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The United States' Potential Contribution to Canada's Technological Policy Goals

*by Carl E. Beigie**

One of Canada's great disadvantages is that it has so many acceptable excuses for taking itself far too seriously; it appears to be a nation of endless introspection. But it is not a country that impresses one as having good insight about its economy or its problems. This makes the topic I have been asked to address somewhat awkward. I do not believe that Canada has yet achieved a basic understanding of the fundamental economic challenges it must deal with. As a result, at a political level, technology is still generally a catchword. But when you turn the page, a fog emerges rather than any clear structure for forming a pragmatic policy goal. It is therefore premature to speak in substantive terms about how the United States might help Canada meet an articulated technology goal.

Examining Canada at the most basic of levels, the nation currently faces three fundamental economic challenges. The first is to continue the process of adjusting to the profound global economic disequilbria that reached a climax in the 1970's and are still causing massive distortions today. All nations face a similar challenge on this score, so I am not going to comment on it at any length in this paper. I would note in passing, however, that effective responses to the other two challenges to be discussed would assist Canada's efforts regarding the first.

The second challenge, too, is one that Canada shares with other industrial (or high-income) nations: adapting to new international parameters. Chief among the common new realities is trade competitiveness that is reaching unparalleled dimensions in terms of magnitude, scope, and speed of change. Of special concern for Canada is another of the new realities: increases in the sources of supply for natural resources that Canada has had in abundance, at about the same time that global demand for many of these resources appears to be growing at a permanently lower pace.

Finally. and most important because it is essentially unique to Canada, there is the challenge of accommodating to what I refer to as the disintegration of the country's previously sheltered "cocoon." Growing international competitiveness at a time of commodity market distress

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finds Canada undergoing sharp reductions in the amount and the effectiveness of its traditional source of trade protection—relatively high tariffs.

It is this third challenge, especially given the urgency imparted by the existence of the other two, that will force Canada eventually to devise a strategic policy initiative. Although I do not have the time in this paper to develop the points in detail, there will be two primary characteristics of any successful approach along these lines. One involves an expansion in the planning/decision-making horizon of Canadian business. For many firms it is a process that is well-along; in time, all survivors will have had to develop similar approaches.

The second characteristic is more structural and involves what my management school colleagues refer to as the product life-cycle. A key legacy from Canada's industrial past, resulting from the operations of an excessive number of tariff-protected firms, is that many of its enterprises tended to introduce production of goods that were "new" (at least to Canada) only after they were well along the road to standardization elsewhere (mainly in the United States).

The theoretical logic would be for standardized production to be shifted toward relatively low-labor-cost sites, to be replaced in the innovating country by production (and employment) in turning out newly developed goods. Being at the early end of the product life-cycle requires innovativeness and allows nations that are successful in staying there to sustain above-average general income standards.

Canada has had, and Canadians expect to continue to have, relatively high income levels. But the reason for this has had little to do with comparative international innovativeness and a great deal to do with natural resource and endowments and the positive spill-over effects of proximity to the United States. Unless there is a major reversal in the inflation-adjusted returns to be anticipated from being a commodities exporter, Canadians are going to have to place greater emphasis on becoming more effective at the innovation end of the product life-cycle. Otherwise, they will experience both a relative deterioration in their average living standards and an absolute falling off of public support for government-run social support programs.

Against the background of these three fundamental economic policy challenges, I wish to turn now to seven specific political economy goals that any government that faces periodic democratic elections must be seen to be pursuing. Two of these goals—a "fair" distribution of national output and a cyclically balanced government operating budget—are essentially the responsibility of the Canadian government to achieve. Two more—a low rate of inflation and moderate real (inflation-adjusted) interest rates— can be defeated by poor domestic policies but are very hard to achieve through internal policy action alone for an economy as relatively small and open to trade as Canada's.

This leaves three other national economic policy goals—a viable balance of international payments, per capita income growth through productivity advance, and effective "full" employment in jobs that encourage an individual sense of fulfillment—which require a successful strategic plan for a country to fulfill. For Canada, the external sector generally, and trade relations with the United States most particularly, must be an integral part of that strategic plan.

Any useful evaluation of the alternative means for achieving these economic ends must reflect an awareness of the political goals that are also present in the policy-making equation. The ability to define such political limits is a key to electoral success. I have difficulty in this area, but my reading of the "average" Canadian is that he or she is not yet so worried about the future that there would be a willingness to pursue economic goals through means that required a significant further risk to opportunities for national individuality (uniqueness).

It is against this background that we come to the issue of freer trade as a possible element in Canada's future strategic economic plan. There is substantial support for freer trade in Canada, but in my experience, it is greater for a multilateral approach through the General Agreement on Tariffs and Trade (GATT), than it is for the bilateral approach with the United States that the Canadian federal government is now pursuing.

I am a proponent of carrying on bilateral negotiations to see how close we can come to a mutually satisfactory "deal." My view is that although multilateral trade liberalization should be the ultimate trade policy goal for Canada, the bilateral option is a potentially effective means to enable Canada to benefit most fully if this ultimate goal eventually does come to pass. Part of such a bilateral agreement could include a phased adjustment scheme tailored to meet Canada's particular transitional needs. Any special transitional treatment within the multilateral framework as it has evolved under GATT is simply not in the cards for Canada. Quite apart from the key transitional mechanics, I see no viable alternative to a bilateral agreement for achieving the combination of static and dynamic efficiency performance gains within the kind of time frame that I personally believe Canada faces.

Where does "technology" come into this picture? There are obvious signs that the Canadian government, not unlike many others, conceives technology more as an end in and of itself rather than as one means for achieving the basic goals outlined earlier. The current federal government, for example, has defined its objectives in this area in terms of the share of the national GNP devoted to R&D. For an economy as relatively small as Canada's, such a gross performance indicator is proving virtually useless without some well-articulated approach to concentrating the nation's limited abilities on achievable tasks. The previous government had no such approach either, resulting in horrendously wasteful R&D tax incentive schemes that were an embarrassment to any thoughtful policy analyst.

The political "discovery" of technology, unfortunately, is not helping public understanding of the vital role of technological change as a key contributor to economic growth. In reality, change is a constant, and the ability to exploit new technological opportunities, regardless of where they are first "found," is a key variable in a nation's dynamic efficiency performance. In formulating a strategic national technological policy goal aimed at the three fundamental economic challenges I have already covered, further understanding is going to have to be sought on two important fronts.

First, the basic direction of technological change is evolving rapidly as the leading edge of world economic development shifts from primarily an "industrial" to primarily an "informational" focus. Emphasis in the former was on applying modern capital equipment embodying "state-of-the-art" knowledge to enhance the worker's physical characteristics (speed, strength, and manual dexterity). In the latter, by contrast, the objective is to apply new technological facilities to enhance the worker's mental processes (memory, recall, and decision-making, for example).

Second, and very much related to the first, the concepts underlying the way we account for economic activity must be rethought as we move increasingly toward an "informational," service-oriented focus in the more advanced economies. What is "output"? How should "efficiency" by measured? What is actually being "traded" when data flows across national boundaries? Devising public policy on a traditional GNP/GDP measurement base is no longer adequate to the tasks at hand.

After all of this background, let me turn at last to the question I have been asked to address: What is the United States' potential contribution to Canada's technological policy goals? I can conceive of three broad bilateral options and one essentially unilateral option for Canada to consider.

The first option would be roughly to continue the past. The United States (and others) would be looked to as the source of additions to the global stock of useful knowledge and Canada would seek to utilize as much of it as possible in a "piggyback" mode. Technology mainly developed externally would be adapted to the Canadian marketplace. Selected "niches" would be sought, within which export opportunities would be developed. Canadians, in short, would generally continue to be educated to stay no more than one step behind the more innovative.

This is by no means an automatically unattractive option, especially in that Canada has largely followed it for years. But the difficulties with making that the policy choice, even if implicit, for the future are growing. In part this is the result of a tendency toward technological protectionism in the United States. A far more important problem, however, is likely to be growing Canadian political dissatisfaction if, as I strongly suspect, the relative income "gap" between Canada and the United States widens because of the disintegration of Canada's sheltered cocoon at the same time that several global realities are bearing down particularly hard on the country.

A second option might be for Canada to try to get more of the subsidiary firms owned by U.S. parent companies to convert from a "miniature replica subsidiary" (MRS) mode into a more fully integrated branch plant mode, with Canadian operations being refocused toward some form of "product mission." One example of this approach is the so-called world product mandate (WPM), which allows economies of both scale and specialization as well as fairly considerable autonomy in certain R&D activities within the Canadian branch.

For a while, many thoughtful Canadians saw this option as the best of the lot. Lately, however, it appears to have declined in favor, possibly because there was originally an exaggeration of the extent to which this approach could add meaningfully to Canadian uniqueness. I would question how much further the development of WPM-like operations in U.S.-owned Canadian subsidiaries would be tolerated within the U.S. political environment in any event. A potentially serious problem is emerging between the two countries in terms of the prospective competitiveness of manufacturing based in Central Canada. Adjusting for the recent value of the Canadian dollar, which has been depressed by world commodity market difficulties, Canadian wages would be very attractive if, as in the automotive industry, Canadian workers were able to produce at roughly the U.S. rate of productivity. It used to be that Canadian employers were very worried about competition from firms located in the relatively low-labor-cost southeastern region of the United States. Increasingly, parts of Canada are becoming the "South of the North."

This leads to the final two options. Both would be sufficiently comprehensive to warrant the designation of "strategic," but one would be outward in focus toward a bilateral approach, at least initially, to Canada's developmental objectives and one would be much more inward.

My own bias would be for Canada to look upon a bilateral freer trade initiative with the United States as a possible means to the end of upgrading the economy's ability to achieve the so-called "Third Option" objectives. (This is the term applied to the goal of obtaining greater diversification in Canada's trade and greater effectiveness in the management of its policy sovereignty.)

In the near term, this option would involve Canada in a tough "give and take" with the United States in a tactical negotiating forum. Over the longer term, this approach could allow Canada to evolve out of its technological "piggyback" role and become a more effective contributor to the global stock of knowledge.

Finally, an option based on Canada making a serious internally initiated national developmental effort is not unappealing in theory. But if it had any chance of working, it would require that world trade remained on the positive GATT-focused evolutionary stream. And it would also require that the very serious regional problems that have plagued those seeking a co-ordinated policy approach in Canada in the past could be solved. My problem with anti-bilateral-freer-traders in Canada is that they seem to wish to ignore the risk that neither of these two conditions will be met.

These are the essential policy options for Canada as I see them. I am not at all certain about the one that will be chosen or how the United States will react when the choice is made. It is reasonably clear that Canada cannot, and will not, stand still. The fundamental question is what will be the motivator of change: market-sensitive forces or government-directed discretionary forces. If we cannot work out a "fair" bilateral deal with the United States, I am of the view that the latter approach will ultimately dominate. That is not the one I would advise, but Canada has a history of forever forgiving the costly mistakes of politicians whose faith in government management knows few bounds.