogoff (2000) note the latter fact but leave its explanation as a homework assignment for readers.

Recommendations carry more weight when they come from people who are known and trusted, and frequency of contact provides a natural flow of information that is useful in choosing future trade and investment partners. This extended list of determinants of transactions costs lessens the exclusive importance of political borders and of legal impediments to transborder flows. It also suggests a theoretical explanation that applies equally well to national border effects and to large distance effects.

Distance separates markets and diminishes the frequency of casual contacts among traders, making it efficient for buyers, sellers, and investors to consider local options before proceeding farther afield. Exactly the same case can be made about national borders, a coincidence suggesting that the border and distance effects are likely to be explicable by the same general theory (even though the reasons tastes and contacts change across borders may differ in detail from the reasons they change with distance).

While recognizing that goods and capital markets are nationally distinct, Obstfeld and Rogoff try to hold on to the assumption that financial capital is perfectly mobile. They wish to keep this assumption in part because it keeps the theory simpler, and in part because of the extensive evidence that covered interest arbitrage is fairly pervasive.[8]

Recognition that the forward exchange rate is worse than the spot exchange rate as a predictor of the future spot rate shows, however, that the covered arbitrage condition does not support the common extension to *uncovered* arbitrage. On the contrary, the evidence from the pricing of securities of the type used for covered interest arbitrage (usually short-term bank deposits and short-term government securities) is that a change in national interest rates induced by a change in monetary policy leads first to a change in the forward exchange premium or discount of just the size required to maintain covered interest parity. (The exchange rate may also change but never by enough to give the extent of overshooting required to support the usual assumption of uncovered interest rate parity.) In short, the variable that adjusts freely to maintain covered interest parity after a change in a national interest rate is the forward exchange rate. This interest-responsiveness of the forward rate in turn contributes to its bad record as a predictor of

8 *Covered interest arbitrage* means that the interest rates on comparable securities issued by the same or an equivalent issuer in another currency will be priced so that the difference between the two interest rates is exactly equal to the forward exchange premium or discount between the two currencies. Thus, banks offering Canadian and US dollar deposits do so at interest rates that differ by roughly the amount of the forward exchange premium between the two currencies. This *covered interest parity* is prevalent for at least some categories of investments, leading many analysts, including Obstfeld and Rogoff, to infer that financial capital is perfectly mobile.

the future spot rate. The reason it can move so much and so freely is that investors are prepared to move very little capital on an uncovered basis to tie down the forward rate to the path determined by fundamentals. Thus, the bad predictive power of the forward exchange rate provides one more piece of evidence of international market segmentation.

With the set of explanations extended to include a broader range of transactions costs that rise with distance as well as across borders, we are able to explain all of the six puzzles Obstfeld and Rogoff examine, plus the large effects of distance and the poor performance of the forward exchange rate as a predictor of future exchange rates.

Yet Another Puzzle

It is tempting to try the same framework on another puzzle: Why do different ways of estimating the extent to which goods in different countries are substitutable give such dramatically different answers? Traditional econometric estimates, which are based on the extent to which trade flows respond to changes in relative prices, tend to suggest quite small elasticities of substitution between domestic and foreign goods. However, the fact that national border effects and distance effects are so large suggests that local products may be quite good substitutes for those coming from other countries or from greater distances within the domestic economy.

Reconciliation lies in recognition of the market-separating effects of distance and national borders. When goods have to cross space or borders, one result is a no-trading zone of prices that tends to diminish the extent to which trade flows respond to price changes and to lead to small estimates of price elasticities. On the other hand, a shift of relative prices within the same local market can lead to a change in spending patterns that yields much higher estimates of the extent to which goods are substitutes for one another.

That local and distant products are fairly good substitutes for one another helps to explain why distance and border effects can have so much influence on trade flows, relative to the measured costs of transport, without leading to large losses of income or welfare. It also helps to explain why some tests of traditional Heckscher-Ohlin trade theory — in which trade is inspired only by differences in comparative advantage — work much better to explain trade patterns within national economies than between them (Davis et al. 1997; Trefler 1995). In the international case, borders intervene, and geographic, social, political, and cultural distances are greater, all situations that reduce the advantages of exploiting what might, at lesser cost, seem a worthwhile difference in resource endowments. These reductions

limit the empirical power of the traditional theory to explain international data, compared to its greater ability to explain trade flows among the regions within a national economy.

One is tempted one to say that the only thing wrong with traditional international trade theory is the word *international*. It works well to explain trade and specialization within nations and fails only when it neglects the fact that information flows diminish, tastes diverge, and transactions costs rise as borders and distance intervene.

How Much of the Border Effect Is a Currency Effect?

Thus far, I have used the cost advantage of operating within established and well-understood networks to explain why economic densities fall so rapidly with both distance and national borders. In this explanation, the border effect adds to the distance effect because a number of networks are denser within nations than across national boundaries. To some extent, the same is true of migration and other sources of personal contacts (a matter for its own section to follow).

Another possible reason for the large size of national border effects is the predominance of national currencies. Thus, political borders are generally also currency borders, making it hard to separate the effects of borders themselves from those of national currencies.

I note elsewhere (Helliwell 2000a) the scientific significance of the adoption of the euro in 1999 by some but not all members of the EU. This partial adoption of the euro is as close as ever happens in macroeconomics to a controlled experiment because the EU countries that have not accepted the new currency are in all other respects full members of the union, so that the changes in trade intensities between euro and non-euro EU countries will provide a fairly pure measure of the extent to which national border effects are due to the use of separate national currencies. The evidence must be given time to accumulate. In the meantime, we must rely on less direct and less satisfactory evidence.

Most previous attempts to assess the trade-reducing and possibly growth-reducing effects of exchange rate volatility either split exchange rate regimes into fixed and flexible or use some measure of the volatility of real or nominal exchange rates (see the survey by Côté 1994). A recent study by Andrew Rose (2000), however, uses bilateral trade flows among 186 countries to attempt to evaluate the effects of an exchange rate union separately from those of exchange rate volatility. Bilateral trade flows are more informative than other evidence since they increase the number of observations,

allow for the gravity model's adjustment for the effects of size and distance, and make it possible to determine which flows would be affected by the adoption of a common currency by some trading partners.

Rose produces striking results. In addition to the effects of exchange rate volatility on trade, which he estimates to be significantly negative but not very large in magnitude, he finds that his sample of common-currency countries trade with each other three times more than do other countries of similar size and distance. If this result should prove applicable to larger countries adopting a common currency, it suggests that, after some period of adjustment, trade flows among the euro countries would triple relative to those between euro and non-euro EU countries. For example, trade between France and Italy, which is currently smaller than that between France and the United Kingdom, would become three times as large.

These effects are so sizable as to make Rose cautious in his interpretation, suggesting that his results should at least be treated as a signal that the effects of a common currency on trade may well be larger — perhaps much larger — than has previously been thought when estimated on the basis of the effects of exchange rate volatility on trade. For example, typical estimates of the effects of exchange rate volatility on Canada-US trade suggest that, without it, trade between the two countries would rise by about 6 percent, a small fraction of the increase that took place after the adoption of the FTA and dwarfed by Rose's estimate of a 300 percent increase. Thus, Rose's estimate is large enough to note. Moreover, his research is careful enough to be taken seriously; he allows for the possible confounding effects of common colonial ties, common language, and common borders.

The first question that arises in the reader's mind must be, where are all the common-currency areas whose trade effects are being assessed? Are they examples of areas that were recently formed and thus allow analysts to separate the effects of the currency union from all of the other trade-creating factors that may have led to the choice of a common currency in the first place? The answer to the first question is that all the common-currency examples in the data are tiny countries or dependencies, mostly islands, and the common-currency area trade flows relate to their trade with each other and with the single larger and more-established country whose currency they have adopted. The answer to the second question is that the study does not separate the effects of currency adoption since almost all of the currency unions were in action throughout the sample period Rose uses for his analysis. This fact underscores the importance of the euro as the first adoption of a common currency among a group of large countries with previously well-established trading patterns.

While we wait for the results of the euro to show themselves, what importance should we give to the Rose results as a guide to the likely effects of a common currency? On the one hand, they seem so large relative to the existing measures of the consequences of the establishment of a trading bloc as to be incredible. For example, the EU itself, after more than 40 years of trade creation, is estimated to have made trade among pairs of member countries about 50 percent larger than that between other pairs of countries of similar size and distance (Helliwell 1998, ch. 3). This calculation includes the effects of tariff removal, the single market, the establishment of European-level rules and institutions, and the exchange rate stability provided by the European Monetary System (EMS). The Rose estimate suggests that these EU-expanded trade flows will now increase threefold among adopters of the euro. Compared to the effects of the rest of the EU structure and institutions, this estimate for the euro seems too large.

On the other hand, the remaining border effects in merchandise trade are also surprisingly large. When seen in this light, the Rose estimates do not appear quite so large. For example, the estimates of border effects among the EU countries suggest that they may still be in the range of 6 to 10 (Nitsch, forthcoming; Chen 2000). The Rose estimate of the effects of a common currency as increasing trade by a factor of three thus implies that somewhere between one-third and one-half of the remaining border effect might be eliminated by the adoption of a common currency. By the same token, the Rose estimate of the effects of a common currency would reduce the mid-1990s' estimate of the border effect between Canada and the United States from 12 to about 4 (= 12 / 3). Seen in the context of the large remaining border effects, the Rose estimates do not appear quite so large. Judgments about their realism must depend on an assessment of the reliability of the original estimates plus some opinion about the importance of the other likely causes of border effects in trade.

My own judgment on the Rose estimates is that they are likely, through no fault of his, to be substantial overestimates because they probably capture the effects of trade patterns established for reasons entirely unrelated to the use of a common currency. More specifically, most of the common- currency examples in the Rose data reflect geographic, political, and resource-based reasons that have led to high trade levels and to the use of a common currency. The Rose sample has seven or eight pivot countries, each of which has a number of small dependencies that use its currency. For example, the New Zealand dollar is used by Cook Islands, Niue, Pitcairn Islands, and Tokelau, all small territories associated with New Zealand. The US dollar is used by American Samoa, Guam, US Virgin Islands, Puerto Rico, Northern Marianas, British Virgin Islands, Turks and Caicos Islands, Bahamas, Liberia,

Marshall Islands, Micronesia, Palau, and Panama. In all these cases, military or tourist reasons make the causality likely to run from trade to a common currency, rather than the other way around. The same argument applies to Denmark and the Faroe Islands and Greenland and to all the islands using the Australian dollar. (An exception to this general pattern is provided by the community of 15 former French colonies in Africa that share two different African francs, each of which is linked to the French franc.)

Although Rose attempts to allow separately for colonial or dependency status, almost all of the trade flows he studies are between a trading country and tiny territories with little or no independent economic structure. The data thus provide a weak basis for judging what might happen if established trading countries adopted the same currency. People who argue strongly for a common currency do so because they think that it would provide important cost savings and generate much additional trade. They are thus naturally inclined to think that a large portion of any border effect in merchandise trade would likely disappear if a common currency were adopted. I and others are more inclined to await the results of the euro experiment.

Migration and the Brain Drain

If border effects are very large for movements of goods, services, and capital, one should not be surprised to find that the same is true for people. Economic theorists often assume that labor and natural resources are geographically rooted to the spot while goods, services, and capital are, to one extent or another, mobile among nations. A century or more ago, this assumption was decidedly false; passports and their matching citizenship were almost unknown, and each agricultural or industrial crisis and each new rumor of gold discovery led to migrations that were massive by any measure. During the 1850s alone, 2 percent of the people of Britain moved to Australia, quintupling the latter's population in the process. Especially in immigrant cultures like those of North America and Australasia, international migration still seems very much the norm.

I remember, when working in the 1950s as a student for the Buildings and Grounds Department of the University of British Columbia (UBC), discovering that one of my colleagues, a Scottish tradesman, had been brought up 12 miles from the sea but had never seen it before setting sail for Canada as a young adult. That story of local fixity and far-flung mobility struck me then as unusual. Just how unusual was it? What are the historical context and modern facts for Canadian internal and international migration?

Fifteen years later, the Bank of Canada's RDX2 modeling team estimated equations for migration flows between Canada and the United States as part of a project aimed at explaining macroeconomic linkages between the two countries (Helliwell et al. 1971). These equations showed average southbound flows three times as large as northbound ones and found them to be significantly responsive to differences in income levels and unemployment rates.

Two more decades later, in the course of research for my Brookings Institution book on the effects of national borders (Helliwell 1998), I used Canadian and US census data to study the extent to which residents of the two countries had moved within and between the two countries. Somewhat to my surprise, given the melting pot and frontier-searching images of the United States and the greater extent to which Canadian policies tend to support incomes and employment in the poorer parts of the country, I found that interprovincial migration was greater than interstate migration and more responsive to differences in income and employment prospects (Helliwell 1996b). I also found that interprovincial migration was a hundred times more likely than migration to a province from a US state of similar size, distance, and income level (Helliwell 1997) and northbound and southbound migrations were greatly asymmetrical, with individuals born in Canada far more likely to have moved to the United States than vice versa, even after taking into account differences in populations and income levels.

Given this background, when Ottawa's Expert Panel on Skills asked me in late 1998 to assess the data underlying the 1990s' brain drain from Canada to the United States, I was expecting to find that national borders still matter a lot for migrants. I also anticipated sharply increasing southbound flows during the 1990s, given the unusually large income and employment gaps between the two countries during the decade.

Two other changes during the 1990s also led me to expect much larger flows. The first was an increase in income inequality that was much greater in the United States than in Canada, due mostly to larger and faster-rising US salary rewards for higher education and, in general, for incomes at the top end of the scale. The second was the much greater incentive for and ease of work-related migration between the two countries. In the wake of the FTA and its successor, the North American Free Trade Agreement (NAFTA), bilateral trade and investment increased dramatically, leading to increased temporary and longer-term movements of staff and management. In addition, the trade agreements introduced new categories of temporary visas that rendered migration to the United States very simple for Canadians with degrees in hand and jobs to go to. These new categories, especially the NAFTA (TN) visa, which permit a series of renewals or replacements, have become an

entry method of choice for temporary workers and for some longer-term migrants as well.

What Do the Data Show?

What does one find when checking the data? The story needs to be told in several time scales and separately for different skill levels and occupational groupings.

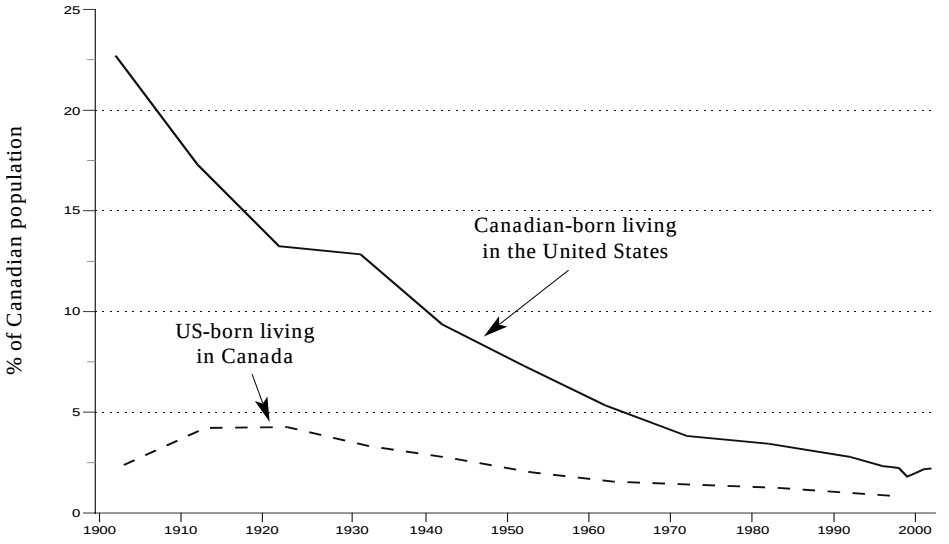
Looking first at the longer term, the US and Canadian censuses provide the longest systematic record of transborder migration. Figure 1 shows for the decennial censuses the number of residents of each country who were born in the other, measured as a percentage of the Canadian population. The difference between the two lines reveals that southbound migration has always been three to four times larger than northbound, although the gap has shown some tendency to shrink over the course of the past century.

The most striking feature of these data, however, is the extent to which both migration flows have shrunk. At the beginning of the twentieth century, the number of Canadian-born individuals living in the United States was almost 20 percent of the total population of Canada. At the beginning of the twenty-first century, it is about 2 percent, after an undulating but fairly regular slide over the previous hundred years.

This falloff raises a puzzle: as international linkages have in general grown tighter, at least over the past half-century, why have those born in Canada and the United States tended to remain at home? One reason, of course, is that both countries have tended to be targets rather than sources of migration and have been attractive places to remain. Also, we must remember that globalization, as it is now thought of, is really *re*-globalization, as the first half of the twentieth century, scarred by wars and depression, witnessed sharp reductions in international trade and capital movements. Economic historians are still trying to decide if current levels of international trade and investment, relative to GDP, are as great as those a century ago. For migration, however, the story differs; the whole century has seen increasing attention paid to nationality and citizenship, with more and more screening of would-be migrants. From the Canadian perspective, at least, the body drain has been steadily declining over the century.

Figure 2 shortens the time horizon, showing the more recent data in absolute numbers, supplemented for the 1990s by estimates from the US Current Population Survey (CPS). These data include permanent and temporary migrants and, for the years covered by the CPS, are based on a sample, rather than a 100 percent census count. The figure also shows official projections, made in 1990, for the number of Canadian-born living in the

Figure 1: ***Canadian-Born Living in the United States and US-Born Living in Canada, 1900–2000***



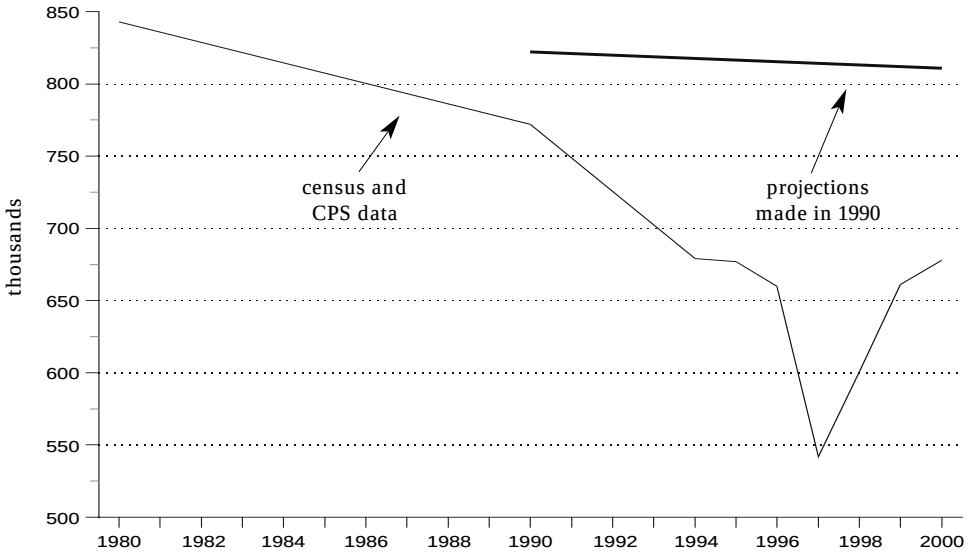
Sources: Canadian and US decennial censuses; estimated Canadian population for 1900, 1910, and 1920 using census data from 1901, 1911, and 1921.

United States in the 1990 and 2000 census years. The actual 1990 census, when tabulated, already showed a shortfall below the projection, and the CPS estimates for individual years during the 1990s show a general pattern of decline greater than that of the forecasts, which were based on 1980s' levels of net migration and the expected death rate of long-past migrants.

The pattern in the figure is somewhat surprising: that the 1990s' CPS numbers fall below those projected in 1990 does not square with the widespread reporting of increased southbound migration during the past decade, with well-publicized reports of sharply increasing numbers of Canadians obtaining NAFTA-based temporary migration status in the United States, or with the fact that unemployment rates, income gaps, tax gaps, and the effects of the FTA have all been such as to lead one to expect a sharp increase in southbound migration during the 1990s.[9]

9 The CPS collects data each year as part of its March survey. The year-to-year fluctuations in the numbers are due partly to the fact that the survey sample changes from year to year. It is also possible that the calculated standard deviations for these series — about 85,000, according to Schmidley and Robinson (1998, table A3) — are too low, since they assume a random distribution of the Canadian-born in the United States, while migration studies have long shown that immigrants follow pathways blazed for them by their predecessors. Thus, the CPS may have failed to find a representative sample of the Canadian-born in their Hollywood, Silicon Valley, academic, medical, and Wall Street haunts.

Figure 2: ***Canadian-Born Living in the United States, 1980–2000, Actual versus 1990 Projections***



Note: The data used here include permanent and temporary migrants; those for 1994 through 1999 are based on a sample, rather than a full census count.

Sources: US 1980 and 1990 censuses; US Current Population Survey; projections from Long et al. 1991, p. 70, table 2.

The US full 2000 census will settle this matter. In the meantime, it is still reasonable to estimate that the total number of Canadian-born now living in the United States, on either a temporary or a permanent basis, is unlikely to be greater than it was ten years ago. Despite an unusually powerful constellation of forces encouraging southbound migration and some indication of resurgence in the final years of the 1990s, it so far looks unlikely to have been large enough to offset the long-established downward trend.

Similar patterns exist for those with higher education, although they are always more likely to be migrants, whether within the country or internationally, and are an increasing share of the total and migrant populations as higher education becomes the norm rather than the exception.

Does a Brain Drain Exist?

What about the *brain drain*, the expression used to cover the loss of the best and the brightest Canadians? This issue led the Expert Panel on Skills (2000) to ask me to survey the evidence, persuaded the UBC Alumni Association to survey its US-resident graduates to find out why they had left Canada (Hel-

liwell and Helliwell 2000a; 2000b), and induced the Conference Board of Canada to conclude that the "'brain drain' of Canadian professionals to the United States is real and cannot be ignored" and that by 1997 the annual number "of permanent and non-permanent emigrants to the United States had increased to 98,000" (Iqbal 1999).

Two recent C.D. Howe Institute studies have also examined the subject, one concluding that the brain drain is real and is costing Canada (Devoretz and Laryea 1998) and the more recent that "the southward brain flow is more worrisome than the statistics at first suggest" (Schwanen 2000, 17).

What sort of data are of most use in assessing the issue at first and then at second look? In discussions, some people tell me that numbers are irrelevant since shining stars are leaving, and the loss of a single star imposes a cost that cannot be offset by any number of imported drones, even high-tech drones with three degrees. Thus, any accounting based on conventional qualifications may fail to be convincing. However, some combination of qualifications and skill levels provides at least some basis for seeing what is happening.

Schwanen (ibid., table 3) provides an especially useful attempt to estimate the flows of science and engineering workers into and out of Canada and the United States. He shows that, while both countries are increasing their stocks of trained workers in these occupations, the Canadian stock is increasing twice as fast as that of the United States. The faster growth in Canada applies to all sources, including new domestic graduates and both permanent and temporary immigrants. However, Canada continues to show here, as for its population in total, emigration rates higher than those of the United States so that, although the Canadian net stock is increasing faster than that of the United States, the difference between the two countries is smaller than suggested by the gross flows of new graduates and new immigrants.

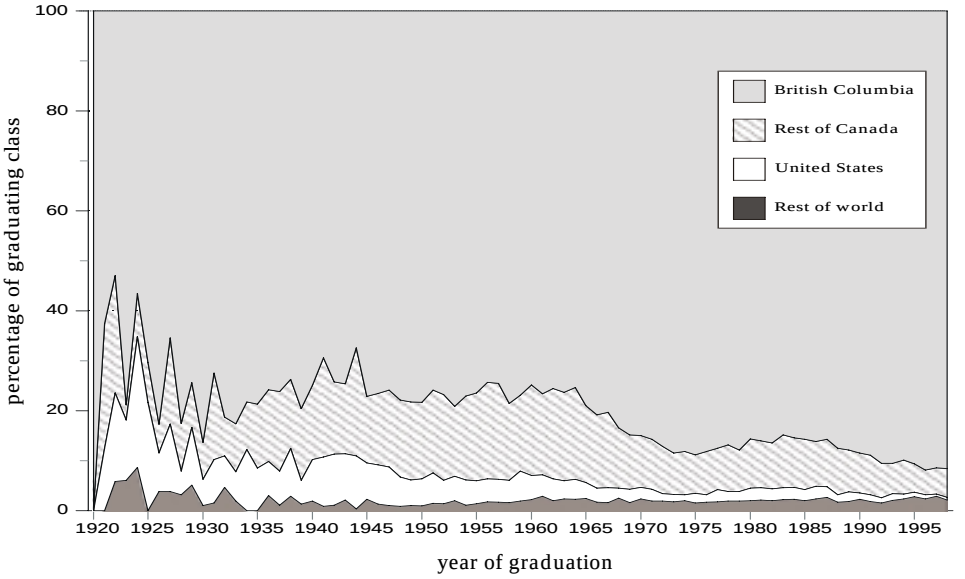
Another useful source of data on the size and structure of the brain drain is information on the movement of graduates from Canadian universities. Two recent studies of the migration patterns of Canadian graduates are available: a Statistics Canada survey of all of the 1995 graduates of Canadian universities, and the records of residence of a large majority of living UBC graduates. The Statistics Canada data as supplemented by a special survey of those in the graduating classes of 1995 who moved to the United States (Frank and Bélair 1999) provide a precise snapshot of the migration patterns for an entire cohort of graduates. The UBC data are drawn from a single institution, but they cover graduates from more than 75 years. To the extent that the two bodies of data can be shown to be consistent, they are mutually enriching: the UBC data provide evidence of trends, and their representativeness of what is happening in the country as a whole is reflected in

the Statistics Canada data. Helliwell and Helliwell (2000a; 2000b) show a remarkable consistency between data from the two sources, with the UBC figures differing from the national figures in ways that reflect the university's western location and relative concentration of research and graduate education. Overall, the share of UBC's 1995 graduates living in the United States is about the same as for Canada as a whole; this finding results from the offset of the slightly larger Canadian-based group of bachelors graduates by the migration of UBC PhDs, who represent a larger proportion of total graduates for UBC than for Canada as a whole and are more likely to be migrants both before and after their graduate education.

One of the interesting differences between the UBC and the national data relates to the health professions, especially nursing. A widely reported feature of the Statistics Canada report is that fully one-fifth of the US-bound members from the class of 1995 were nursing graduates. But the data from UBC show that almost none of its nursing graduates had moved to the United States. The reason for this difference is probably that the supply of nurses depends crucially on the management of the health care systems, which differ a great deal from province to province in the nature and especially the timing of the policies undertaken. Several provinces, but not British Columbia, were sharply reducing health care and nursing budgets in 1995, and since retrenchments are usually implemented in the form of freezes on new hires, the nursing class of 1995 in some provinces faced a jobless market in their home provinces. The fact that so many Canadian nurses went from Ontario to US states with growing health care needs also probably explains why Texas and Florida were especially important targets for the national graduates, but not for the UBC cohort. UBC nurses tended to remain in British Columbia; migrating graduates in other disciplines tended to concentrate in Washington, California, and Massachusetts, which are all centers for higher education and high technology.

Figure 3 traces a long series for UBC bachelors graduates, including all those who later acquired advanced degrees, split among four locations: British Columbia, the rest of Canada, the United States, and the rest of the world. The share resident in the United States tracks very closely the decline shown in the total census data. Although Figures 1 and 3 capture the same trends, they measure different things, since the UBC graduates are all in the subpopulation with university degrees, a group that is always quite mobile, and are classified by their places of residence as of the end of the 1990s, with the time axis measuring the year of graduation. As of the later 1990s, the share of UBC graduates living in the United States was not the 2 percent applicable to the 1990s' graduates or to the census data, but a weighted average of the figures applicable to all vintages of the school's graduates, which

Figure 3: ***Current Location of Bachelors Graduates from the University of British Columbia***



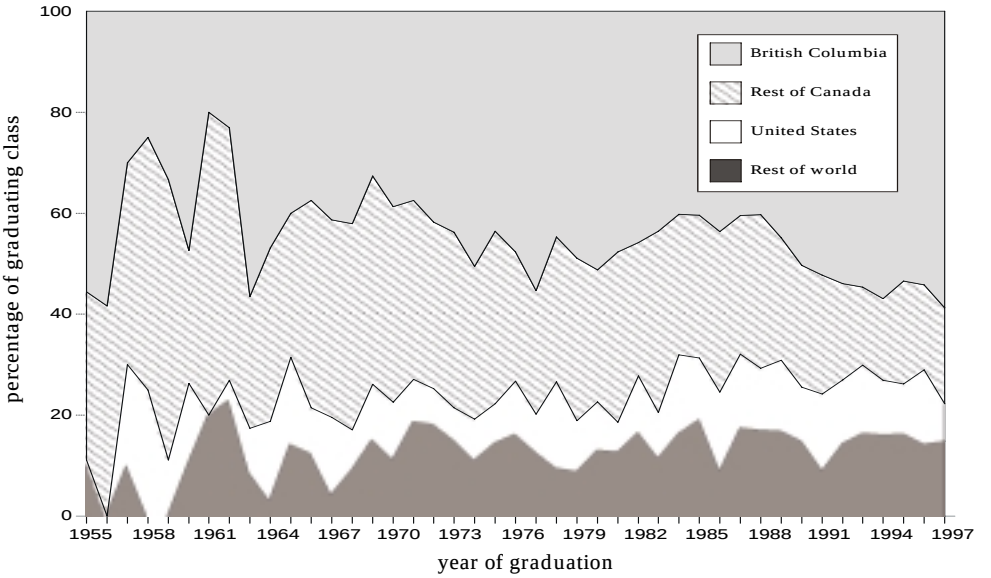
Source: Updated from Helliwell and Helliwell 2000a.

is 3.2 percent. (The number is skewed toward the lower end of the range, the size of UBC graduating classes has been sharply increasing.)

Figure 4 shows the distribution of UBC PhDs, illustrating the fact (also reflected in the Statistics Canada data for Canada as a whole) that the proportion who take positions in the United States is far higher for doctoral graduates than for bachelors graduates. This pattern deserves more attention, especially as some interpret it as evidence that Canada is losing its best and brightest. What is missing from that analysis is an awareness of the different structure and clientele of different degree programs. While most provincial universities willingly accept students from elsewhere in Canada and overseas, the vast majority of undergraduates were born and raised within the province, a strong factor in their subsequent choice of residence.

Most universities advise their best undergraduates to head elsewhere for graduate work, to broaden their exposure and experience, while recruiting the best graduate students they can find, searching both nationally and globally. UBC's PhD programs have grown much faster than its undergraduate programs. Fewer than half the current stock of PhD students are Canadian citizens, and the rest come from more than a hundred different countries. It is true, as shown in Figure 4, that about 15 percent of UBC PhDs take positions in the United States, somewhat more than for Canada as a whole. That 15 percent is greater than the 7 percent share of PhD students who come

Figure 4: ***Current Location of PhD Graduates from the University of British Columbia***



Source: Updated from Helliwell and Helliwell 2000a.

from the United States, reflecting not only the large size of the US market for PhDs but also the reality that many students who come from overseas to do PhD work in Canada consider subsequent job opportunities in many countries. The number of UBC PhDs who end up working in BC or elsewhere in Canada is actually greater than the number who come from Canada, so that the university's PhD program increases the net inflow of trained brains.

Why Do Individuals Stay or Migrate?

Thus far, I have described the data for movements of bodies and minds. What makes them stay or move? The role of taxes, salary levels, and job opportunities is much discussed, but we have too little in the way of good evidence. Equations explaining the distribution of UBC's bachelors, masters, and PhD graduates among states and provinces show very large border effects and significant effects from differences in distance and average incomes. The pattern for graduates at the three levels is intriguing. As the level of degree rises, the measured effects for distance and income both drop, revealing that higher and more specialized training gives students a thinner but more far-flung range of career options. To stay within one's specialty, one has to go where the jobs are, and these positions may often be far away. And as the research becomes more specialized, one's colleagues are more likely to

be found throughout the world, providing contacts and job possibilities that, in their turn, are more far-ranging.

Hard evidence on the effects of taxes is in short supply. A study by the Conference Board of Canada (Iqbal 1999) apparently finds that tax rates have a large effect on the number of temporary and permanent US visas issued to Canadians. Unfortunately, the visa series is heavily compromised by the inclusion of renewals, and the rising Canadian tax rates were correlated with this growing series of visas. Survey evidence (Frank and Bélair 1999; Helliwell and Helliwell 2000b) tends to show that migrants list job opportunities first, salaries second, and taxes lower among the reasons for moving, but these response are impressions and are hard to convert into numerical estimates of what would happen if there were changes in the level or structure of Canadian tax rates. Also suggestive is the Statistics Canada evaluation of the numbers of previously Canadian taxfilers who move their official residence for tax purposes to the United States (Zhao, Drew, and Murray 2000). As might be expected, these movers are heavily skewed toward those with high incomes, since (as discussed in the next section) the high end is where the income and tax gaps have recently been largest.

A recent study by Don Wagner (2000) uses an imaginative matching of US and Canadian census data to use individual data to try to isolate the effects from both incomes and tax rates. His preliminary results show significant effects of differences in both incomes and tax rates. If his equations are used to answer the question, how many fewer Canadian residents would have moved to the United States since 1990 had the two countries had identical tax structures, the answer is that equality of average tax rates would have reduced the southbound migration of degree holders by 10 percent from the already small base shown in Figure 2. This result awaits confirmation, but it is, in the meantime, the best evidence available on the effects of income tax differences on migration between Canada and the United States.

Zhao, Drew and Murray (2000) report data showing an upward trend during the 1990s in the number of taxfilers leaving Canada, with the distribution skewed to the upper end. Since tax residence can, in some cases, be changed without altering employment or physical residence, this shift of tax base is likely to be a consequence of the high-income tax gaps that Wagner finds to have had significant effects on 1990s' migrants.

What other data are available to measure the size and structure of the brain drain? Canadian alumni of the Harvard Business School have checked the addresses of different cohorts and find that an increasing share is remaining in the United States.[10] To some extent, this rise is probably in response

10 Personal communication.

to income and tax differences and especially to the super-hot top-end job markets in the United States.

I suspect that another special factor is at play here: business schools, especially the elite ones, have increasingly become high-level employment agencies, with the students paying hefty fees that are repaid to them by their subsequent employers. For the students, the business school is a good way to make new contacts and change jobs, while employers use the schools as talent spotters. If evidence should show this pattern to be increasingly important for business schools, each will be increasingly likely to attract students who wish to find employment in the market it serves. Thus, would-be MBAs who want to work in Canada will be more likely to go to a Canadian business school, while those wanting to find employment in the United States will be much more likely to head there for their MBA studies. This tendency would alter, but probably not reverse, the long-standing fact that students taking education abroad are frequently drawn back to their home countries, either immediately on completion of their education or at some later stage in their careers.

Globalization and Welfare

It is time to make at least a brave attempt to bring together a broader range of evidence on economic and social welfare. Research on these linkages is still fragmentary, but the issues raised are important enough to justify a trip through some of the thickets. I consider separately here incomes, health, education and knowledge, and social capital. All are affected by globalization in complex ways, and all have dual roles in economic and social welfare.

If one takes a narrow view of economic welfare, the main measure of success is some measure of average real incomes, presumably broadened from gross national product per capita to allow for inclusion of frequently unmeasured components. In this narrow view, health, education and knowledge, and social capital are important only to the extent that they play instrumental roles in helping to achieve or maintain high levels of per capita incomes. If, in contrast, one adopts a broader measure of welfare, whether it is based on composite indicators like the United Nations Development Programme's (UNDP's) Human Development Index, various other extended measures of economic and social progress (Osberg and Sharpe 2000), or self-assessed measures of happiness, then both the levels and the distribution of employment and of incomes, education and knowledge, health, and social capital have direct as well as instrumental importance. Where any of the broader approaches are taken, then attainment of better levels and distributions of outcomes in these other aspects of life are given value for their own

sake in addition to whatever direct economic advantages they may bring in their wake.

In what follows, I try to deal with how globalization has influenced the levels, distributions, and consequences of each of these variables in turn, paying special attention to whether and how it has altered the extent to which national or local outcomes remain responsive to local policies and institutions. Only with some view on these facts can we consider the merits of alternative policy responses at the national level and to make predictions about the prospects for Canada and Canadians.

Incomes

Globalization, via increasing international trade and investment, is often charged with responsibility for growing income inequality within the United States and with losses of jobs and incomes among those with lesser skills. On the other hand, openness is also credited with giving poorer countries the chance to catch up to the levels of efficiency, and hence to the average income levels, already found in the richer industrial countries. For example, Sachs and Warner (1995) present evidence showing that, if developing countries are divided into two groups, one open and the other closed to foreign goods, services, and ideas, the past 30 years have seen growth and convergence among the open economies and no evidence of convergence among those that remained closed. Yet openness may eventually have diminishing returns (or else we would find much higher levels of incomes per capita in larger countries, given the strong persistence of border effects already described).

Furthermore, openness itself cannot be a sufficient condition for growth, or else Russia, Ukraine, and other countries of the former USSR would have converged quickly to Western levels of efficiency, instead of stagnating or worse during the 1990s. Their experience shows that many of the institutions and social structures taken for granted in most OECD countries are critically important supports for economic development, as well as for other components of economic and social health. Where an institutional vacuum exists, openness may simply attract and foster organized crime and other forms of criminal exploitation, which always bloom more easily than do legitimate business and society where social and legal norms are lacking.

The debate between globaphobes and globaphiles is not settled, and the relative importance of trade and skills-biased technical change as sources of growing inequality of incomes is still not established. For the United States, the strongest point in favor of the skills-biased technical change argument has been that the level and changes in trade are not large enough to have caused the changes in income distribution.

I agree with that conclusion, but my reasoning differs from that of the usual proponents. In the light of the evidence presented above about the continuing importance of national economies, I am inclined to look for domestic causes and consequences of changes in inequality. If I am right here, then I expect to find substantial differences among countries' experiences and to be able to find plausible explanations for these differences. There are indeed large international differences but also some common elements in what has happened to various kinds of inequality, with the United States as the outlier and Canada in middle ground, both before and after allowing for the important effects of taxes and transfer payments.

Income taxes and transfer payments are generally higher and more progressive in Canada than in the United States. Applying each country's social safety net provisions to individual data for both countries, Blank and Hanratty (1993, 210) estimate that applying Canadian programs to the US population in the mid-1980s would have cut the US after-tax poverty rate by more than half, while applying the US program parameters to Canada's population would have increased their poverty rate by more than half.

The two systems have somewhat converged since that time, but it remains true that the combination of taxes and transfers works to produce after-tax inequality that is significantly less in Canada than in the United States. Wolfson and Murphy (2000) compare the inequality of market earnings and of family disposable income in Canada and the United States for the 1974–85 and 1985–97 periods. They find increases in US earnings inequality in both periods, and the increases were much larger for men than for women. For both men and women, the measures of earnings inequality were lower in Canada than in the United States in 1974 and the subsequent increases were smaller, so that the intercountry gaps grew from 1974 to 1997, when they were largest for higher-earning men.

That earnings inequality should have risen faster in the United States than in Canada is partly explained by the results of Murphy, Riddell, and Romer (1998), who note that the ratio of earnings of university graduates relative to those of high school graduates rose sharply in the United States and fell slightly in Canada during the 1980s and 1990s. They successfully explain the differing paths of the education premium in terms of a relative supply variable (the increase in the supply of those with higher education has been greater in Canada than in the United States). Lemieux (1993) offers another reason for the rising inequality of earnings in the United States, especially among men. He estimates that the drop in US unionization rates during his sample period explains more than two-fifths of the increase in wage inequality in the United States relative to that in Canada.

Gottschalk and Smeeding (1997) confirm that earnings inequality is smaller in Canada than in the United States and shows less evidence of increase, but that both countries have more earnings inequality than is found in most other OECD countries. A similar story can be told about the ratio of executive compensation to the pay of production workers, which is much higher and has risen much faster in the United States than in Canada (Abowd and Kaplan 1999). The midway designation of Canada applies here too, as both countries have relative executive compensation levels that are higher than those typically found in other OECD countries.

For family disposable income, Canadian inequality fell both from 1974 to 1985 and from 1985 to 1997, while it rose during both periods in the United States (Wolfson and Murphy 2000). This difference confirms the results reported earlier suggesting that the inequality-reducing effects of the tax and transfer systems are much larger in Canada than in the United States.

Osberg (2000) uses Canadian provincial and US state data on the extent of poverty to argue that poverty rates depend much more on macroeconomic conditions and on policy choices than on trade exposure. He finds that, from 1994 to 1997, poverty rates increased on average in Canadian provinces but fell in US states. In 1994, almost all Canadian provinces had poverty rates lower than those in almost all US states, while by 1997 there was a large overlap, with some Canadian provinces having higher poverty rates than most US states, even though the average poverty rate remained significantly lower in Canada. Osberg uses the diversity of antipoverty programs across US states and Canadian provinces to argue that, within national economies, jurisdictions are able to design and sustain policies that are much more generous than those in force in other jurisdictions, even within the same country. Thus, he argues, if such policy diversity is possible even within a national economy, an even greater diversity across countries is likely to be sustainable.[11] Therefore, in his view, globalization should not be seen as a constraint on antipoverty and other social policies.

Health and Health Care

Good health is clearly valued for its own sake, as well as being both a cause and a consequence of economic progress. Since health and incomes do not move

11 Burtless et al. (1998, 112–114) make a similar argument. The burden of the borders evidence I present in this lecture is that it is much easier to maintain tax structure differences between countries than between states or provinces within the same country. Thus Feldstein and Wrobel (1998) present evidence to support their contention that gross wage rates adjust to equalize after-tax wages across state boundaries within the United States.

in lockstep, either across countries or through time, historical experience helps to expose some of the complex causal pathways (Steckel and Floud 1997). In some countries, such as France, industrialization and better health arrived at the same time. In Sweden there was little relation between the two processes, while in both the United Kingdom and the United States the early stages of industrialization raised average incomes but worsened health.

For the two latter countries, which were at the forefront of the industrial revolution, greater openness, urban congestion, and inequality exposed previously isolated populations to disease before the implementation of public health investments in sewage and water systems and before methods for controlling infectious diseases were widely understood. Costa and Steckel (1997) use a number of methods for aggregating the values of incomes and health to conclude that increases in per capita incomes in the United States during the first three decades of post-1870 industrialization were more than offset by decreases in average health status, while the first two-thirds of the twentieth century saw dramatic improvements in both health and per capita incomes. Putnam (2000a) argues that the alienation and ill health associated with early industrialization in the United States provided the impetus for the creation of most of the community organizations that fostered the growth of civic life in that country during the first 60 years of the twentieth century. He also documents a decline of the same civic institutions and connections over the final 40 years of the century. (Possible causes and consequences of these more recent changes are discussed in the section below on social capital, a term used to describe the norms and networks that are increasingly thought to be necessary to maintain a well-functioning society.)

In modern times, strong differences in health status persist across and within national boundaries. Schieber and Maeda (1999) report that health care spending is much higher in the richer countries, even as a share of gross domestic product (GDP), averaging 4.3 percent in low-income countries and 6.9 percent in high-income countries (and rising to more than 9 percent in Canada and 14 percent in the United States). The number of physicians per capita is less in poor countries, at 0.7 per 1,000 population in low- and middle-income countries, compared with 2.5 per 1,000 in the high-income countries. Health status is also better in the richer countries, with infant mortality rates being ten times higher in low- and middle-income countries, and adult mortality rates more than twice as high as in high-income countries. Parallel, but much smaller, differences show up among regions and among income groups within individual countries.

Both across and within countries, differences in health status result from many factors, including education, availability of timely health care, nutrition, sanitation, and both the level and the distribution of incomes.

For individuals, health status increases with their own and their family's education and income, even within countries that provide universal health care coverage and even after analysts attempt to remove the effects of causal linkages running from good health to higher levels of income and education. There is also evidence that income inequality worsens the average health status in a community.[12]

In many countries, increased understanding of the importance of education, family support, and community ties as determinants of illness, mortality, and perceived wellness has placed renewed emphasis on early childhood nutrition, health care, education, and the methods to ensure that quality care is widely available, especially during the early, formative years. Simultaneous with the concern to make health care more widely and evenly available, the growing range of high-cost drugs and surgical interventions has increased the scope of and demand for new and expanded services. While some technical progress has served to make surgery less invasive and to shorten required hospital stays, rising costs and levels of sophistication have put net pressures on health care systems in all countries.

The Canadian Health Care System

Seen in this more general context, how do Canadian health and health care stack up? At least until the 1990s, the Canadian health care system had an enviable reputation among its patients and among the taxpayers footing the bills. To an extent possible only in a country so immersed in its neighbor's media, Canadians regarded their system as one of their country's key advantages.

In fact, the Canadian health care system is different mainly in relation to that of the United States. Although relating health care spending to health care outcomes (over time or among countries) has always been difficult, a cross-country survey of health care satisfaction in 1989 (Helliwell 2000b) shows that, with one dramatic exception, countries with higher spending on health care also had higher satisfaction. The outlier was the United States,

12 See Wilkinson (1992). Gravelle (1998) argues that this relationship may be due, at least in part, to the fact that the influence of income on health may decline after income reaches a certain level. However, evidence reported by Wolfson et al. (1999) shows that there is more to the finding than can be explained by Gravelle's reasoning. For the possibility that social capital may be an important part of the mediating linkage between income inequality and average health status, see Kawachi et al. (1997). Ross et al. (2000) show that the linkage between income inequality and health is significant across both states and metropolitan areas in the United States, but not across either provinces or metropolitan areas in Canada. They hypothesize that universal availability of publically financed health care in Canada may be responsible for breaking the link between income inequality and health status.

with health care spending far higher than in any other country but with a satisfaction rating much less than half of what it should have been, given the level of spending. If one excludes that country from the analysis, Canadian spending and satisfaction are at the top of the sample and right on the regression plane. Assuming the difficulties of the US and Canadian systems were well known to Canadian watchers of the US and Canadian media in 1989 and also assuming little Canadian knowledge of systems outside North America, the near-iconic status of the Canadian health care system is perhaps less surprising.

What happened after 1989? Canada started the 1990s with government finances in worse shape than most OECD countries, and it enters the twenty-first century with the largest general government surplus and one of the lowest inflation rates, despite a debt-to-GDP ratio (and hence an interest cost burden) that is relatively high among the industrial countries. Health and education, the largest components of government expenditure and both subject to increasing client loads and rising expectations, faced important budget cuts, exceeded only by those for social spending.

For a sample of the countries surveyed in 1989, one can compare the post-1989 changes in spending with the changes in public satisfaction with the system. Although health care experts rightly wince at directly associating spending and health system success, it is nonetheless true that among the four countries for which data are available (Canada, the United States, the United Kingdom, and Australia), the ranking is exact, with those doing most to cut their spending suffering the largest drops in citizen confidence in their health care systems (Donelan et al. 1999; Helliwell 2000b).

Although we speak of spending cuts, all four countries did see continuing increases in total public and private per capita spending on health care. In proportionate terms, from 1990 to 1997, the rises were 23 percent in Canada and almost twice as great (in the range of 40 percent) for the other three countries. Absolute real spending increases were far larger in the United States, which had by far the most expensive system in 1990. In terms of equivalent dollars per capita, the 1990 to 1997 increases were about $400 in Canada and almost three times as much in the United States. Per capita health care spending is now almost twice as much in the United States as it is in Canada.[13]

13 Much of this difference is in relative prices, since prices for drugs and many surgical and medical procedures are much higher in the United States than in Canada. Another large component of the spending difference is in administrative costs, which are more than $300 per year per capita higher in the United States than in Canada (Evans 1999).

What of the availability and use of services? In 1996, Anderson and Poullier (1999) report, Canada's number of physician visits per capita was 6.5, compared with 6.0 in the United States and 5.9 on average for OECD countries, while per capita spending on physician services was 2.5 times higher in the United States than in Canada. Hospital days per capita in 1996 were 1.9 in Canada, compared with 1.1 in the United States and 2.2 for the median OECD country. MRI units and CT scanners were far fewer in Canada than in the United States and, to a lesser extent, than in other OECD countries. In 1995, Canada had 1.3 MRI units per million people, compared with 2.8 in the median OECD country and 16.0 in the United States. The numbers for CT scanners were 7.9 in Canada, 11.6 in the median OECD country and 26.9 in the United States.

Health insurance coverage provides another measure. In 1997, government-assured health insurance covered more than 99 percent of the population in 24 of the 29 OECD countries. (For most of the long-time OECD members, as for Canada, this provision of universal insurance coverage was achieved after 1960.) Of the five countries with less than universally assured coverage, the United States was very much at the low end, with 33 percent coverage. Private insurance brought the US total coverage ratio up to about 85 percent, still well below that in other OECD countries.[14]

The View Today

Most of these similarities and differences existed in 1989 and still do. What has happened since 1989 to lead so many Canadians to the opinion that something important needs to be done to reform the health care system? The amount of real resources devoted to health care has continued to increase, as has the rate at which most procedures are performed. Although health care spending has increased faster in other countries, this rise is unlikely, except for the case of the United States, to have altered what Canadians think about their own health care system.

So many committees and inquiries are now focused on diagnosis and repair of the Canadian system that deferring a definitive judgment until more evidence is in hand is the only reasonable course. A tentative conclusion, averaging across the experiences in different provinces, is that the attempts to reduce the number of hospital beds have combined with demographic forces and increasing urbanization to strain hospital emergency

14 The preceding data are drawn from OECD statistics, as reported by Anderson and Poullier (1999).

rooms, with these pressures being reflected in widely cited queues of patients and ambulances and the movement of patients from one facility to another. The perception of such stresses is widespread, and these perceptions, combined with reports of waiting lists for some surgical procedures, probably underlie the polling results (such as loss of citizen confidence reported by Donelan et al. 1999). But polls respond to personal experience and to media coverage, with the latter more likely to change than the former. It would be useful to have time-series evidence on some of the key data to see how closely the changes in perceptions are based on changes in average waiting times in emergency rooms.

Another hypothesis is that Canadians' perceptions of their own health care system may have been influenced by the US health care debate of the early 1990s. During these debates, the Canadian system was lionized by some and demonized by others since Canada was the closest country with universal health care coverage and still one of the relatively few to have a single-payer system. The much higher administrative costs of the US system are primarily due to the complexities of arranging treatment and approving payments often in the face of several forms of overlapping coverage with many gaps in between. From one viewpoint, these complexities create costs, but for the insurance industry they produce jobs and business opportunities, making the Canadian example a real threat. And within Canada, the single-payer system means more bilateral fee-structure bargaining with physician groups and budget negotiations with hospitals, with both sides using the media actively to make their cases to the public.

What does this fragmentary evidence suggest about the effects of globalization on health and health care? More specifically, have there been changes in the political and economic environments that make the Canadian single-payer system with universal coverage an unsustainable anachronism? That system has always had a range of uncovered services, with drugs being the largest. These, along with dental costs, surgical and other procedures not deemed essential, and the additional costs of medical care required while traveling outside the country are sometime covered by private supplementary insurance but are otherwise uninsured.

Thus, Canadians have always had a two-tiered system of sorts. At issue is how the relations between covered and uncovered costs and the providers of these services are likely to evolve in the future. Some commentators argue that the provisions of the FTA and NAFTA may make it more difficult for the provincial governments to keep their systems universal and public when other provinces wish to extend the range of services provided outside hospitals. While the increasing range of international private health care providers perhaps complicates domestic Canadian decisions, it is unlikely to

change them in fundamental ways. As in the case of a wide range of the policies and institutions already discussed, the answers and the preferred policies depend far more than is commonly believed on local preferences and choices.

Education and Knowledge

Education is frequently described as the only surefire insurance against being left behind in the decaying remains of the old economy. Rhetoric has leapt ahead of reality, but one cannot doubt that citizens with low skill levels face increasing disadvantages. In Canada and the average OECD country, a male with tertiary education is likely to spend 1.8 fewer years in unemployment than someone who has not completed high school (OECD 1998, 56).

Classic trade theory suggests that, if trade opens up across countries with very different wage rates, low-skilled jobs will go where they can be done most cheaply, leaving worse off the people stuck with low skills in high-wage economies. In fact, many of the high-wage economies continue, even at the turn of the twenty-first century, to rely on recent immigrants to fill many low-skill jobs and to provide special visa categories to make this reliance possible. And as already noted, the falloff of trading intensities with geographic and political distance means that the income-equalizing role of trade is limited. As shown by great international differences in the levels and structures of wages and incomes, labor markets are still very much regional and national in scope. Thus, the education premium is higher in the United States than in Canada in large part because the share of population with tertiary education has grown faster in Canada. In 1995, a 17-year-old Canadian could expect to receive about 3.7 years of tertiary education, more than in any other OECD country, compared with 3.3 years in the United States and an average of about 2.1 in all OECD countries (OECD 1998, 43).

The efficacy of education, as measured by literacy scores, depends not just on education expenditures but also on the child's own family support and on the characteristics of the whole community. Willms (2000) reports cross-country and cross-community evidence showing that, while children with better-educated parents always do better than their peers in literacy tests, the size of this parental effect becomes smaller in communities with higher general levels of literacy. Thus, education has a community-level as well as a family-level component, and the two are interrelated: the positive effects of being in a well-educated community are much stronger for individuals who themselves do not come from well-educated families.

How much education is enough, and who should pay for it? Most countries provide state-financed education through the end of secondary school; tertiary education patterns differ more. Canada spends a somewhat larger fraction of GDP on education than do most other OECD countries: its total public and private spending on education is 7.2 percent of GDP, compared with 9.0 percent in Sweden, 8.4 percent in Denmark, 8.0 percent in Finland (the only three countries above Canada), 6.8 percent in the United States, and 6.3 percent for the OECD average (OECD 1998, 103). The share of total costs paid privately is lower in Canada than in most countries (0.5 percent of GDP, compared with 1.1 percent for the typical OECD country and 1.9 percent in the United States), leaving Canada near the top of the OECD in public spending on education at 6.7 percent of GDP, just below Norway at 6.8 percent and above Finland and Denmark at 6.6 percent (OECD 1998, 103).

Although Canada has done more than most countries to increase the share of the labor force with tertiary education, the situation is much less rosy for knowledge production. Tax support for business research and development (R&D) is higher than in any of the OECD countries, but the *amount* of R&D remains at the low end of the scale. In terms of direct government support for knowledge production, mainly through granting councils that support the research and training of graduate students, the fiscal retrenchments of the 1990s have had a large effect. For example, support to granting councils increased between 1987 and 1997 by almost 700 percent in Japan, by more than 50 percent in the United States, the United Kingdom, and Germany, and by 25 percent in France, but only by 15 percent in Canada (Expert Panel on Skills 2000, 49).

Those figures tally expenditures by national governments. Canadian provincial grants to support universities and their research have also suffered relative to government support of higher education in other countries. For example, the Expert Panel on Skills (ibid., 32) reports that total government investment in higher education has grown much faster in the United States than in Canada over the past 20 years.

These pressures lie behind some of the brain drain difficulties described earlier. However, despite budget difficulties, the production of knowledge and the training of researchers has grown at a remarkable rate over the past decades, driven by student demand and met as well as possible by the research universities. To give just one example, UBC turned out about 20 PhDs per year in the 1960s; it now produces that many every month. This transformation of the universities into major centers for research training and knowledge production has led to a much more dramatic increase in knowledge production than the budget numbers suggest.

How much does it matter, in today's world, that a country has its own research training and knowledge production? A study by Coe and Helpman (1995) of R&D spillovers to productivity growth shows them to be very large, both within the country doing the research and in other countries. The sizable international spillovers may suggest that it is possible to live off the knowledge created by others. International knowledge transfers doubtless are and will be a major asset for countries in the process of catching up, as well as for smaller countries that need to keep up with the best of what is been learned elsewhere.

Yet domestic research training and knowledge production are likely to be of continuing importance, for three reasons. First, use of the Coe and Helpman results to construct estimates of border effects (Helliwell 1998, 105) shows them to be even higher for R&D spillovers than for trade flows, and recent research by Keller (2000) reveals that distance, as well as national borders, matters for knowledge spillovers. Second, domestic research activity, even in the purest of research fields, inevitably reflects local needs, interests, and issues. If a country has specific problems, they are far more likely to be the focus of domestic researchers than of their foreign counterparts. The local researchers see issues at close hand and are more likely to put them in a realistic context and hence to find results that are relevant. Third, the existence of high-quality national research training establishments assures a flow of trained researchers who are likely to be interested in domestic issues, to be involved in national networks, and to search for and accept Canadian employment. The development of Canada's research training capacity is perhaps the single greatest factor explaining why the share of UBC bachelors graduates who are living abroad has been falling fairly steadily over the past 40 years.

Social Capital

Social capital refers to the norms and networks possessed by individuals and their communities; its extent and nature are often measured by the number and strength of interpersonal contacts. The value of a community's stock of social capital is sometimes gauged by the extent to which individuals feel that other people can, in general, be trusted. These networks of horizontal ties, of shared experience and interests, and of the trust relations that they engender are probably a large part of the reason economic and social relations tend to have local and national densities that are greater than transportation and communications costs alone would tend to support. Of course, social capital, like education or health, can be put to good uses or bad, but it generally has potential value both for its ability to support material standards of living and for its more direct contribution to well-being.

Robert Putnam's 20-year research on democracy in modern Italy exposed long-standing and easily measurable differences in the extent of interpersonal ties and trust, with corresponding linkages to the actual and perceived efficiency with which business and government affairs are carried out (Putnam 1993). There is even some evidence that, when the regional governments of Italy were granted new powers, they were used more extensively and effectively in those regions with higher levels of social capital, leading, in turn, to higher relative economic growth in those regions (Helliwell and Putnam 1995). Subsequent research, looking across countries, shows that countries with higher levels of social capital have had higher growth rates, after adjusting for other factors (Knack and Keefer 1997), although the evidence is still mixed (Helliwell 1996a).

When Putnam (1995; 2000a) looks more closely at social capital trends in the United States, he finds many indicators of a broadly based decline in participation and social connectedness since about 1960, as well as systematic drops in the extent to which people think that others could be trusted. Although the patterns for the decline are varied and some new connections (such as e-mail and the Internet) have grown to replace some of the lost contacts, the broad nature of the evidence is now accepted. Much attention is currently being paid to the study of similar measures in other countries and to attempts to understand the linkages, in both directions, between social capital and what else is happening in the economy and in society more generally.

The weakness of institutions and the destruction of social cohesion were noted among the risks of post-1990 developments in eastern Europe in the wake of the fall of the Berlin Wall (Marer and Zecchini 1991). The events have proven worse than expected. The size of the social capital gap and the magnitude of its consequences for individual health (Richard Rose 2000) and for economic performance (Raiser 1997) were not foreseen. Indeed, in probably no other set of country experiences in recent history has the lack of social capital and social institutions so seriously affected what was generally predicted to be a relatively fast transition of well-educated populations to a new and more prosperous way of life. Awareness of these events contributes to the unease social scientists and policymakers feel when they see signs of decay in measures of social capital within their own societies.

The example also illustrates some of the linkages between government policies and social capital. The pre-1990 governments east of the Berlin Wall deliberately suppressed the kinds of private associations that serve to build social capital. Even long-standing democracies differ in the extent to which governments and other institutions try to suppress the capacity of society to build and maintain interpersonal trust and civic associations.

Attempts to Tie the Bits Together

Ever since the founders of the conventional national accounts worried that they left out too much to be useful measures of economic progress, people have tried to develop broader measures of economic and social progress. Recently, systematic attempts have been made to assemble internationally comparable data that can broaden the national accounts as measures of well-being. Most quoted are the annual reports from the UNDP, which contain a number of measures of the quality of life and the levels and distribution of output in most of the nations of the world.

For the OECD economies, Osberg and Sharpe (2000) have recently assembled a large number of comparable indicators designed to permit a broader review of economic and social progress. They find that, in many countries, well-being by these broader measures has not grown as fast as by the conventional measure of real GDP per capita. They also find, as does the UNDP, that countries that do well on one measure frequently do less well on other measures. What is less clear is whether these variations reflect different preferences among nations, different possibilities deeded by history and the environment, particular features of the methods used to construct the indexes, or differences in the ability of individuals, firms, and governments to foresee looming problems in time to forestall adverse consequences.

For some of the components being added, such as global warming, the processes generating the effects were well under way, even if ill-understood, long before their causes or consequences had been given much thought. Even now, after many years of calibration and research, analysts have reached no consensus either about the nature and timing of the consequences of global warming or about the most appropriate ways of curbing its extent or consequences. The consequences of economic growth, health, education, and social capital for human progress are slightly better understood, in a way more akin to our knowledge about the causes and consequences of local air and water quality. The lower level of aggregation makes it easier to capture the experiences, and the multiplicity of jurisdictions and tastes gives rise to many more experiments that help to show the costs and benefits of different ways of tackling the problems.

Sustainability and Linkages

For the physical, economic, social, and political environments, commentators are devoting much attention to finding policies that will give a sustain-

able set of outcomes so that future generations will inherit a world in which at least the major trends are for the better.

What set of accounts should be used to judge success or failure of a nation's or a civilization's attempts to leave a better world for those who follow? Students of public finance have been working on intergenerational accounting in an attempt to make sure that each generation leaves a national balance sheet as good as the one which it was given. We need an extension of the same thinking to cover the social, environmental, educational, human, and political aspects of life.[15] At the same time or even before, we need improved social, medical, physical, and interdisciplinary science to understand better the linkages among the different strands of well-being.

Two types of questions arise, one related to the causal linkages among the aspects of individual and social life and the other to how these different aspects of life ought to be evaluated when making judgments about the overall quality of life. I am inclined to leave the latter type of question to individuals and the democratic process and to devote the scientific efforts to understanding some of the complex linkages. Ideally, the research would be able to spot and avert adverse trends before they become widespread, but the examples of global warming and AIDS suggest that this ideal may not be attainable.

These two examples also suggest ways in which globalization, which provides a wider base of information for finding solutions, may also speed the transmission of the problems themselves. Cheap and easy travel and communications may have done more for the distribution of illegal drugs than of those that cure and more for the transmission of AIDS than of its understanding or control. Globalization may have done more, and sooner, to provide new niches for organized crime and tax evaders than for the transfer and installation of the judicial and governance systems required for their control.

A few research results suggest large interdependencies among the factors already discussed. Some of these studies indicate the existence of community-level connections as well as those at the individual level. Here is a small sample. Kawachi et al. (1997) report that social capital largely mediates the link between inequality of income distribution at the regional or state level and the average levels of mortality. The suggestion is that the effects of inequality may initially be corrosive of social capital and through that route increase various causes of mortality.

15 For recent applications of generational accounting to the Canadian case, as well as some proposals for extending the range of its application, see various papers in Corak (1998).

When I was thinking about this research result, I happened to notice a lead article in *Le Monde* (Grjebine 2000) lamenting the road mortality toll of each long weekend. The author attributes traffic mortality in France, which is unusually high relative to that in other countries, especially the Nordic countries, to a general French disrespect for laws and regulations, a sign of a predominance of the law of the jungle over respect for the social contract. The latter, he argues, is based on laws passed by a democratic process and respected by all, with or without the threat of sanctions, simply because society thereby works to the general advantage of all. I began to wonder whether the available cross-national evidence would support his hypothesis. I already knew that such evidence does show that measures of social trust are especially low in France and traffic deaths are unusually high there, but would the relation hold more generally? It turns out that it does. Differences among OECD countries in the extent to which people think that others can, in general, be trusted, can explain about one-third of the differences in road fatalities per capita. This result, if taken at face value, suggests that each percentage point increase in the share of the French population that thinks people are trustworthy would reduce the annual road toll by about 5 percent. Measures of the cost of traffic mortalities (used in the assessment of traffic safety investments) would value each point of trust, in the French context, at up to one billion euros annually. If French trust were at Nordic levels, the road toll would be halved and many billions of euros recouped even in the narrowest of economic terms.

This story may well seem too easy, too slick, and too inapplicable. Trust cannot be bought and, like a natural species, takes a long time to develop but may be extinguished quickly, even inadvertently. But even though an easy way of regenerating failed trust may not exist, the link between trust and traffic deaths and other connections like it provide yet more reasons for monitoring trust and learning more about what builds and what threatens it.

Education is one means of building trust, it seems. Almost all studies of social capital find that individuals who have more education are more likely to be trusting and to participate more often in community life and organizations. Even people who think that education's role in encouraging participation may be more by way of picking the leaders than by increasing general participation levels agree that education, both one's own and that of others in the community, increases the prevalence of trust.[16] Education also

16 The skeptical view of the effects of general education on general levels of participation in civic life is taken by Nie, Junn, and Stehlik-Barry (1996). Evidence reported in Helliwell and Putnam (1999) suggests that, with more careful definition of comparison groups, education increases with individuals' own education and with community-wide levels of...

has many other direct and indirect effects on welfare. Wolfe and Haveman (2000) find, in an extensive survey of the literature, that the indirect effects of education on even economic welfare are as large again as the already substantial direct effects normally included in measures of rates of return to education (OECD 1998).

Happiness

In the absence of means to systematically combine education, health, and economic elements in a single measure of economic and social progress, it is tempting to end with an intriguing result based on survey evidence about individuals' self-assessed happiness. If analysts cannot combine incommensurables for others, why not let people speak for themselves, even through the imperfect mesh of an opinion survey? Using a combination of replies to four questions asking Americans for a self-assessment of their own happiness, Putnam (2000b) discovered that personal assessments of happiness increase with both respondents' own and their state's measure of social capital. By contrast, an individual's measure of happiness rises as his or her income goes up but falls if the average state income rises. Thus, people value income in part because it makes them better off than their neighbors. (In this context, rising general levels of GDP per capita may have a diminishing payoff.) But at the more disaggregated level of US counties, both individual and average education levels have a significant positive effect on happiness; the social capital index keeps its strong individual effect, but the general level becomes insignificant (probably because of increasing measurement error resulting from the smaller county-level samples).

The fact that relatively high community levels of human and social capital appear to increase happiness while the reverse is true for income suggests that returns from human and social capital are far broader than whatever positive effects they may have on material standards of living. The same may well be true of physical health, which is not covered in Putnam's survey evidence. Thus, education, social capital, and probably good health have a triple payoff. First, at the individual level they have a direct economic payoff. Second, also at the individual level, they have a direct positive effect on individuals' happiness in addition to their effects on income. Third, higher community levels of social and human capital (but not incomes) also increase the extent to which individuals feel happy about their lives.

Note 16 - cont'd.

...education. This issue is important because it has major implications for the extent and size of positive spillovers from education.

The Future for Canada and Canadian Policies

After this long and sometimes tortuous tour of the evidence, how should one assess the future for Canada? There is good news and bad news. The good news has two parts, both of which are requisite. First, despite many increases in the strength and depth of international linkages over the past 40 years, countries' internal economic and social structures remain much tighter than is commonly believed. I have called many of the differences in domestic and international ties border effects, a choice of terminology that should not lead the reader to assume that they are due to jurisdictional impediments whose removal is much to be desired. In fact, today's greater cohesiveness of national economies and societies is much more due to the strength of information and institutional networks that make it less costly for fellow citizens to deal with each other.

Evidence that such pooling of activities in regional and national economies is not unduly costly and may in fact be advantageous is provided by the second piece of news: the fact that small countries remain as viable and vibrant as they were decades ago. Whether one looks at narrow economic measures such as GDP per capita, broader social indicators, or even individual assessments of satisfaction, small economies continue to rank very well. Indeed, the smaller countries seem to do particularly well on broader measures of welfare.

Taken together, these two bits of evidence, if they can stand the tests of further research, suggest that globalization, to the extent it exists, does not pose a threat to the viability and independence of the smaller countries.

The bad news is that the good news is not more widely known and hence put to proper use. Taken together, the facts of the existence and the advantages of national economies and societies that are fairly tightly woven have implications for national and provincial policies. Below, I consider domestic and international policy issues separately, although they are related in obvious respects.

First, however, I make, or reiterate, a fundamental point that is equally applicable to domestic and foreign polices and to the link between them. Should the continuing separation of nation-states be cherished or derided? My answer is that these border effects are a feature of the world as we know it and are inherently neither good nor bad. If all policies were well designed in all jurisdictions for the mutual benefit of all, border effects would still exist. Thus, it would be a bad idea to regard them as evidence of costly national barriers or as grounds for generating more international trade as though further trade were the Holy Grail. By the same token, an equally mis-

taken attitude would be to regard deeper international integration as something inherently to be avoided.

My central conclusion is that there are and are likely to remain important roles for national policies of almost all types *and* for international harmonization and multinational policies as well. Which is needed where, in what form, depends on the case at hand.

Domestic Policies

I deal here briefly with monetary policy, taxation, social policies, health care, and education and knowledge.

Monetary and Fiscal Policy. The strong separation of national economies and the strong effects of distance mean that international transmission of business disturbances is much weaker than domestic transmission. One of the key issues in monetary policy is whether a country should have its own national currency. Border effects, to the large extent to which they are not themselves due to the use of national currencies, mean that the evidence in favor of the use of multinational currencies is weaker than normally thought. For Canada, as I have already argued (Helliwell 2000a), the benefits of a national currency, for both the insulation and independence it provides, should be presumed to outweigh the uncertain reductions in transactions costs from adopting a multinational currency, until and unless evidence from "Euroland" changes the balance of evidence.

Of course, in practical terms, Canada's choice is not between a national and a global currency but between the Canadian and US dollars. These options tilt the balance even more in favor of the Canadian dollar for reasons laid out later (in the section on foreign policy).

Taxation. The level and structure of taxation involves issues that are more complicated and political. The actual and potential loss of highly skilled workers is frequently used as a reason for reducing Canadian income tax rates, especially for taxfilers with higher incomes. The migration evidence shows that taxes do indeed enter migration decisions, but that they play such a minor role that post-1990 migration from Canada to the United States would have been only 10 percent smaller had the tax rates and structures been the same in the two countries.[17] And this calculation does not take into

17 This calculation is based on research by Wagner (2000), who reports a figure of 13 percent based on all migrants, irrespective of education. One problem with this result is that the underlying equation shows effects that are proportionately higher for taxes than for pre-tax...

account the value potential migrants place on services or on debt reduction paid for by the higher taxes. Thus, at least for the personal income tax, Canadian policy should be focused on what is best for Canada and Canadians; presumed migration pressures should not force it to follow whatever the US Congress generates.

For business and capital taxation, the issues become even more complex. It has long been possible to use transfer pricing and other means to shift some income from one jurisdiction to another within or between countries. The ability to shift capital income more easily than labor income means that tax competition between jurisdictions has the likely consequence of distorting tax structures to produce inefficiently high tax rates on labor relative to capital. This problem has already been addressed in part through treaties designed to restrict the use of tax havens and to increase the international transfer of information needed to ensure tax compliance. These points apply especially to the proceeds of crime and to illegal transfers, but the issues arise more generally. Appropriate domestic and foreign policies need to be developed in concert. One can make a case for expanded agreements to limit inefficient tax competition, both domestically and internationally. Tax rates and exemptions that are adjusted on an *ad hoc* basis to attract particular industries lead to inefficient and inequitable tax systems with average rates higher than would otherwise be needed to raise the required revenues.

Social Policies. The evidence suggests that societies have such different fabrics that they are likely to have quite different attitudes toward and willingness to support various types of social safety nets. Where social capital is high, the social safety nets are respected and valued; where it is low, such policies are likely to be resented by those who pay and exploited by those who are able to do so. The evidence on border effects suggests that such policies can and should be developed in response to local and national preferences, with the experiences of other countries being used to guide experiments and inform decisions but not for blind copying or rejection. This rule of thumb is likely to hold true within as well as among national economies. Frey and Stutzer (1999) find that Swiss citizens are systematically more satisfied with life in those cantons with more responsive local governments. They argue that this

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Note 17 - cont'd.

...incomes. However, if the coefficients are allowed to differ for graduates and nongraduates, the coefficients on taxes and pre-tax income become essentially identical for graduates. The anomaly thus relates only to nongraduates. Using the more secure result for graduates gives the 10 percent figure here, which is, in any event, the more relevant figure, since the brain drain is generally considered to be from Canadians with higher education.

relationship exists because such governments are more likely to develop policies that meet local needs and values and because the feeling of being in charge of one's own destiny has an additional value of its own. For Canada, the implication is that provincial and local governments have ample scope to respond to local needs. Given the thickness of national borders, the federal level has even more scope for policies that respond to national needs.

Health Care. The diverse history of national health systems gives a usefully broad range of evidence of what works and what does not, and it demonstrates that globalization has not threatened national ability to maintain systems that meet local and national needs. That people have far greater mobility within their own countries than across national borders argues that Canadians have more to gain from maintaining coverage across provincial than national borders (an objective that has never been questioned, although it has sometimes been threatened inadvertently). Although the Canadian health care system has lost some of its luster over the past decade, the fact that it continues to provide universal coverage and generally superior medical outcomes at two-thirds the cost of the US system is, or should be, widely known and appreciated in Canada. This continuing loyalty, coupled with the national separation already described, probably means that emerging problems can be dealt with by solutions designed to meet domestic prescriptions. A continuing risk, however, is that the filtering of Canadian health issues through the US media and back to Canadian viewers and readers will unduly threaten Canadians' faith in their health care system,[18] which could, in turn, lead to increased political support for more expensive and less efficient US alternatives.

Education and Knowledge. Education and knowledge are widely regarded as increasingly important keys to success, whether at the individual, community, provincial, or national level. While accepting this broad truth and emphasizing the important contribution of individual and community average education to mutual trust and social capital of the sort needed to make societies work in the interests of their citizens, I caution that quality is as important as quantity, and the devil is in the details. This caveat also holds for knowledge production, whether through purposive R&D or through

18 For example, Marmor (2000) notes that, when the 1999–2000 flu season created unusual crowding in emergency rooms in both Canada and the United States. US media reports on Canada used the overcrowding problem to suggest that medicare was critically flawed, while the parallel reports on crowding in the United States did not indict that country's health insurance system.

learning by doing. The fact that border and distance effects are as large for R&D as for trade in goods and services means that positive local and national spillovers from national R&D will continue. While that fact maintains the case for national support, here too the quality of what is done and the efficiency of the support provided remain of paramount importance.

Linkages. Finally, in considering the various components of domestic policy, one should remember the linkages among incomes, health, education, social capital, social policies, and well-being. Better health and education contribute to well-being above and beyond their contributions to potential incomes. Moreover, well-being rises with individual and community-wide levels of education and social capital. Productivity and incomes cannot to be ignored since they provide the wherewithal to pay for health care and education, as well as for bread and circuses. But increasing evidence tells us that personal well-being depends on relative levels of income as much or more than absolute levels, in contrast to the situation for education, health, and social capital. One implication is that national policies deserve increasing focus on those features of well-being not captured by conventional measures of personal income. Given the importance of social connectedness, government policies should be designed to strengthen and cooperate with, rather than supplant or conflict with, community-level organizations.

External Policies

In developing international relations, what I take to be the three main goals of a small country such as Canada are:

1. To develop trade of goods, services, and capital with other countries to make best use of each country's specialized resources and of world resources used communally by all countries.

2. To obtain multilateral agreements about the rules under which trade and international relations in general take place — the establishment of international law, of tax treaties, of trade agreements, and of rules governing the international financial system and international flows of commodities, whether sold or given as aid. Some of the aspects of these arrangements are undoubtedly of value beyond the narrow economic interests of Canada, but they may be justified even in support of such interests, for the small country is the one most likely to get hurt in power plays with big trading partners. The existence of agreed rules for trade does not remove the possibilities for

small countries to get squeezed, but such rules do reduce the likely costs of confrontations. There is an alternative strategy for the small country: to stick by a large ally with common interests, and to rely on the power of that ally. This strategy, however, cannot easily work for the world as a whole. If world views and bargaining positions become excessively polarized, the chances increase for power confrontations between "great powers."

3. To encourage international transfers of wealth and knowledge from the rich to the poor. Altruism aside, this objective clearly aids the second goal above, which is equally clearly a precondition of the first.

I hope readers agree that these objectives are as relevant now as they were when I used them in November 1972, in the prologue to a lecture at Trent University, which had recently opened its doors, and *globalization* was an expression still to be discovered — I cannot find the word in a title of anything I wrote until the late 1980s, and neither the expression nor the myths about it acquired much currency until the 1990s.

Even if the basic policy objectives have not changed and even if much of today's globalization is more myth than fact, circumstances have indeed changed, as has the policy context. The FTA, since replaced by NAFTA, and the WTO are in place, and the world has seen two oil price shocks, the end of the Cold War, and the widespread use of e-mail and the Internet. National border effects are smaller, in several important ways, than they were 30 years ago, but domestic economic and social linkages still remain an order of magnitude tighter than those that cross national borders.

The research results reported here were unknown in the early 1970s. How do they change the policy prescriptions? If I had known then of the size of the economic and social importance of national borders, I would have recast my third point about international transfers of wealth and knowledge. It is now more apparent than it was then that the required transfers include the capacity to design and manage institutions ranging across education, health, justice, government, and business. Richer countries, especially those free of the taint of power, can do much to help developing countries to build their institutional capacities. This need has always been known, but the evidence on border effects reminds us that the job is more important and more difficult than was once thought. The potential gains are also larger than might previously have been thought, as the development of internationally compatible institutions is likely to make all parties better off. For similar reasons, transfers of wealth, in the absence of institutional capacity are likely to make all parties worse off; the donors lose the wealth, and the recipients may

dissipate it, frequently in ways that reduce the likelihood of achieving needed reforms.

Looking Southward

If one believes that national borders no longer matter and that material and social advantages would increasingly accrue to those in the larger and more powerful nations, one would have reason to recommend that Canada focus its policies in a North American context and to assure above all else that it achieve maximum shelter under the US umbrella. That route would suggest the need for, or at least the acquiescence in, greater alignment of domestic economic and social policies with those adopted in the United States.

If, on the contrary, the future holds at least equal promise for smaller countries, which have the continuing capacity to develop policies that meet local needs, then policies for Canada should follow a double track. On the one hand is the option and the responsibility to develop provincial and national policies that effectively and sustainably meet the aspirations of Canadians. On the other hand, in the global context, the reality of a world of hundreds of continuing national economies linked in so many ways requires a high degree of collaborative development of the rules-based system needed to assure the fairness and efficiency of these ties.

Looking across the Globe

What does the continuing thickness of national borders have to say about the appropriate agendas for the WTO , the IMF, and the World Bank? The first and most important point is that the continuing ability of small countries to operate successfully with thick borders means that further expansions of international densities of trade in goods and services, at least among the industrial economies, cannot be expected to provide large increases in income. Second, studies now exist showing that increases in average income levels have little influence on self-assessed well-being, while both individual and community-level measures of education, health, employment, and social capital have continuing payoffs. The combination of these two results suggests that there is no need for haste in broadening the free trade agenda into areas that might impinge on the ability of local and national governments and of locally based voluntary organizations to provide the education and health and maintain the horizontal linkages that seem to provide a secure foundation for individual and community well-being.

For the luckier of the smaller countries, which have traditionally included Canada and the Nordic nations but have every promise of growing into

a larger group more fully representative of the world's population and future, the policy agenda should include a large component of contribution to system design and to the transfer to other countries of ideas that have been found to work at home. One of the advantages of being small and relatively unimportant is that investigation more easily precedes advice, and advice is more likely to be treated as an asset than an intrusion. The list of possibilities is long, but this is neither the time nor the place to set them out. Here it is enough to have made the case that a global strategy for smaller countries could represent both good policy and good will.

If Canada is faced with a foreign policy choice between a globally oriented policy and one primarily focused on continuing efforts to harmonize policies with those in the United States, I think the decision is obvious. Given the evidence I have reviewed, the latter policy is likely to represent bad economics and bad politics. North America is destined, through the joint forces of demography and catchup, to be a smaller and smaller share of the world economy. To focus emphasis on the smaller part of the global pie may seem attractive during booming times in the US economy, but it would be a short-sighted strategy.

Fortunately, Canada can maintain a balanced set of foreign polices that is in accord with the facts and opportunities of global markets, has a suitably broad view of the world and its needs, and still deals in a timely and consistent way with bilateral relations with the United States. To implement the broad objectives outlined above, in a manner that reflects the patchwork reality of nation states, demands joint attention to global system-building and the specific problems and opportunities in each bilateral relation. To unduly emphasize the bilateral relation would pose a double risk. First, such a focus would ignore more attractive options elsewhere that would be foreclosed by an asymmetric policy. And second, a global perception that Canada has chosen to live under the US umbrella would limit this country's ability to act as an independent advisor and broker in the design of the international system.

In some cases, Canada's best contribution is as a partner in a group of potentially like-minded states to deal with questions of system design and aid reform. Simultaneously, the specific problems and opportunities of each bilateral border can be addressed in a manner consistent with the overall strategy. Thus, attempts to smooth crossings of the land border with the United States should be dealt with locally, reflecting the big differences in issues that arise across the width of the two countries, but in a manner that dovetails with the management of Canada's air and sea linkages with other countries. The broad objectives should include easing legitimate movements while maintaining the rule of domestic and international law.

The final result of well-designed national and international policies would, I predict, include continued border effects of the sorts I have documented here. Such effects would not represent evidence of border restrictions; they would instead reflect the fact that, for now and the foreseeable future, geographic, social, and political distance act to make it cheaper and safer to use familiar and trusted institutions and pathways. If new and better institutions and pathways are to be built, whether within or across national borders, it will be important to do so in ways that broaden rather than diminish the underlying bedrock of shared trust.

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