# BACK TO THE FUTURE? IS THERE A CASE FOR RE-ESTABLISHING THE ECONOMIC COUNCIL AND/OR THE SCIENCE COUNCIL?

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Abstract: Throughout the 1970s and 1980s, the Economic Council of Canada and the Science Council of Canada were regarded as exemplary policy research institutions. The research they produced is worth re-visiting because it provides a unique window on the far-reaching political and ideological transformations that took place during these years. Since their demise, however, there have been few calls to bring them back, even though the budget surplus opens up new opportunities in that regard. I argue that re-establishing the Science Council would be a desirable and opportune decision, and I use this example to reflect on the analytical pre-requisites that a policy analyst wishing to recommend a policy change must at the very least carefully consider.

In 1992, the Economic Council of Canada (ECC), the Science Council of Canada (SCC) and the Law Reform Commission fell victim to the budget cutters' axe. Although at the time many observers felt that this was a regrettable decision, especially in the case of the ECC, the issue of whether there is still a need for institutions such as these has quietly disappeared from the policy agenda. This would seem to suggest that the decision to abolish them was not, after all, without grounds. Since then, however, the Law Commission of Canada, which looks rather similar to the Law Reform Commission of old, has been re-established in 1997. The purpose of this paper is to examine the case, if any, for re-creating either the ECC or the SCC, or both.

In order to come to any conclusion, it is necessary to briefly revisit the circumstances that led to the demise of these research councils and to evaluate the legacies they left behind. The question of whether something equivalent to the ECC or the SCC is needed today depend obviously on a judgment concerning the present circumstances, the extent to which they are significantly different from the situation that prevailed something like twelve years ago, and on whether or not existing institutions continue to fill the gap left vacant by their demise.

The term "judgment" clearly implies that it is not a strictly factual statement. While I intend to present the facts of the matter as accurately as possible, the conclusion I draw from them is open to debate—indeed I am convinced that the primary function of the policy literature is to provoke debates. However, the merits of a judgment can still be assessed on several grounds; just as the fact that moral judgments are irremediably subjective does not mean that all such judgments are equally valid or convincing, judgments concerning the merits of a

policy must be assessed on at least two grounds: the logical rigour of the arguments, and the reasonableness of the criteria used in the evaluation of the recommended option. Matters of logic and method are important and sometimes raise interesting epistemological questions about which specialists can disagree. But since my topic does not raise any such question, the only angle from which my conclusion could be challenged is the criteria I intend to apply. Therefore, it is incumbent on me to briefly spell these out before proceeding any further. Indeed a secondary objective of this paper is to underline the need to pay careful attention to the empirical and normative threads that necessarily run through policy analysis. While this observation is rather trite, I hope to show by treating what is apparently a straightforward and not vary pressing issue that the normative side of the exercise is never simple; merely paying lip service to the need to integrate normative considerations is a futile gesture. There is no easy way to lighten what Rawls calls "the burden of judgment."

The standpoint from which I work is that there is no Manichean division between the public and the private sectors (the latter should itself be divided into a commercial sector and a "not-for-profit" sector). That is, it seems factually and ethically flawed to assert categorically either that the private sector is always more efficient and innovative or, alternatively, always more biased in favour of certain economic or social interests, or that the public sector always act in the common interest. (It is ethically flawed to presume the latter because it naively but not benignly ignores the complexity of the motivations that inspire public officials and the members of their staff.) Thus in the case at hand, the is no obvious reason to conclude that research on economic policy or science policy is necessarily always better carried out from within government, except perhaps that one ought not to burden the state with more responsibilities than it can perform. But if pragmatism must prevail, pragmatism must itself be defended. Pragmatism can lead to relativism: If the only criterion is "whatever works," for me or for the group I belong to, then pragmatism may fail to provide sufficient protection against arbitrariness or prejudice. But on the positive side, pragmatism encourages the use of democratic, consultative and pluralistic means to solve moral dilemmas and policy problems. Since the truth is not given a priori, it must be worked out through critical engagement with the claims made by all those who have an interest in seeking a solution. Incidentally, institutions like the ECC or the SCC could play a role in this sort of engagement and debate by providing the research that an uninformed public needs in order to fulfill its democratic responsibilities; John Dewey was very

<sup>&</sup>lt;sup>1</sup> There is no space here to launch a thorough critique of Richard Rorty's efforts to revive pragmatism from a relativist standpoint, but suffices to say that I do not intend to follow him down that path.

concerned about the quality of public debates and the obstacles that citizens face in trying to fulfill their roles.<sup>2</sup>

The good can be defined as what works for the public interest. Whether something "works" or not, and in particular, whether it contributes to the public interest is a question to be decided by as large a majority of reasonable people as possible. But that is still not saying much. Obviously, in a liberal democracy a policy recommendation must not offend democratic values. But it is often quite difficult to assess with any degree of certainty where the Canadian public stands on a whole range of issues.<sup>3</sup> With some safeguards, very technical issues about which the public knows little can be delegated to experts. But few issues fall entirely within the narrow limits of expert knowledge. The rather unimportant, albeit not trivial problem of whether it would make sense to re-establish one or both of the research councils mentioned above is worth exploring precisely because it serves to illustrate the difficult challenges that policy analysts or political scientists often confront in trying to provide judicious advice to policy-makers or in trying to improve the quality of democratic policy debates.

I return to this question in the conclusion, so suffices to say at this stage that the rest of this paper is guided by three norms: a) a modified Rawlsian framework according to which public policy must aim at achieving a greater degree of fairness in social arrangements when it is both feasible and appropriate (the meaning of these two terms is given below) to do so, and provided that doing so does not violate the fundamental rights of others; b) opportunity costs must always be applied to comparison between alternatives, which is to say that if reaching a trivially fairer situation would divert resources that would be better used to achieve a different goal, then that goal is not feasible; and c) since any attempt at constructing a fairer society is likely to involve not only complicated but truly complex issues—i.e., problems that are characterized by uncertainty and indeterminacy—Popper's "piecemeal engineering" is generally preferable to, i.e., more appropriate than, comprehensive planning or what F.A. Hayek called "constructivism." These three points are in tension and a priori suggest different answers to the question at hand (e.g., one might be inclined to think that a reborn ECC would defend the interests of

<sup>&</sup>lt;sup>2</sup> See John Dewey, *The Public and its Problems*. Denver: Allan Swallow, 1927.

<sup>&</sup>lt;sup>3</sup> John Dewey (ibid.) dealt at length with the problem of determining the public interest in situations where the public itself knows little about issues that concerns it.

<sup>&</sup>lt;sup>4</sup> For a critique of Rawls' maximally prudent approach to the defence of the interests of the least disadvantaged, see J.C. Harsanyi, "Can the Maximin Principle Serve as a Basis for Morality? A Critique of John Rawl's Theory," *American Political Science Review* 69 (1975): 594-606.

<sup>&</sup>lt;sup>5</sup> A tension that reflects, more generally, the opposition between a deontological and a utilitarian approach; my preference for pragmatism owes much to the fact that I see no reason to consistently side with either one of these two dogmatic positions.

disadvantaged Canadians better than, say, the Fraser Institute or the C.D. Howe Institute, but its costs might not be justifiable when higher education remains severely under-funded and since the federal government's economic goals are justifiably more modest than they were thirty years ago, there may not be a need for a planning instrument like the ECC). Thus I must proceed with the analysis and grapple pragmatically with this dilemma as the arguments unfold.

## I. Historical Background

For more than a century, governments in Canada have used commissions of inquiry to investigate a wide range of problems. As the administrative state developed in the post-war decades, however, the need for more permanent institutions became more obvious. Even in the United States, where private think tanks appear at times to monopolize policy debates, one can cites examples of independent, non partisan advisory bodies within the government sphere; the President's Council of Economic Advisers, and several Congressional bodies, e.g., the General Accounting Office (GAO), or the Congressional Research Service, come to mind. In Canada, a variety of advisory councils were established at both the federal and provincial levels in the 1960s and 1970s. "Their relative autonomy," L.A. Pal notes, "extends to the tenure of appointees (i.e., they can only be dismissed for 'just cause'), an independent research agenda, research publication and hiring." Most of them have since then been abolished as the determination of all levels of government to reduce or eliminate their budgetary deficits became firmer in the 1990s. Other, more political, factors also played a role; bearers of bad news are rarely welcome at the prince's court, and in the 1980s and 1990s the fiscal situation of most governments deteriorated significantly.

#### The Economic Council

The Economic Council of Canada was established in 1963, after the return to power of the Liberals. Arthur J. Smith, who became one of the Council's first two Directors, recalls that "Parliament moved relatively quickly to pass the *Economic Council Act*. Indeed, the act was unanimously endorsed and approved by all parties represented in Parliament. It also received

<sup>&</sup>lt;sup>6</sup> Leslie A. Pal, *Public Policy Analysis: An Introduction* (Toronto: Methuen, 1986), 78-9.

<sup>&</sup>lt;sup>7</sup> In his 25 February 1992 budget speech, Finance Minister Don Mazankowski announced that twenty one public bodies were to be wound down; among these, the following advisory councils were included: the Canadian Institute for International Peace and Security, the Canadian Environmental Advisory Council, the Economic Council of Canada, the Law Reform Commission, and the Science Council of Canada. Since then other advisory agencies, notably the Advisory Council on the Status of Women, have been abolished by the Chrétien government.

widespread public support and acclaim." However, unanimity was achieved at the cost of considerable vagueness in the wording of the Council's objectives.

Long term planning was a popular concept then. Thus one of the objectives of the newly formed council was to serve as a means of building a consensus on social and economic goals. More than a decade of sustained economic growth and high levels of employment had created new expectations and a belief that long term planning was required to sustain such favourable economic conditions. Foreign examples seemed to point in this direction. The French General Planning Commissariat, which brought together a wide variety of interest groups in the process of formulating a five year plan, had played a significant role in the modernization of the French economy in the post-war years; and in 1962 the British government set up the National Economic Development Council composed of representatives from government, unions and employers. In Canada, the Diefenbaker government had created the National Productivity Council to improve labour-management relations and to facilitate economic growth.

Medium to long term planning, at least in an advisory capacity, and consensus-building figured prominently among the statutory responsibilities of the Economic Council. <sup>10</sup> Each *Annual Review* outlined the economic trends supposed to prevail over the next five to ten years. This was done by means of computer simulation, using the CANDIDE econometric model until the mid 1980s. A "base-case" was prepared first; it gave an outlook of the future in the absence of corrective public policies. Then the merits of various policy options were tested against the base-case. From 1986 onward, the Council contracted with the Conference Board of Canada for the use of their econometric model in order to reduce the cost of the Council's operation. <sup>11</sup> At the time when the ECC was set up, it was envisioned that the Department of Finance would play a complementary role: the Council would be in charge of long term projections while Finance would focus on short term issues. However, it was not long before Finance began to work on the preparation of multi-year economic projections, as required first by the Planning-Programming-Budgeting System (PPBS) in the early 1970s, and then by the Policy and

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<sup>&</sup>lt;sup>8</sup> J. Smith, "The Economic Council of Canada," in David C. Smith, ed., *Economic Policy Advising in Canada* (Montreal: C.D. Howe Institute, 1981), 76.

For an analysis of these planning systems, and of their relevance to Canada, see H.G. Thorburn, *Planning and the Economy: Building Federal-Provincial Consensus* (Toronto: Lorimer, 1984), chapter 4.

The Economic Council Act states that, among other functions, the mandate of the Council is "regularly to assess...the medium-term and long-term prospects of the economy, and to compare such prospects with the potentialities for growth of the economy"; and "to encourage maximum consultation and co-operation between labour and management."

<sup>&</sup>lt;sup>11</sup>Interview with Mrs J. Maxwell, 21 March 1994.

Expenditure Management System (PEMS) in the 1980s. This did not make the Council redundant since its long term projections were more comprehensive and served as the basis for more detailed economic studies, but it weakened the rationale for its continuing existence in the face of mounting criticisms of its performance.

The Council was composed of three full time members, namely a Chairman and two Directors, and of not more than twenty five part-time members. They were appointed by the Governor-in-Council. Partisan considerations played a part in the selection process; nevertheless, the Council's members represented a variety of social, professional, and regional interests. In 1991, the make up of the Council was as follows: seventeen came from the business community (i.e., corporate executives [8], small or medium size business owners, consultants, and brokers), one professional (a chartered accountant), two trade unionists, and one retired academic. At other times, the number of academics (e.g., three in 1987) and professionals (e.g., lawyers) had been higher. By comparison, the first Council included ten members of the business community, six trade unionists, two spokesmen for the farming community (one farmer, and the Executive Secretary of the Canadian Federation of Agriculture), two academics, two professionals (one chartered accountant, one lawyer), one consumers advocate, and one member without a clearly defined professional status.

Labour union officials sat on the Council until the implementation of the anti-inflation programme of 1975. They never returned officially. This does not mean, however, that labour's point of view was ignored during all these years, as retired labour leaders were appointed to the Council from time to time (e.g., Paul-Emilien Dalpé). Indeed closer working relations between the Economic Council and the labour movement developed in the last few years of its existence.

The Economic Council was a Crown corporation that reported to Parliament through the Prime Minister. This status provided the Council with a fair degree of autonomy in its internal affairs, especially as far as its research programme and policy recommendations were concerned. But the Council's budget was determined by cabinet and appropriated by Parliament. This allowed cabinet to yield a constraining influence on, at the very least, the administrative priorities of the Council. However, it received comparatively rather substantial funding for its operations. In 1991 the operating budget of the Economic Council amounted to approximately \$11.2 million, which was considerably larger than the budget of any other policy research organization in Canada at that time, and would still be large by today's standards.

The Chairman—always a professional economist—was appointed for seven years. He—or she, as two women have held this position: Dr. Sylvia Ostry and the last incumbent, Mrs. Judith Maxwell—"[was] the Chief Executive Officer ... and has supervision over and direction of the work and staff of the Council."<sup>12</sup> (The size of the staff varied over the years; it was above 130 in the early 1980s, but it fell below that mark in the late 1980s.) The Chairman also played "managerial role ... by mediating between the technical and the representative elements on the Council."<sup>13</sup> In addition to his or her administrative, liaison and public relations functions, the Chair was most directly involved in the preparation of the *Annual Review*, and in the screening of research topics.

Obviously, the background and personality of the Chairman influence the work of the Council. The late Dr. John J. Deutsch—Chairman from 1963 to 1967—is widely credited as having been successfully launched the Council and for steering it away from political and bureaucratic sandbars. He had the advantage of a considerable experience with bureaucratic politics, and he believed in consultative planning. He was convinced that one of the most important roles of the Council was "to improve public understanding of basic economic policy."14 Dr. Arthur J.R. Smith—Chairman from 1967 to 1971—found it more difficult to gain influence with the policy-makers, largely because "he had never been involved with the Canadian governmental bureaucracy or research commissions to the degree that his predecessor was."15 In fact, conflicting relations between the Economic Council and the Department of Finance developed during his tenure. On a more positive note, CANDIDE, a multipurpose, large scale econometric model of the Canadian economy, was developed under Dr. Smith's leadership. It was completed and perfected under his successor, Dr. André Raynauld— Chairman from 1971 to 1976. Raynauld worked toward the restoration of more co-operative relations with government; he was probably also the last Chairman to place much emphasis on the Council's consensus-forming role. His successor, Dr. George Post (1976-77) did not remain in office long enough to impart a distinctive sense of direction on the Council. Thereafter, Dr. Sylvia Ostry (1977-79) and Dr. David W. Slater (1980-85) adopted a more research-oriented, if

<sup>&</sup>lt;sup>12</sup> This is an excerpt from a notice that can be found in many Council's publications.

R.W. Phidd, "The Economic Council of Canada: Its Establishment, Structure, and Role in the Canadian Policy System, 1963-74," *Canadian Public Administration* XVIII, no. 3 (1975): 430.

<sup>&</sup>lt;sup>14</sup>Quoting here Dr. Sylvia Ostry's recollection of John Deutsch's term at the helm of the Council. Economic Council of Canada, *Annual Report, 1991-92* (Ottawa: Supply and Services, 1992), 10.

<sup>&</sup>lt;sup>15</sup> Phidd, "The Economic Council of Canada," 445.

not more technocratic approach, thereby re-shaping the Economic Council into a specialized research agency communicating almost exclusively with professional economists. (Upon Ostry's appointment, the government announced that "[her presence] would act as a magnet to attract the best of Canadian economic scholars"; by contrast, Deutsch had formed a staff that included several--not necessarily less brilliant--economists whose background was in government rather than in academia.)

Mrs. Judith Maxwell's appointment as Chair of the Council in 1985 marked the beginning of a period of renewal. Indeed government officials had indicated to her at the time of her appointment that they felt the Council was not having as much impact on the policy debates of the day as they wished; her mission was to enhance its profile. <sup>17</sup> Sometimes before Mrs Maxwell joined the Council, she had held a senior research position at the C.D. Howe Institute but she had left the institute in the early 1980s, i.e., before it took a turn toward a resolutely more market oriented approach (see chapter 6). This needs to be underlined because it sheds some light on the research priorities that were adopted during her turn as Chairman--priorities that differ in subtle ways from those of her immediate predecessors or of private sector think tanks in the late 1980s. The subtlety of these differences stems from the rather muted but apparent contrast between the Council's economic policy goals that continued to be entirely consistent with the neoclassical orientation of mainstream economics, on the one hand, and a distinctive concern with the social policy implications of this orientation. Another way of putting it is to note that under Judith Maxwell's leadership, "the Council...diversified its research agenda in order to address simultaneously a range of topics of interest to Canadians and to take advantage of the insights of other disciplines such as sociology and political science."18

The communication strategy of the Council also took a different turn under Maxwell's term. In the Fall of 1986, several members of the House of Commons Finance Committee had voiced strong objections against what they viewed as a trend toward technical sophistication achieved at the expense of policy relevance. Maxwell was committed to changing this situation by making Council's reports more readable and more topical.<sup>19</sup> The fact that such complaints

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<sup>&</sup>lt;sup>16</sup> "ECC Could Become Policy Forum for 'Bright Thinkers'," *The Financial Post* (January 28, 1978). <sup>17</sup>Interview, 21 March 1994.

<sup>&</sup>quot;The Role of the Economic Council of Canada," Annual Report 1990-91 (Ottawa: Supply and Services, 1991), 8. In an interview, Mrs Maxwell also indicated that in her view the Council should have been named the "Social and Economic Council" (21 March 1994).

Mrs J. Maxwell puts her appointment down to her communication skills which she demonstrated during her years on the staff of the C.D. Howe Institute, and later as an economic consultant. She

were no longer heard in the final years of the Council's existence suggests that she achieved that goal.

The Chair could devote his or her attention only to a few priority items. Much of the research was carried out by the staff under the two Directors' supervision. <sup>20</sup> The appointment in 1986 of a Corporate Secretary responsible for all support services freed the two Directors of practically all administrative duties. (Incidentally, the fact that communication and public relations were handled separately and were thus given a high priority during the last years of the Council's existence is indicative of the increased degree of competition in the policy ideas marketplace in the 1980s and beyond.) Research was streamlined into several projects or task forces. Examples of projects that illustrated this renewed sensitivity to current policy issues in the final years included projects on education, on health care, on poverty, on human resource management, on international competitiveness and Canada's trade performance, and a project on Canadian trade opportunities in the Asia-Pacific region. Other on-going or recently completed projects at the time of the Council's dismissal included: government enterprises, financial institutions, the labour market impacts of technological change, and the future of the Prairies grain economy.

The news of the Council's termination came as a total surprise to its members when the budget was presented to the House of Commons on 25 February 1992. Apart from the general argument about deficit reduction—an argument that, ironically, the Council itself had made repeatedly—the specific justification given by the Minister of Finance, Mr Don Mazankowski, was that advice on economic policy matters was available from universities and private sector think tanks. He mentioned in particular the C.D. Howe Institute and the Conference Board of Canada. Many commentators suggested that other motives laid behind that decision. It was known that the Council had few friends in the Department of Finance or the Bank of Canada, i.e., the two other sources of economic advice to the government. And most observers of the Ottawa scene agree that since the mid-1980s the Department of Finance has regained most of

has put in place eighteen months deadlines on all research projects, requested that researchers turn over their manuscripts to professional writers who can "translate" them into plain English (or French), and suggested that interim reports be issued more frequently to keep the attentive public better informed of on-going projects.

It is worth noting that Arthur J. Smith, George Post and Sylvia Ostry had held this position before being promoted to the chairmanship.

<sup>&</sup>lt;sup>21</sup>Deborah Dowling, "Closing Down the Economic Council," Ottawa Citizen 9 March 1992, B1-2.

the influence and power it had lost in the previous decade and a half or so. Several Conservative backbenchers also had voiced criticisms of the Council for years. The most often heard explanation in terms of retribution, however, was that the Council had miscalculated badly when it issued its 1991 report on *The Economics of Constitutional Options*. According to that report, the economic cost of Quebec's separation would not be very severe. Rumour had it that this analysis had infuriated Prime Minister Mulroney but, as could be expected, he denied it. Responding to critics who implied that the government was trying to silence critics, the Prime Minister argued that, in fact, the Council had supported the government's economic priorities.<sup>22</sup>

Reactions to the announcement of the elimination of the Economic Council were generally negative, even from the business community which is usually supportive of cost-cutting measures.<sup>23</sup> Most commentators<sup>24</sup> pointed out that the ECC had acquired a good reputation for producing timely and rigorous studies. Many also noted that its budget, although large by comparison with other research institutes, was merely a drop in the bucket of the federal deficit. A few critics, however, suggested that the Council had been severely handicapped by its attempt at finding a middle road between the divergent positions of its members, and thus had not been able to speak with a strong voice on crucial issues.<sup>25</sup> Michael Walker, of the Fraser Institute, portrayed the Economic Council as a bureaucratic agency which was "largely reflective of a public sector viewpoint"<sup>26</sup> and suggested that it was too expensive for what it was worth.

At the time when the decision to wind down the Economic Council was reached, several important projects were left in limbo. Two such projects, one on education, and another on poverty, were completed in April 1992, just before the Council closed its doors in June.<sup>27</sup> But other significant projects could not be completed within such a short time frame. They included a study on the economics of health, and a study of the impact of all levels of government on competitiveness, . Other slightly less costly projects cut in mid-stream concerned i) how Canadian firms adapt to globalization; ii) human resources management; iii) Canada's trade

<sup>&</sup>lt;sup>22</sup>Ross Howard, "PM Denies Critics Targets of Council Cuts," *The Globe and Mail* 27 February 1992, A2. <sup>23</sup>For example, both Tom d'Aquino, of the Business Council on National Issues, and Tim Reid, President of the Canadian Chamber of Commerce said that agencies like the ECC were serving a useful purpose. See Allan Thompson, "Business Reaction Mixed, Some Fear 'Wrong Message'," *Toronto Star* 26 February 1992, B2, and David Pugliese, "Government Plans Further Cuts and Mergers," *Ottawa Citizen* 27 February 1992.

<sup>&</sup>lt;sup>24</sup>With only a few exceptions (e.g., Terence Corcoran of the *Globe and Mail*), most editorialists (including Jeffrey Simpson in the *Globe and Mail*) penned articles deploring the the death of the Council.

<sup>&</sup>lt;sup>25</sup>D. Dowling, "Closing Down," B2.

<sup>&</sup>lt;sup>26</sup>Quoted in the *Financial Post* 27 February 1992.

<sup>&</sup>lt;sup>27</sup>Economic Council of Canada, *Annual Report, 1991-92*, 13.

opportunities in the Asia Pacific region; and iv) the Annual Review for 1992 which was intended to include a study of income disparities.

Some of these projects which had independent sources of funding were relocated outside of government. The Government and Competitiveness project was moved to the School of Public Policy at Queen's University, and Judith Maxwell became Associate Director of the School. It was a massive project that resulted in the organization of six seminars and the publication of more than thirty monographs. The human resources management project was moved to the Industrial Relations Centre, also at Queen's University. The project on the economics of health, on the other hand, was placed under the umbrella of the University of Ottawa.

#### The Science Council

The Science Council was created three years after the Economic Council in 1966, at a time when rational policy analysis was an idea "whose time had come." Until the end, the Science Council demonstrated a commitment to rational planning and certain scepticism with respect to the capacity of market mechanisms to produce spontaneously the desired response to changing circumstances.

We live in a scientific and technological age and, therefore, science policy touches upon a wide range of issues. The broad mandate of the Science Council reflected this reality. It was expected to make recommendations concerning:

- 1. the adequacy of the scientific and technological research and development being carried out in Canada:
- 2. the priorities that should be assigned in Canada to specific areas of scientific and technological research;
- the effective development and utilization of scientific and technological manpower in Canada;
- 4. long term planning for scientific and technological research and development in Canada;
- 5. the factors involved in Canada's participation in international scientific or technological affairs;
- 6. the responsibilities of departments and agencies of the government of Canada, in relation to those of universities, private companies and other organizations, in furthering science and technology in Canada;

- 7. the statistical and other information on scientific and technological research and development that should be obtained in order to provide a proper basis for the formulation of government policy in relation to science and technology in Canada; and
- 8. the best means of developing and maintaining cooperation and the exchange of information between the council and other public or private organizations concerned with the scientific, technological, economic or social aspects of life in Canada.

The *Science Council of Canada Act* was amended in 1978 to add a further responsibility with respect to public awareness of science and technology, and of the interdependence of the public, governments, industries and universities in the development and use of science and technology.<sup>28</sup>

Research in any established scientific discipline was never an objective of the Science Council. (The National Research Council is an example of a government agency carrying out substantive scientific research.) The function of the Science Council consisted in doing science *policy* research, i.e., research intended to explore policy options concerning the development and utilization of science and technology in Canada. For example, the Council's study on genetic predispositions to disease did not contribute new knowledge about genetics nor did it help in developing new medical technologies; rather it was concerned with the importance given to these questions in the curriculum of medical schools, the economic impact of further investment in this area, the ethical and legal aspects, etc.<sup>29</sup> The difference between these two activities is perfectly rational. However, it proved to be a source of ambiguity that made it a little harder for the Science Council to gain acceptance in the bureaucratic environment or to build a constituency outside of it. Even the members of the Council who, for the most part, were practicing scientists or engineers rather than policy analysts, felt unsure about its mandate. This situation was not helped by the fact that science policy is a more unfamiliar concept than, say, economic policy and is not a matter of urgent concern to most Canadians.

Science Council of Canada, First Annual Report (Ottawa: Queen's Printer, 1967), 26; cited in G.B. Doern, "The Role of Central Advisory Councils: The Science Council of Canada," in G.B. Doern and P. Aucoin, eds., The Structures of Policy-Making in Canada (Toronto: Macmillan, 1971), 247; and Annual Review, 1982 (Ottawa: Supply and Services, 1982), 17.

See Science Council of Canada, Genetics in Canadian Health Care Report no. 42 (Ottawa: Supply and Services, 1991).

When it was first established, the Science Council reported to the Prime Minister via the Science Secretariat; the latter had been created in 1964, upon the recommendations of the Royal Commission on Government Organization (Glassco Commission), and it was located within the Privy Council Office (PCO). Thus the relatively marginal nature of the Science Council's activities was balanced by its strategic place in the policy-making system: it was in a position to give confidential advice to cabinet on science related topics. This original arrangement, however, was not entirely satisfactory. As G.B. Doern explains,

This relationship created many difficulties, not the least of which was the strain and ambivalence which the confidential and secretive PCO environment placed on a supposedly open and public body such as the Science Council was intended to be. The relationship also often meant that the Science Secretariat would be called upon to evaluate Science Council recommendations, recommendations which Science Secretariat personnel had already helped to formulate.<sup>30</sup>

The Council acquired more independence in 1968 when it was made an autonomous body with its own staff support. It was established as a departmental corporation. After the creation of the Ministry of State for Science and Technology (MOSST) in 1971, a measure that the Council itself had recommended, it reported to Parliament through the minister in charge of MOSST.<sup>31</sup> (After that ministry had been eliminated, the Science Council reported through the Minister for Science.) This created a difficult dynamics. According to Ray W. Jackson,

A difficult choice presented itself. The Council could remain internally oriented, and quite possibly be ignored, or it could do its studies and reach its conclusions in public, so that it could be seen to be advising and its ideas could be publicly seen to have merit....The public mode was the one chosen by its first chairman, Omond Solandt.<sup>32</sup>

The Science Council was not well prepared to take advantage of this strategy.

Commenting on these early years, G.B. Doern noted that it was "operating in an intensely

<sup>&</sup>lt;sup>30</sup> Ibid., 248.

<sup>&</sup>lt;sup>31</sup>However, Dr. Stuart Smith, when he was still Chairman of the Council, told me in an interview (April 1986), that relationships between the Council and MOSST were often conflictual. Considering the nature of thei respective mandates, these two organizations were bound to be rival. He added, though, that this was a pathetic situation. The resources for which these two organizations were competing were far too limited for them to engage in this kind of bureaucratic politics.

Ray W. Jackson, "The Lure of Power," *Policy Options* 6, no. 9 (1985), 33.

political environment but its own political skills and strategies regarding [the question of how to function as a public forum] seem[ed] to be undeveloped."<sup>33</sup> As Jackson explains, it failed to realize early enough the difference between authoritative advice given in confidence and recommendations expressed publicly. Since most of these recommendations involve some degree of criticism of government policies, "[i]t is hardly surprising that the reactions of the bureaucrats and politicians ranged from annoyance, to ignoring or belittling the work of the Council, to outright animosity."<sup>34</sup> Over the years the Council learned to mplay the political game but it seems to have been a case of "too little too late."

The Council was composed of twenty-eight (originally twenty-three) part-time members appointed by the Governor-in-Council for a three-year term, a Vice-Chairman and a Chairman who served for five years. In 1989, the membership included 14 academics (52% of the members), 12 individuals (44%) who came from the private sector (e.g., corporate executives, consulting engineers, etc.), and one public servant (4%); (due to the rotation of appointments, one position was temporarily vacant). This snapshot is not necessarily representative of the membership over the years. The size of the academic contingent varied from year to year. For instance, in 1987, the proportion of academics stood at 70%, but it dipped down to 45% in 1981. The representation from the private sector was somewhat more stable: 30% in 1987 but 41% in 1981. The composition of the remainder changed over the years: museums officials, deputy ministers, and so on.

The first four chairmen, namely, Dr. O.M. Solandt (1966-71), Dr. Roger Gaudry (1971-75), Dr. Josef Kates (1975-78), and Dr. Claude Fortier (1978-81) were only part-time officers. This placed the council in a position of relative weakness in the bureaucratic system. Dr. Stuart Smith, a psychiatrist and former leader of the provincial Liberal party in Ontario, became the first full-time Chairman in December 1981. Dr. Geraldine A. Kenney-Wallace, a physicist, succeeded him in October 1987, but she did not complete her mandate. Mrs Janet E. Halliwell was appointed in 1990 to replace her.

Doern, "The Role of Central Advisory Councils," 264.

Jackson, "The Lure," 33.

Dr. Kenney-Wallace left the SCC to become President of McMaster University.

The staff, numbering twenty nine in 1990-91 including less than a dozen policy analysts, was headed by two Directors (one for Policy Analysis, and one for Programmes). The number of person-year in 1985-86 had stood at 67, but "severe and unjustified" budget cuts were forced upon the Science Council in the fiscal year 1986-87 when its budget was cut almost in half, from \$4.7 million to just under \$2.6 million. The budgetary situation of the Council improved modestly in the late 1980s but never returned to the pre-1987 level.

An attractive feature of the Science Council was the multidisciplinary nature of its research personnel. Practically all the disciplines that are relevant to policy research had been represented, at one time or another. Some researchers who had a background in the natural sciences were included but social scientists formed a clear majority. This created occasional tensions between the Council and its staff, for they shared neither the same vocabulary nor the same outlook on science and technology. The difference between the Science Council and the Economic Council in this respect was evident. While economists and business people cannot be expected to agree on everything, they share many assumptions and concepts. Engineers and scientists have far less in common with social scientists trained in the policy sciences. It was the Chairman's role and that of the Council's senior executives to act as bridges between these two camps. Usually, the adjustment between staff personnel and council members took place in one of the committees in charge of a given project. Dr. S. Smith insisted that there be unanimity on every project among researchers, the council member(s) involved and the Director of Research (later re-designated as Director for Policy Analysis). This remained the practice under his successors.

The Science Council covered a wide range of topics. This made it difficult for the Council to position itself among the various policy communities that were its potential audience. The constituencies that were the objects of its attention at one point in time, and with which it could have established lasting contacts, lost interest in the Council kept on moving in different directions. In the early 1970s, for example, the Council studied urban development and wildlife resource policies but never returned to these topics. It produced an original report on

Science Council of Canada, Annual Report, 1985-86 (Ottawa: Supply and Services, 1986), 3; see also "Layoffs, Projects Cuts Rile Head of Science Council," Vancouver Sun, 8 August 1985, A11, and "Science Council Slashed," Globe & Mail, 9 August 1985, front p.

Interview, April 1986.

conservation and new technologies<sup>38</sup> and aroused the interest of those who advocate a radical move toward "adequate technologies," only to move on to other concerns, e.g., post-secondary education. (The Council's later endorsement of food irradiation technology<sup>39</sup> probably did nothing to endear it to that same constituency.) The once-held colloquium on the social sciences sponsored by the Council is another case in point.<sup>40</sup>

The Council's fuzzy identity must be included among the factors explaining the relative indifference that greeted the announcement of its closure. This is not to say that no negative reaction occurred<sup>41</sup> but typically editorials and newspaper articles devoted far more attention to the disappearance of the Economic Council than to that of the Science Council. As for the scientific community, it was more directly concerned with the fate and the budgetary allocations of the granting councils (the National Science and Engineering Research Council in particular remained untouched) than with the Science Council. Even Dr. Solandt, the Council's first Chairman, was reported as saying that over the years it had become "just another think tank," adding that "we lost the rudder, that's true, but maybe it wasn't a very good rudder anymore."<sup>42</sup> As the saying goes: With friends like this, who needs enemies?

Another possible intervening factor was that it was stated at that time that the Council's advisory function would continue to be performed by the National Advisory Board on Science and Technology (NABST). These two organizations, at first sight, appeared to have overlapping mandates. The members of the NABST, and of its successor, the Advisory Council on Science and Technology (ACST), however, enjoy less independence than did the members of the SCC and lack the support of a comparable research staff.

See Science Council of Canada, Canada as a Conserver Society: An Agenda for Action (Ottawa:

Information Canada, 1976).

See Food Irradiation: Prospects for Canadian Technology Development A Statement by the Science Council of Canada (Ottawa: Supply and Services, 1987).

See Science Council of Canada, *Social Science Research in Canada: Stagnation or Regeneration* (Ottawa: Supply and Services, 1985).

<sup>&</sup>lt;sup>41</sup>Professor John Polanyi, Nobel Prize winner in chemistry, expressed strong criticisms of the government's action. And Howard Tennant, the then president of the University of Lethbridge, requested a meeting with Mr Mazankowski to urge him to reconsider his decision to close the SCC (*Lethbridge Herald* 28 February 1992, A1).

<sup>&</sup>lt;sup>42</sup>Cited in Kelly Egan, "Science Council Was Far Ahead of its Time," *The Ottawa Citizen* 8 March 1992.

# II. The Evolution of Policy Research Agendas

The research produced by the Economic Council offers an interesting window on the evolution of economic policy analysis in Canada. I intend to show how the Council gradually moved from a lukewarm but real commitment to long term economic planning in the 1960s and early 1970s to a more resolute advocacy of market-oriented approaches in later years. The Science Council, by contrast, was always more interventionist—indeed its mandate pre-supposed the validity of the market failure paradigm. Its demise at the hand of a government that had turned away from the market failure model was not very surprising.

The Economic Council's Contribution to Policy Research: An Overview

The publications of the Economic Council fell under five categories. First, one of its statutory obligations was to produce an *Annual Review*. It used to be released in September, that is, before the traditional date of the Budget Speech in order to give government a chance to consider the Council's policy recommendations, and to provide the attentive public with the information needed to evaluate the government's stated economic objectives. Although the Council's mandate was to analyze the medium and long term prospects of the economy, its annual reviews often dealt with more immediate concerns.

Council Reports on specific topics were also issued frequently. As a rule, the topic was selected by the Economic Council itself; more rarely, the federal government requests a study of a controversial or complex policy area, such as government regulation as it was decided at a First Ministers conference in February 1978, resulting in the often cited report entitled Reforming Regulation (1981). The Council assumed responsibility for the Annual Reviews and the Council Reports. Under the first two chairmen, this meant that a complete consensus existed among the Council's members, but after 1978 dissenting comments were added when necessary. Research Studies, Discussion Papers and Conference Proceedings were documents attributed to individual authors and did not engage the responsibility of the Council.

With the exception of authored *Discussion Papers* that were available only in the language of preparation, all Economic Council publications, including the magazine *Au Courant*, were printed in both official languages. This enhanced the visibility of the Council in Quebec where it was probably the best known Canadian policy research organization.

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TABLE 3.1 ABOUT HERE

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The scope of the Economic Council's interests and concerns was impressive. An analysis of its output supports the impression held by a majority of academic policy researchers in the 1980s that no competing policy research organization had a broader research programme.<sup>43</sup> The breakdown of the Council's publication list given in Table 3.1 shows that it had either initiated or sponsored studies ranging from highly theoretical problems to quite specific policy issues, e.g., mortgage finance. Also, the research effort was well balanced: no category accounts for more than 12 percent of the total number of citations. (Of course, this is due in part to the somewhat arbitrary choice of categories, and to the inevitably subjective way in which I classified the publication titles; nevertheless, it should be obvious that the Economic Council avoided putting all its eggs in the same basket.)

The relatively limited number of purely theoretical or highly abstract reports would seem to belie some critics' arguments that the Council produced too many technical studies read only by professional economists. But the very presence of this category in the typology is noteworthy. Private sector think tanks publish far fewer.

That many publications dealt with the medium or long term economic horizon is not surprising. This was consistent with the Council's mandate. The Council always respected both the letter and the spirit of the *Economic Council Act*. But more immediately pressing issues were addressed from time to time, such as the extent to which the government should attempt to control or reduce its budgetary deficit.

It is difficult to fault the Council for obvious or systematic bias. And examples of apparent bias go against the conventional wisdom. For instance, the Council produced more studies of the Newfoundland economy than of the Ontario economy. (Admittedly, many studies not explicitly concerned with Ontario deal at length with economic sectors that are essential to the economic well-being of that province.) Similarly, the western provinces are the subject of a fair number of studies and reports. Or, to choose another sensitive topic, the place of women in

This assertion is based on the results of a survey conducted in the Spring of 1985. Five hundred questionnaires were mailed to named individuals and/or to the Chairmen of Political Science, Economics and Public Administration departments/schools, with a request that these be communicated to those involved in policy research. One hundred and five answers were received.

the Canadian economy was not ignored.<sup>44</sup> Moreover, under Judith Maxwell's leadership, the research output increased in quantitative terms, and became more varied in qualitative terms.

Nevertheless, there were some noticeable gaps in the research output of the Council. The attention granted to savings and investment, that is, from a perhaps crude class perspective, matters bearing directly on the interests of middle and upper income earners, outweighed the resources devoted to the study of poverty. The small number of studies dealing exclusively with the latter did not even warrant the definition of a separate category; they are subsumed under the rubrics "incomes" and "income support programmes," accounting respectively for 4.93% and 1.85% of all titles. Yet poverty in Canada was identified as a serious problem in three consecutive *Annual Reviews*, i.e., 1968, 1969 and 1970, all of which were prepared when Dr. Smith was Chairman. 45 "As a result of the Council's studies in the poverty area," noted R.W. Phidd, "the Senate established a committee which published a report entitled *Poverty in Canada*." But, after having initiated the debate, the Council did not return to it until the very final year of its existence when it revisited the issue *in extremis*, as it were. The unpublished 1992 *Annual Review* would have dealt with this issue, as I indicated already. 47

Only about one percent of the titles could be regarded as being primarily concerned with ecological issues, even though many economic activities affect various ecosystems and, in turn, are influenced by natural cycles. In absolute numbers, however, the Economic Council's output on environment related topics was far from negligible.

It could be retorted that these critical observations reflect a misunderstanding of the mandate of the Economic Council, and of economic policy research in general. Poverty is not so much an economic problem as it is a social and moral issue. What economists can do about it is

For example, the following studies were published in the 1980s: Daniel Boothy, Women Reentering the Labour Force and Training Programs: Evidence from Canada (EC22-129/1986E9), Jac-Andre Boulet and Laval Lavallee, The Changing Economic Status of Women (EC22-122/1984E), A.Breton, Marriage, Population, and the Labour Force Participation of Women (EC22-117/1984E), Toward Equity--Proceedings of a Colloquium on the Economic Status of Women in the Labour Market (EC22-126/1985E), Eden Cloutier, Taxes and the Labour Supply of Married Women in Canada (Discussion Paper no. 305), J.A. Alexander, Equal-Pay-for-Equal-Work Legislation in Canada (Discussion Paper no. 252), J.-A. Boulet and L. Lavallee, Women and the Labour Market: An Analytical Framework (Discussion Paper no. 207), M.Boyd and E. Humphreys, Labour Markets and Sex Differences in Canadian Incomes (Discussion Paper no. 143).

See R.W. Phidd, "The Economic Council of Canada": 465.

<sup>46</sup> Ibid.

<sup>&</sup>lt;sup>47</sup> In addition to this unpublised *Review*, the Council managed to publish *The New Face of Poverty: Income Secutity Needs of Canadian Families* (Ottawa: Supply and Service, 1992) which received a substantial press coverage when it was released.

to suggest ways of accelerating economic growth, and to achieve full, or near-full employment; there is no doubt that these matters are addressed and dealt with at great length by the Council (see Table 3.1). The social aspects of poverty are more adequately being studied by other bodies, such as the National Council of Welfare. As for environmental issues, they only become an economic problem when they have a noticeable impact on the price structure. Again, other agencies are more competent to deal with pollution, ecosystems and related topics.

Yet, if policy issues form a seamless web of interdependencies within an increasingly complex environment, the Economic Council's rather literal reading of its mandate prevented it from fulfilling its mission as a public institution. The last Chair understood that the ECC had to overcome the constraints inherent in the economists' worldview. However, the change of direction for which she was responsible possibly came too late to generate the kind of political support the Council would have needed. Or perhaps it was too modest. For example, the Council took the initiative to organize a colloquium in December 1985 where economists and non-economists discussed a wide range of environmental issues. According to one critic, however, this very initiative illustrated the Council's inability to deal seriously with environmental economics by doing more than simply asking experts to restate what every one interested in environmental issues should know already; A.D. Scott pointedly asked: "Why does not the Economic Council devote its funds to [probing beyond published research], instead of organizing a session where eminent people can talk to those who, apparently, will not read?"48 Also the 26th Annual Review, entitled Legacies, singled out environmental issues as one of the concerns that Canadian policy-makers should address now in order to prevent a possible decline in the welfare of future generations. But this report was rather long on platitudes and short on specifics, especially as far as environmental issues are concerned.

Contrary to the Science Council, the Economic Council argued on many occasions against an interventionist industrial policy. To choose not to pursue a course of action is in itself a policy of sort; it is definitely that kind of policy by default that the Council advocated. It consistently supported trade liberalization, if possible on a world-wide basis but, as a matter of priority, with the United States. The rationale was that competitive pressures bring about greater economic benefits than would governmental intervention. As mainstream economists are fond of repeating, the discipline of the (international) market should improve productivity, efficiency

A.D. Scott's review of Managing the Legacy. Proceedings of a Colloquium on the Environment, December 1985 in Canadian Public Policy XIII, no. 1 (1987): 118.

and innovation. Governments, on the other hand, are likely to pursue politically motivated goals that will result in failures sooner or later, as in the case of the federal government half-hearted and eventually unsuccessful attempts at propping up airplane manufacturers like de Havilland. In the 1980s, the Council conceded that point, although it did so in a more measured tone than that of the Fraser Institute.

Weakest Link (1978) by the Science Council, the lines between the proponents and opponents of free trade were drawn. The Economic Council suggested that "the increase in productivity which free trade would bring would reach at least 5% of GNP, perhaps more." Canada's weak performance in exporting manufactured end-products and the broader issue of "technological sovereignty" motivate the Science Council's interventionist approach. As mentioned already, the Economic Council had inched its way toward the latter position. In *The Bottom Line* (1983), it acknowledged that "on balance, it appears that Canadian R&D [i.e., Research and Development] spending levels may be too low." This may mean, among other consequences, that

Subsidy programs to foster innovation have a legitimate place in the government tool box of measures designed to influence the economy in desirable directions. Like other tools, however, their efficacy depends entirely upon how judiciously and effectively they are employed. It is apparent that there is a good deal of scope for improvement.<sup>51</sup>

In other words, the Council was not categorically opposed to the implementation of programmes that could stimulate innovation in manufacturing and other sectors. Yet it avoided using the phrase "industrial policy," and went on to argue in the second part of the report that Canada's most advantageous policy would be to continue to press for reductions in trade barriers within the framework of the (since then re-drawn) General Agreement on Tariffs and Trade (GATT). The Economic Council also published a study by R.A. Matthews that identified

Economic Council of Canada, Looking Outward: A New Trade Strategy for Canada (Ottwa: Information Canada, 1975), 9O, cited in A. Blais, "The Debate on Canadian Industrial Policy," in A. Blais, ed., Canadian Industrial Policy, 59.

Economic Council of Canada, *The Bottom Line: Technology, Trade and Income Growth* (Ottawa: Canadian Government Publishing Centre, 1983), 48.

<sup>&</sup>lt;sup>51</sup> Ibid., 77.

the manufacturing sector as a target for an industrial policy.<sup>52</sup> But this did not necessarily reflect the views of the Council itself.

So far, the emphasis has been placed on some of the most obvious gaps in what was an otherwise comprehensive and rather well balanced research and publication programme. What follows is more concerned with the content of that programme.

The Economic Council Outlook: From Long Term Planning to Laissez-Faire—Well, Almost The themes raised in the Annual Reviews have changed as a result of a variety of factors including the preferences of the Council's chairmen, the domestic economy, and international influences. One can also discern interesting shifts in the theoretical and practical concerns of professional economists.

Employment and human resources have always been significant preoccupations of the Economic Council. For example, the first and second reviews paid considerable attention to the issue of full employment and to the means of achieving it (e.g., education); the eighth review dealt with the structure of the job market and manpower training (to use the vocabulary of the times). Paradoxically, however, this theme became less central in the 1980s when unemployment worsened. Employment continued to be an important theme, but it was more typically discussed in relation to other dimensions of economic policy, namely, free trade, the budgetary deficit, investment, productivity, inflation, and so on. Thus the Nineteenth Annual Review, Lean Times —Policies and Constraints (1982) gives the impression that the Council was rather more preoccupied with inflation than with unemployment. The Twenty Fourth Annual Review, Reaching Outwards (1987), strongly endorsed the idea of "reaching out to new markets" by entering into a comprehensive free trade agreement with the United States. With this Review, the Council signalled that it was aware of the complexity of the new global environment within which the Canadian economy operates. In such an environment, the single-minded pursuit of an isolated objective (e.g., full employment) risks to bring about unexpected, and potentially damaging, consequences. But it was bitterly criticized by several dissenting Council members for

See R.A. Matthews, *Structural Change and Industrial Policy* (Ottawa: Canadian Government Publishing Centre, 1985); the author, however, takes care to point out that there is a "widespread tendency to exaggerate the importance of industrialization relative to other forms of development," 127.

endorsing a policy option that could not, in their opinion, significantly improve Canada's unemployment situation.

This shift reflected a change in the value system of the present generation of economists who, contrary to those of John Deutsch's generation, have not experienced the Great Depression and are perhpaps more condescending in their views about unemployed people. <sup>53</sup> The Council stated in its Fifteenth Annual Review, *A Time for Reason* (1978), that the unemployment rate does not today "portray the same economically, socially, or politically trying conditions that prevailed when a family's sole income earner was out of work in the 1930s," <sup>54</sup> thus implying that it is not really an indicator of financial hardship. This is true to an extent, perhaps even a considerable extent. Should the misery of a bygone era, however, stand as the best definition of financial hardship? Beginning with the Twenty Seventh Annual Review, *Transitions for the 90s* (1990), the seriousness of the problems posed at that time by the persistence of unemployment was acknowledged, and full employment was placed on the agenda again, albeit somewhat timidly.

Not surprisingly, inflation and energy are two themes that reoccur often in the reviews issued in the late 1970s and early 1980s. The Council made a rather positive assessment of the Anti-Inflation programme of 1975, stating that it "helped to prevent certain groups that exercise market power—often in the public sector—from successfully pressing exorbitant demands, which burden consumers with either higher prices or taxes." In the early 1980s, the Council anticipated that inflation would remain a serious problem throughout much of the decade and, consequently, recommended that the government continue its anti-inflationary stance, including the policy of expenditure restraint. One also finds in almost all reviews a ritualistic call for consultation with business and labour in order to monitor wages and prices.

The Council also supported the federal government's policy objective of maintaining the domestic price of oil below the international level, although it did not always approve of the chosen margin of difference.<sup>56</sup> On the subject of the National Energy Programme, however, the Council was more critical. While the Nineteenth Annual Review (1982) did not contain any

See [article (title?) in *Policy Options*].

Economic Council of Canada, A Time for Reason (Ottawa: Supply & Services, 1978), 83.

Economic Council of Canada, *Into the 1980s*, Fourteenth Annual Review (Ottawa: Canadian Government Publishing Centre, 1978), 19.

See the 16th Annual Review (1979), and the 17th Annual Review (1980).

ringing condemnation of the Liberal government's energy policy, it affirmed the principle that government interference with the rules of the market have destabilizing effects.

On the subject of the budgetary deficit, the Economic Council was careful in the early 1980s not to insist on immediate corrective measures when even more serious problems needed to be tackled. Also, it refrained from singling out increased government expenditures as the sole cause of the deficit; in the Twenty First Annual Review *Steering the Course* (1984), the Council placed much of the blame on the federal and provincial governments' propensity to reduce taxes in a variety of ways. (However, it had itself recommended a tax cut in its 14th Annual Review [1977]). But as off the late 1980s, the Council became more insistent about the need to put Canada's public finance in order. It recommended spending cuts or, at a minimum, firmness in resisting pressures to increase spending.<sup>57</sup> Had the Council continued to operate after 1992, it is most likely that it would have continued to stress fiscal priorities.

Competitiveness—including the issue of the declining productivity of the national economy—and trade were the dominant themes of the twenty second (1985) and twenty third (1986) reviews. Like almost everyone else, the Economic Council stressed the need to adjust to a changing technological and international environment. This means, in particular, that government ought to play a less active role, concentrating instead on ways of creating a more favourable climate for free enterprise as the way to bring about more investment and rising personal incomes. In earlier reviews, the Council already had addressed the attendant problems caused by costly social programmes. Without going as far as recommending a move away from universality in the coverage of medical costs, it suggested a tightening of Unemployment Insurance. That programme was criticized for not being more closely connected to job training and labour re-allocation programmes (see the 20th Annual Review). Competitiveness also requires a stronger economic union, a theme that the Council picked up in its Twenty Eighth Annual Review A Joint Venture—The Economics of Constitutional Options (1991). In this controversial report the Council tried to avoid taking side in the constitutional debate: it took the view that a strong economic union can be achieved, at least in principle, either through centralized or decentralized mechanisms for delivering social programmes. (It acknowledged though that the Atlantic provinces have much to loose from a shift toward a more decentralized regime.)

In the 26th Annual Review, Diane Bellemare and Marcel Pepin registered their dissent concerning the suggested attack on the deficit, arguing instead that a radical change in the direction of Canada's monetary policy was needed.

As mentioned already, dissenting comments were included after 1978. Since then, they appeared in many reviews. They were typically expressed by members who were not closely associated with the corporate sector, and who tended to be sceptical about the virtues of the market economy. Most of these interventions present the case for a more resolute effort on the part of government to reduce unemployment in Canada.

An analysis of the *Annual Reviews* is not sufficient for gaining an understanding of how the Economic Council fulfilled its mandate. What follows is a brief discussion of the most salient points in a selection of *Council Reports*.

Reforming Regulation (1981), a long and comprehensive report, must be read in conjunction with the fifty four working papers and technical papers that were prepared as a result of the regulation reference of 1978. It looked at government regulation in a variety of sectors, from the airline industry to agricultural marketing boards to environmental pollution. The Council adopted a qualified pro-market stance: "while we recognize the need for regulation, our approach is to favour individual choice and non-coercive exchanges that are a part of the market process."58 It recommended, for example, that increased competition be allowed in the transportation sector. In particular, it called for a move toward "total economic deregulation of Canada's air transportation industry" over a period of four years.<sup>59</sup> The Council seemed to accept regulation where it eases conflicts and facilitates the functioning of the market system; but it was opposed to regulatory schemes aimed at redistributing income, arguing that such measures inhibit efficiency. Thus it had no objection to the operations of marketing boards that are "principally aimed at establishing countervailing powers for farmers [e.g., the Canadian Wheat Board]."60 However, it did not favour the continuation of supply management boards that set prices and determine quotas.

Professor Harry W. Arthur expressed strong reservations about the Council's approach which he characterized as being akin to "according the market mechanisms the benefit of the doubt." He articulated a more collectivist vision in the following terms:

At the root of my discontent, perhaps, is my own preference for a vocabulary of analysis and a system of social priorities that differ from those of the Report. Where

<sup>58</sup> Economic Council of Canada, Reforming Regulation (Ottawa: Canadian Government Publishing Centre, 1981), 10.

<sup>59</sup> See ibid., 33-36.

Ibid., 65.

the Report seeks to translate common property in fish or the environment into marketable private rights, in order to maximize rents, I would prefer to give more careful consideration to the disruption of a traditional way of life or the dangers to future generations.<sup>61</sup>

A measure of the Council's paradigmatic shift in the space of a decade or two is that Professor Arthur's criticism of a greater reliance on property rights would have sounded reasonable criticism when the Council was founded but by 1981, they had become a minority view.

Financing Confederation (1982) was the result of an in-depth inquiry into the vast array of financial arrangements in place between Ottawa and the provinces under the Fiscal Arrangements Act; at that time, these programmes accounted for seventy five percent of all federal-provincial transfers. In view of the extraordinarily complicated nature of fiscal federalism, the Council's stated intention of promoting an understanding of these arrangements deserved praise. Unfortunately, the terminology of economic analysis prevented the Council from making much progress toward achieving that goal.

The Economic Council endorsed the principle behind Equalization Payments, but suggested some improvements. Natural resources revenues should be treated hypothetically as personal income on which provincial residents would pay taxes, the yield of which would be equalized. This would ensure that provincial revenues would be treated in a more uniform manner and, at least when the report was issued, it would have allowed the resource-rich provinces to retain a greater proportion of the resource rent.

Fatefully perhaps, because many commentators have linked the demise of the Council to that decision, it returned to the constitutional field in its last *Annual Review*. This was a timely report that exemplified Mrs Maxwell's willingness to tackle relevant issues. Unfortunately, this effort also reflected the weakness inherent in practically all such attempts on the part of the Council, namely its inability to put strictly economic considerations in a broader context which is sensitive to the immense complexity of policy-making. One confusing aspect of that complexity is that policy-making is concerned with problems that are constructed by the members of various policy communities as they debate issues. National unity, in particular, does not constitute a strictly objective reality. Who says what about Quebec's relationship with the rest of Canada partly determines how Quebec actually fits within the federal system. By stating that

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<sup>&</sup>lt;sup>61</sup> Ibid., 142.

sovereignty-association was one of several options, and by further asserting that such an option might prove beneficial to Canada and not exaggeratedly costly for Quebec,<sup>62</sup> the Council appeared to contradict the long-standing position of the federal government. Even if, in one sense, it might have been a well reasoned and objective statement, it was not the kind of statement that one would normally expect from a federal agency. It served, however marginally, to legitimize the position of the sovereignists.

On the delicate subject of the Established Programmes Financing arrangements, the Economic Council recommended that Ottawa carefully monitors provincial expenditures on health and post-secondary education. It supported the idea of making the cash-transfer portion of the EPF grant conditional on the provinces maintaining national objectives in the delivery of health services, but not in the case of education—except when it comes to discriminating against students from other parts of Canada.

As far as tax collection agreements are concerned, the Economic Council was very critical of provincial practices such as preferential tax treatment for the purpose of attracting investment, but stopped short of recommending that the federal government preempt the corporate income tax. Mr Pierre Lortie's dissenting comments reiterated Quebec's traditional defence of provincial autonomy in fiscal matters.

In Short Supply: Jobs and Skills in the 1980s (1982) attested to the persistence of the Economic Council's commitment to the goal of full employment even if, as noted above, this commitment began to weaken around that time. (On the other hand, Robert Campbell, in a study prepared for the Council, but which did not engage its responsibility, had argued that Canada never fully endorsed the objective of full employment; in other words, the Council's somewhat ambivalent attitude toward this problem is only a manifestation of a wider phenomenon, i.e., the decreasing "policy resonance" [Campbell's phrase] of unemployment in Canada over the years.) Its recommendations concerning a renewed effort toward the improved vocational skill development programmes, better information about the labour market, and job-creation are reasonable, although not particularly original; perhaps the most creative suggestion

<sup>&</sup>lt;sup>62</sup>Economic Council of Canada, A Joint Venture: The Economics of Constitutional Options-SUMMARY (Ottawa: Supply and Service, 1991), 22.

Canada's commitment to full employment in 1945 was only "restrained" and we have not shown the same political will as Sweden to keep full employment at the top of the policy agenda. See Robert M. Campbell, *The Full Employment Objective in Canada, 1945-85* (Ottawa: Supply and Services, 1991).

was that the federal government should offer direct cash wage subsidies to private employers for the purpose of job creation.

Beginning in the late 1980s, the Economic Council began to look at unemployment as a multi-dimensional problem for which there is no simple or instantaneous fix. The Unemployment Issues Group assisted the Council in preparing the 25th Annual Review *Back to Basics* (1988), the 27th Annual Review, and the Council Reports *Good Jobs, Bad Jobs* (1990) and *Employment in the Services* (1991). It explored unemployment from historical, demographic and political perspectives, as well as from the standpoint of cyclical and structural theories. <sup>64</sup> In *Good Jobs, Bad Jobs* and in *Employment in the Services* the Council did not jump from the observation that there are a growing number of poor paying jobs with very little security (i.e., "bad jobs") in the service sector to the conclusion that the shift toward a service economy must be resisted by implementing a vigorous industrial policy. But it did not advocate complete laissez-faire either. It recommended that education and training receive renewed attention and move up on the priority scale.

More controversial was the report on public enterprises entitled *Minding the Public's Business* (1986). The tone of this carefully written report is markedly sceptical about the merits of government intervention in the management of the economy. Upon embarking in this inquiry, the Council claimed that its purpose was not to "develop a list of candidates for divestiture [but rather to examine government enterprise] within a broad framework where appropriate consideration can be given to pressures on government, and to the available policy alternatives." In the end, the Council devoted more attention to these alternatives than to the accomplishments of public enterprise. Thus it advocated ending government monopolies in telephone services, and intimated that the Prairie provinces should consider "the possibilities for divestiture of the competitive activities of their telephone company." It also recommended that urban transit systems be contracted out to private firms and that the public ownership of railway and airline companies come to an end. Similarly, Petro-Canada should be privatized. Etc.

Diane Bellemare (Department of Economics, University of Quebec in Montreal), Pierre Fortin (Department of Economics, Laval University) and Kalman Kaplansky (Human Rights

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See Surendra Gera, ed., Canadian Unemployment: Lessons from the 80s and Challenges for the 90s (Ottawa: Supply and Service, 1991).

Economic Council of Canada, *Minding the Public Business* (Ottawa: Canadian Government Publishing Centre, 1986), 3.

<sup>66</sup> Ibid., 45.

Centre, University of Ottawa) collectively issued a strongly worded statement of dissent. They argued that public policy is often aimed at goals that cannot be quantified—goals such as equity, national integration, economic security and the protection of cultural values. In attempting to base its recommendations on "objective" evidence, the Economic Council downplayed the importance of these important dimensions of public policy. But, far from being indisputable, "the conclusions opted for by the Economic Council emerged from narrowly based economic analysis and trendy neo-conservative views." There is no compelling argument, in their opinion, for a broad scale privatization policy. What these dissenters did not clearly establish, however, is that the worthy policy goals that Crown Corporations were supposed to achieve have been vigorously pursued in fact. There are cases in which it would appear that, at the very least, these goals have been reinterpreted in ways that serve the interests of the corporation but not necessarily the common good (e.g., Atomic Energy Canada Ltd. Nor did the dissenters take into consideration the possibility that the policy goal has been reached and that, therefore, public ownership, while useful at some point in the past, is no longer justifiable, as in the case of Air Canada.

Road Map for Tax Reform (1986) addressed a still topical issue. It focused on the taxation of savings and investment but it also made recommendations about ways to reform of the entire tax system. However, it remained silent about the contribution that tax reform could make to reducing the budgetary deficit or to the redistribution of income. The report described the then existing taxation arrangements as "a barrier to efficiency and to higher standards of living because they needlessly distort decisions by investors, savers, consumers, and producers." Thus the Council proposed to "broaden tax bases, lower statutory tax rates, tax real rather than inflated income, tax equals equally, and move the focus of the personal income tax towards a lifetime-income basis." Some of these recommendations have been acted upon but certainly not the last one.

67

70 Ibid.

<sup>67</sup> Ibid., 147.

In a study prepared for the ECC, George Lermer has shown that the export of the CANDU nuclear reactor had not been profitable and future prospects were less than encouraging, a diagnosis that we have no reason to modify today. See George Lermer, *Atomic Energy Canada Ltimited: The Crown Corporation as Strategist in an Entrepreneurial, Global-Scale Industry* (Ottawa: Supply and Services, 1987).

Economic Council of Canada, Road Map to Tax Reform: The Taxation of Savings and Investments (Ottawa: Canadian Government Publishing Centre, 1986), 1.

The lifetime-income tax is predicated on the notion that only income that is spent should be taxed. By putting a relatively high proportion of their income into registered savings, Canadian taxpayers could average their taxes over their lifetime, deferring a corresponding fraction of their actual payment until that time when their assets are liquidated. At a minimum, this would entail a restructuring of existing Registered Retiring Savings Plans.

The report also dealt with the corporate income tax; it recommends broadening the tax base and lowering the rate. It also favoured replacing the then current manufacturers' sales tax by a value added tax. (The replacement of the manufacturers' sales tax by the Goods and Services Tax [GST] has gone some distance toward that goal.) Finally, it proposed eliminating federal incentives and tax breaks in the natural resources sector.

Five members of the Council dissented, and four of them—Diane Bellemare, Chaviva Hosek, Kalman Kaplansky and Raymond Koskie—took issue with the philosophy of the report. They did not endorse the premise that the redistributive function of the tax system can be ignored for the purpose of improving its efficiency. They rejected the concept of a lifetime-income tax, arguing that it would benefit only higher income earners. Raymond Koskie also criticized the recommended lowering of the corporate income tax rate, suggesting that the broader tax base would yield additional revenues that could be used to "reduce the tax burden on ordinary Canadians."<sup>71</sup>

The Economic Council's extensive research project on taxation was not always supportive of the federal government's objectives. For example, a brief submitted by the Council to the House of Commons Finance Committee on 31 August 1987 dealt a blow to the Mulroney government's argument that its reform proposals would produce a "fairer" system that would reduce taxes for the "majority" of taxpayers. On the contrary, the Council found that when the calculations of the probable impact are made using employable Canadians as a reference rather than specific categories of (employed) taxpayers, as the Department of Finance had done, the majority of employable Canadians (54.7 percent) would pay more income tax. On the other hand, "[t]he winners from the tax reform exercise are middle-income groups earning \$17,000 to \$37,000 annually." On the subject of the GST, the Council made two presentations to the Finance Committee, arguing in favour of a broader tax base and a lower rate, because the GST's negative impact would be significantly less with a lower rate; this intervention was probably

<sup>&</sup>lt;sup>71</sup> Ibid., 33.

Cited by Marjorie Nichols, *Vancouver Sun* (1 September 1987): A8.

taken seriously into account by the government when it lowered the rate from the proposed 9% to 7%.

From the Bottom Up: The Community Economic-Development Approach (1990) signaled an interesting change of orientation. Although the community economic-development paradigm is not necessarily opposed to a market approach—in fact, this report argued that it is not—it nevertheless represents a departure from complete laissez-faire. This report advocated government support for community development projects while stressing the need to preserve community leadership and flexibility.

This interesting but ambiguous mix of standard pro-market recommendations and more communitarian concerns was also evident in one of the last reports released by the Economic Council: *The New Face of Poverty* (1992). It opens up with foreword from Judith Maxwell that evokes the economists' new rhetoric in terms of government failure; Mrs Maxwell stopped short of saying, as it is commonly heard in the United States, that the "war against poverty" had failed, but she noted it had "stalled in the 1980s." She also stresses the need for low income Canadians to become more "self-reliant." And the report implied that it was not the time for a major effort toward reducing poverty in Canada, in light of the growing fiscal stress. Moreover, the recommendations put forward in this report fell in line with the emerging consensus in the policy advice community and most political parties in the 1990s, including provincial NDP governments, that income support programmes should be redesigned to place more emphasis on work incentives and job training. All the same, it is interesting to note that the Council chose to write a report on *poverty* as such, and not on the inefficiency of social programmes. It clearly recognized that the problem is serious, that there are no sign of improvement, and that reducing poverty should continue to be a priority with governments in Canada.

When the winding down of the Council was announced, many commentators expressed dismay and some ventured that it would be reinvented sooner or later. The void left by the Council is indeed noticeable but that it is not as large as one would have thought. To qualify that answer, I consider the two sides of the Economic Council's identity, namely, the central position it occupied in the network of professional economists in Canada, on the one hand, and its role as a policy advisor and policy forum, on the other hand. As far as the first aspect is concerned, it is clear that a central coordinating mechanism has been lost. Economic policy research in this

<sup>&</sup>lt;sup>73</sup>The New Face of Poverty, 11.

country is now more parcelled out, and an important source of funding for independent scholarly research on comprehensively defined problems (e.g., education or health) has been lost. At the same time, one must concede that the view of the policy world shared by most economists has become so influential and so pervasive in this era of globalization and public sector retrenchment that the loss of the Economic Council makes relatively little difference in the end. Its broader role of the Council and its ability to replace this economistic standpoint in a broader perspective is a little more complicated to evaluate.

As Michel Foucault argued, the term "discipline" conveys a double meaning: it refers to a branch of knowledge and to the harsh treatment reserved for those who transgress the rules, i.e., the standards set by exemplary scholars and enforced through the peer review process. The Council's research staff and leadership has always been composed of a majority of professional economists who have found it often difficult to look behind the horizon set by their training and experience. For example, it took a leading role in advocating a free trade arrangement with the United States. But one looks in vain for an in-depth analysis of the political and social implications of this option.

The economists' worldview has evolved in the direction of a more determined emphasis on market solutions during the 1980s, and so did the Economic Council's philosophy. The Twenty Third Annual Review *Changing Times* (1986), the report on the taxation of savings and investments, as well as the research project on "adjustment and adaptation," which was predicated on the assumption that Canada has no choice but to adapt to external pressures by relaxing the controls and social commitments inherent in the concept of the "welfare state," all indicate that an ideological shift occurred around the middle of the decade. In the early 1990s, discussions of the desirability and feasibility of full employment, or the interest in community-based economic development signaled a realignment of sort, but not a radically new departure. Judith Maxwell tended to think that instead of an "either-or" choice between economic orthodoxy and political sensitivity, the Council had to embark on a more creative course, taking different dimensions of analysis into account without seeking to force them into a Procrustean bed. More non-economists began to receive research contracts under her term in office.<sup>75</sup>

<sup>&</sup>lt;sup>74</sup> On the relevance of Foucault's work to policy analysis, see Leslie A. Pal, "Knowledge, Power and Policy: Reflections on Foucault," in *Social Scientists, Policy and the State*, eds. Stephen Brooks and Alain-G. Gagnon (New York: Praeger, 1990).

<sup>&</sup>lt;sup>75</sup>Two political scientists, for example, contributed studies to the Government and Competiveness project, namely, G.B. Doern, and R.W. Phidd.

However, more time would have been required to allow these changes to leave their mark on the identity of the Council.

The function of the Council has never been limited to providing a steady flow of reports and studies reflecting the latest trends in economic theory. It performed three roles with varying degrees of emphasis since its creation: a consensus-formation role, a research-mobilization role, and a complementary research and advisory role. The research-mobilization role to which it seems to have paid most attention in its mid-life was arguably the least useful. Since quite a few private policy research organizations that did not exist when the Economic Council was established had become competitors by the early 1980s, it was time for it to move ahead in new directions. R.W. Phidd proposed some interesting options. He identified five alternative strategies as possible avenues of reform, namely, the Council could have evolved into i)"a goals research agency"; or ii) "a research and consensus forming agency"; or iii) "a policy advisory agency to government"; or "a consultative organization"; or finally iv) "an analytic research agency." A pure and simple return to the consensus-formation role that the Council played in its early years was not feasible in the more diversified and unstable societal context of the late 1980s. The goals research option, I would suggest, was the most promising; Phidd defined it in the following terms:

The Council could be viewed as a major structure articulating medium-term goals and policy objectives for both the private and public sectors. It would...be regarded...as an agency which attempted to reflect a highly respected view of goals which were acceptable to both the public and private sectors.... [Its main function would be to provide] information for public discussion and debate. Its Annual Reviews in addition to its Annual Reports would be tabled in Parliament. The council's work would be part of a forum for discussion rather than as a direct input into policy.<sup>78</sup>

Had it been given a chance to play such a role, it might have been able to renew itself in a manner that would have ensured its continued existence. An institution of this type would have

Phidd, "The Economic Council" (1975): 455.

Phidd, "The Economic Council" (1985): 52-3.

<sup>78</sup> Ibid.

received the support of a wide network of groups and its profile in the media would have been enhanced. However, the Mulroney government had other priorities and was not ideologically disposed to look for a third way between *dirigisme* and laissez-faire. On the other hand, the Council evolved in a rather incremental way and without seeking to attract much attention beyond its usual public in the academic community. Therefore, it did not succeed in convincing government or the public at large that it had embarked on a new course. Its message did not come across as being sufficiently distinctive.

The council, of course, leaves an important legacy of high quality research. It remains a sort of icon defining an era of forward-looking economic and social planning in a context of sustained economic growth. As I have suggested, however, it failed to position itself in the new pluralistic, postmodern and more international environment in which we now find ourselves. Actually, Judith Maxwell was well aware of the challenge;<sup>79</sup> but the Council would have needed stronger direction and support from senior bureaucrats in the central agencies and from the cabinet to achieve this transition successfully.

# Canadian Policy Research Networks: The Economic Council Redux?

The talents that revitalized the Economic Council during its final years were dispersed after the Council was wound down. Judith Maxwell, however, has been instrumental in regrouping some of them around the Canadian Policy Research Networks (CPRN), an organization she founded in December 1994. Dr. Gordon Betcherman, another transferee from the Economic Council, sits on the CPRN board of directors. (The members of the board are drawn from the public service, academia and the private sector.) Other former Economic Council staff members are sometimes consulted or asked to take part in the research projects coordinated by the CPRN. As its name suggests, the CPRN is not a think tank conducting all its research by its own means but a coordinating mechanism linking researchers and policy-makers in universities, other think tanks and government departments. Three such networks were in operation in 1997: one on family; one on work; and one health.

One can recognize here themes that the Economic Council had investigated under Mrs Maxwell's leadership. But the CPRN, not being restricted to economic policy issues, and being institutionally independent from government, can engage in more critical and sweeping evaluations

<sup>&</sup>lt;sup>79</sup>See for example Economic Council of Canada, *Annual Report, 1991-92*, 16-18.

of the merits of existing programmes. Its research goals are also more oriented toward social policy and the social impact of economic policy.

The search for a new equilibrium between the more individualistic culture that now prevails in the new global economy, and the need for some form of social cohesion, defines the CPRN philosophy. It is exemplified in reports like The Future of Work in Canada, 80 Mapping Social Cohesion<sup>81</sup> and Social Cohesion: Updating the State of the Research<sup>82</sup> in raising the issue of social cohesion, however, these reports do not advocate a return to post war values and practices. What they seem to aim for is some sort of transcendence of the idea government failure by, in particular, stressing the new role that the voluntary sector and community-based initiatives could play in the new economy. At the same time, the CPRN wishes to encourage a more active role on the part of the public sector, not necessarily as a doer, but as a facilitator and catalyst. The CPRN has also taken the lead in promoting citizens engagement and dialogue (e.g., Citizens Willing to Work With Queen's Park to Meet Budget Challenge<sup>83</sup> described as an "unprecedented pre-budget consultative dialogue").

The Science Council's Crusade for an Industrial Policy

As with the Economic Council, the publications of the Science Council fell under two categories: those which directly involved the responsibility of the Council, and those which did not, namely, background studies and other discussion papers signed by individual authors. The Science Council did not publish as many of these authored papers as the Economic Council, and the range of opinions expressed in them was somewhat less wide.

TABLE 3.2 ABOUT HERE

The eclectic nature of the Science Council's research programme is well illustrated in Table 3.2. Since the mid-1980s and until the early 1990s, the Coucil's research programme was centred around the following themes and projects:

<sup>80</sup> Gordon Betcherman and Graham Lowe, The Future of Work in Canada, Working Paper No..

<sup>&</sup>lt;sup>81</sup> Research report, 27 November 1998.

<sup>82 12</sup> July 2002.

<sup>83 27</sup> April 2004.

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a wide-ranging assessment of Canada's progress in developing and applying technology, and of Canada's future needs and requirements which culminated in the release of two statements and a longer report, respectively entitled: Gearing Up for Global Markets: From Industry Challenge to Industry Commitment (1988); Enabling Technologies: Springhoard for a Competitive Future (1989); and Not a Long Shot: Canadian Industrial Science and Technology Policy (1989);

- a study of water policy which suggested ways of managing Canada's immense but threatened water resources more effectively (in doing so, the SCC was in fact returning to a theme it had raised very soon after its creation);<sup>84</sup>
- a joint Canada-Japan inquiry into the areas of science and technology in which cooperation between the two countries in R&D could be beneficial—a report on how to promote greater cooperation could be achieved was addressed to the Prime Minister in 1989;

a study of university-industry interaction in Canada;85

· a study of the policy implication of food irradiation technology in which Canada is a world leader;

studies of genetics in health care and of use of medication in Canada;

- a study of the issues underlying the concept of "sustainable agriculture";
- projects on cold climate technologies, and on the importance of science and technology for the social and economic development of northern communities;
- a series of workshop across Canada on the theme "The Technology Engine in Community Economic Development."

This overview gives an idea of the breadth of the Council's research programme. As I suggested above, one of the criticisms that can be levelled at the Council is that it has tackled too many disparate subjects. In its final years, it focused a little more clearly on the relationship between technology and competitiveness, as a result of having adopted in 1988 two unifying

See Science Council of Canada, *Water 2020: Sustainable Use for Water in the 21st Century* (Ottawa: Supply and Services, 1988), and *A Major Program of Water Resources in Canada* (Ottawa: Supply and Services, 1968); see also J.P. Bruce and D.E.L. Maasland, *Water Resources Research in Canada* Background Study no. 5 (Ottawa: Supply and Services, 1968).

At the time when the project was launched, about 40% of Canadian industrial executives thought that innovation and R&D have *least* to contribute to economic growth, as compared to about 90% of the executives in most of the other OECD countries who thought that exactly the *reverse* was truehence the crucial importance of university research in this country (interview wit SCC staff member, April 1986).

themes for its research agenda: "competitiveness and caring"; the second element of this diptych, however, was vague enough to embrace almost anything!

The focus of this book is on socio-economic policies. It is clear that some of the Science Council's publications on very technical topics need not be reviewed here. <sup>86</sup> One might have expected to find that most of its publications fall under that category. But such is not the case. The Council interpreted its mandate rather creatively.

The Science Council made a valuable contribution to socio-economic policy analysis in that it explored certain issues that have been ignored or downplayed by other think tanks. The socio-economic impact of emerging technologies is a prime example. Biotechnology, for instance, is a very recent development that already has evolved into a major component of the "hi-tech" sector and could prove to be as important as the information revolution.<sup>87</sup> In 1982, the Council's Biotechnology Study Committee undertook a study of biotechnology in plant agriculture and the pulp and paper industry. These are vitally important sectors of the Canadian economy on which biotechnology can make a significant impact. It is a public policy issue because "[t]he central importance of basic research to biotechnology and the reluctance of big business to invest in basic research leaves the responsibility for increased investment mainly in the public sector."88 But Canada has been slow in entering this new field and in committing resources to it. (Incidentally, the Council sounded the same alarm bell in relation to Canada's efforts in microelectronics.)89 Nor are the federal government's objectives clearly defined. The Council recommended that Agriculture Canada play a leading role in biotechnological research, and that the Pulp and Paper Association establish a ten-year biotechnological research programme which could serve as a model for other industrial sectors, from mining to aquaculture.

The SCC has published discussion papers and/or reports bearing titles such as: Issues in Food Irradiation (1987), Mathematical Sciences in Canada (1985), Emerging Plastics Technologies and the Canadian Plastics Industry (1985), The Proposal for an Intense Neutron Generator: Initial Assessment and Recommendations (1967), etc.

<sup>&</sup>lt;sup>87</sup> Science Council of Canada, Seeds of Renewal: Biotechnology and Canada's Resource Industries, Report 38 (Ottawa: Supply and Services, 1985), Preface by Frank Maine, 9; see also Biotechnology in Canada Promises and Concerns (1981), i.e., proceedings of a conference at which both the potentially beneficial and harmful effects of biotechnology were discussed; see also Enabling Technologies: Springboard for a Competitive Future A Statement by the Science Council of Canada (Ottawa: Supply and Services, 1989).

<sup>88</sup> Seeds, 11.

<sup>&</sup>lt;sup>89</sup> See Science Council of Canada, *Planning Now for an Information Society: Tomorrow is Too Late*, Report 33 (Ottawa: Supply and Services, 1982).

The research project on the use and conservation of land and water resources is another example of the Council's interest in socio-economic issues that few other policy research organizations have been willing to explore, with the possible exception of the Institute for Research on Public Policy. It sided with the Brundtland Commission in calling for "the careful husbandry of resources to ensure a sustainable economy." But in making recommendations to that effect, however, it focused its attention rather narrowly on the need to fund and provide more institutional support to science and technology (e.g., water research). Its approach to environmental problems turned out to be more technology oriented than the Brundtland Commission' report.

Perhaps because the kind of problems inherent in science policy requires some degree of planning and guidance by the public sector, the Science Council developed a favourable approach to government intervention in more traditional policy fields as well. In the late 1970s, a report entitled *Forging the Links: A Technological Policy for Canada*, together with an accompanying background paper by J.N.H. Britton and J.M. Gilmour<sup>91</sup> generated a controversy that was fueled by critical reviews appearing in publications from other think tanks. The Council showed great concern for what it refers to as Canada's "technological sovereignty." Instead of depending on the R&D carried out in other countries, it urged that government policies should encourage innovation in domestic firms. To that end, government, business and labour were advised to agree on means to i) increase the demand for indigenous Canadian technology; ii) expand the country's potential to produce technology; iii) strengthen the capacity of Canadian firms to absorb technology; iv) increase the ability of Canadian firms to import technology under conditions favourable to Canadian industrial development. The point, according to the Council, is not just to spend more on R&D—or to give generous tax credits to high-tech firms; it is rather to articulate a balanced and comprehensive policy.

In *Hard Times, Hard Choices* the Council singled out Canada's poor performance in exporting manufactured goods and our dependence on imported technologies.<sup>93</sup> In *Canadian* 

<sup>&</sup>lt;sup>90</sup> Science Council of Canada, *Water* 2020: Sustainable Use of Water in the 21st Century Report no. 40 (Ottawa: Supply and Services, 1988); and Sustainable Farming: Possibilities 1990-2020 (Ottawa: Supply and Services, 1991).

<sup>&</sup>lt;sup>91</sup> John N. Britton and James M. Gilmour, *The Weakest Link: A Technological Perspective on Canadian Industrial Underdevelopment*, Background Study 43 (Ottawa: Supply and Services, 1978).

Forging the Links, 48.

<sup>93</sup> Science Council of Canada, Hard Times, Hard Choices, Committee statement (Ottawa: Supply and Services, 1981).

*Industrial Development*, it recommended that the federal government finds ways of inciting multinational corporations to do more research in Canada, and to encourage Canadian entrepreneurs to "look forward," for example, by sharing some of the risks with them.<sup>94</sup>

Trade agreements were given special consideration in this respect. For example, the Council argued that if the *Auto Pact* had included provisions concerning the promotion of the parts manufacturing sector, it would have gone further in stimulating demand for Canadian automotive technological innovation. This is a point that the (then) Vice-Chairman of the Council, J.J. Shepherd, raised in an informal memorandum to S. Reisman written in 1979 in which he also called for a "total product mandate" for Canadian subsidiaries of foreign multinationals. The latter did not necessarily reflect the views of the Council, but it was revealing of the rather protectionist orientation one of its most influential members at that time. (The fact, incidentally, that Magna International has become a giant in the parts industry shows that protectionist sentiments of that sort are often ill-founded.) The Council's perspective on Canada-U.S. relations never deviated from this protectionist line. For example, it issued a statement in 1986 on the bilateral trade negotiations suggesting that a free trade agreement ought not to preclude the possibility of protecting "infant industries," and reminding the Canadian negotiators of the considerable extent to which the U.S. government indirectly subsidies R&D through defence contracts and special tax provisions. <sup>96</sup>

Focusing on federal-provincial relations and regional development, Michael Jenkins strongly recommended that the federal government play a "catalytic" role in the development of an industrial policy that would respect Canada's regional diversity. While background studies, like this one, were not endorsed officially by the Council, it is worth noting that not a single study advocating a hands-off, complete laissez-faire approach to technological and economic development was ever released.

The Science Council's support for an interventionist industrial policy in the late 1970s and early 1980s stood in sharp contrast with the Economic Council's position, as outlined in the previously discussed report *The Bottom Line*. It evoked some strong criticisms. K.S. Palda, for

<sup>&</sup>lt;sup>94</sup> Science Council of *Canada*, *Canadian Industrial Development: Some Policy Directions*, Report 37 (Ottawa: Supply and Services, 1984).

The Canada-U.S. Auto Pact: A Technological Perspective (Ottawa: Supply and Services, 1979).

<sup>&</sup>lt;sup>96</sup> Science Council of Canada, *Placing Technology Up Front: Advising the Bilateral Trade*, Council Statement (Ottawa: Supply and Services, 1986).

<sup>&</sup>lt;sup>97</sup> See M. Jenkins, *The* Challenge *of Diversity: Industrial Policy in the Canadian Federation*, Background study no. 50 (Ottawa: Supply and Services, 1983).

example, claimed that Canada's innovative performance is "quite robust" and, therefore, "the level of taxpayer support for innovation via direct assistance policies should not be increased, and should possibly be decreased." Palda's study did not single out the Science Council for criticism, but it explicitly included the latter among the advocates of what he considered to be misguided nationalist policies, both in Canada and in other countries that are often cited as examples of supposedly successful technological planning (e.g., France). An even more direct attack on the Science Council's position was launched by William Watson who accused it of pursuing chimera that economists have repeatedly shown to be based on unscientific assumptions and reasoning. 99

Did the budget cuts have any effect on the Council's policy outlook? The answer is a qualified "yes." It never gave up its commitment to technological sovereignty. But beginning in the late 1980s, it showed less willingness to promote an interventionist industrial policy. It was obliged to use its diminished resources more sparingly, and it moved slightly closer to the Economic Council's agenda. In its final years, the Science Council emphatically stressed the importance of technological innovation for international competitiveness—a criterion for evaluating science and technology which it did not weigh as heavily in earlier years. It also alluded more frequently to industry self-help strategies, perhaps acknowledging in this indirect way that government is not necessarily the prime agent of change. 100 Concepts like "partnership" or "cooperation" became buzz-words in its publications. One of the prime agent of change, as the Council saw the world unfolding in the last decade of the 20th century, would be the "new university," i.e., an institution which is engaged in research that is relevant to the needs and expectation of industry, which is open to the local community and attracts students from a variety of backgrounds, and whose professors are actively engaged in consulting activities. 101 The villain that the Science Council could not resist condemning time and time again was the academic "ivory tower."

K.S. Palda, Industrial Innovation: Its Place in the Public Agenda (Vancouver: The Fraser Institute, 1984),
 180.

See W. Watson, "Freshening the Debate," *Policy Options*, vol. 5:3 (1984), 54-58.

<sup>&</sup>lt;sup>100</sup>See for example Science Council of Canada, *Annual Report, 1988-89* (Ottawa: Supply and Services, 1989), 12.

<sup>&</sup>lt;sup>101</sup> See Science Council of Canada, Winning in a World Economy: University-Industry Renewal in Canada Report no. 39 (Ottawa: Supply and Services, 1988).

Arguably one of the most valuable initiatives that the Council undertook under the guidance of Janet Halliwell began just one year before it was closed. In 1990, the SCC announced its commitment to the publication of an annual series, *Science and Technology Policy in Canada*, which was intended to offer an overview of "the integration of science and technology into the fabric of our society and economy." The first and last of these reviews: *Reaching for Tomorrow* appeared in 1991. Following a clearly written account of the multi-dimensional linkages between competitiveness and technological innovation, this report surveyed trends and events in education and training, industrial innovation, the infrastructures for science and technology, the environment, and "new frontiers." While much of the content of this report could be gleaned from other sources, it was nonetheless a very detailed and informative synthetic study. The continuation of this series might have enhanced the reputation of the Council. I have alluded above, in the case of the Economic Council, to the "too little, too late" syndrome. The Science Council suffered from it to an even greater degree.

## The Legacy of the Science Council

The Science Council's attempt, in its fourth report, to spell out *the* national goals stood as an example of political naïveté and irrational rationalism.<sup>102</sup> In the late 1960s, the Council advocated a rational planning style that required the precise identification of policy goals—a task that has been shown to be "easier said than done." The irony is, however, that it did not apply this recommendation to itself. For a while, it even appeared as if the Council had lapsed into a scatter-gun approach to many interesting but loosely connected problems.

Fiscal restraint compelled the Council to concentrate its efforts on a narrower range of priorities. Canada's international competitiveness became its first priority. Indeed, with its futuristic outlook, the Council became a prophet of the coming of the global information-based economy. This messianic tone was softened by the expression of concerns for the environment and health care. This was an appealing, albeit not particularly original, discourse. On the whole, however, the record of the Science Council, both in terms of the research it carried out and of the influence it had on the policy-making process, is not very impressive.

A distinctive and original commitment to "technological sovereignty" and a willingness to foster the full development of the incompletely realized potential of Canadian science and

See G.B. Doern, "The Role of Central Advisory Councils," 255-66.

technology are the traits for which the Science Council will be remembered. But if that message was not as well received as the Council would have hoped, and if many of its policy recommendations were never acted upon, policy-makers and industry leaders should not bear all of the blame. The message itself lacked clarity of purpose and, occasionally, sounded rather hollow. These are, admittedly, subjective criteria. But they reflect the views of many observers of the policy scene. I conducted a survey in 1986 of the opinions of economists and political scientists concerning the research record of the Economic Council and the Science Council. In response to an (open ended) question on the overall image they had of these agencies, most economists chose more or less negative terms to describe the Science Council; by contrast, political scientists had a more positive image of it (and a somewhat less positive one of the Economic Council) but criticisms were not absent. In the late 1980s, as I indicated, the Science Council adopted a less interventionist stance that would probably have evoked more positive responses from economists. Nevertheless, the depth of the analysis offered in the reports published in those years was uneven. For example, Water 2020: Sustainable Use of Water in the 21st Century, in spite of its rather grandiloquent title, is a disappointingly thin text, replete with platitudes. (But it was nicely illustrated!)

## III. The Case for Re-Establishing the Science Council

As I explained above, by the time the ECC was abolished the research it produced was not markedly different from what other think tanks were offering, and the consensus building goals of its original mandate had ceased to be its defining characteristics. This is not to say that the policy research community was unaffected by its disappearance, nor that there would be no benefit to be derived from the re-establishment of a similar institution. Certainly, a well funded Council would be to attract well trained economists who could possibly set a wider and more diversified research agenda than that of any of its competitor in the private sector. As in the past, it could also be counted on to produce somewhat more balanced or seemingly less ideologically charged reports than, say, the Fraser institute or the Canadian Centre for Policy Alternatives. However, the case for recreating the ECC is weak.

The question is not a purely academic one since the creation of Law Commission shows that when there is a demonstrable case for reverting the decisions made in 1992, the federal government and, more specifically, a Liberal government sitting on a budget surplus, is prepared

to do just that. At the time of writing, it is more than probable that the Liberals will form the next government and while the budgetary situation is expected by some to worsen, no one predicts a return to the catastrophic deficits of the early 1990s. But even if there are no obvious constraints preventing it, the probability that the next government will be inclined to re-establish an institution that has not been very much missed for more than ten years is virtually nil. The more interesting point I want to make, however, is that even if serious consideration was given to an initiative of this sort, it would not be advisable to go ahead with it. To elaborate on this point, I must present an analysis of the facts of the case as well as a discussion of its normative aspects.

The policy research environment is very different today from what it was some thirty years ago. To begin with, the kind of economic research that was considered necessary in the 1960s and 1970s, that is to say, research intended to lead to the articulation of a broad-based, quasi-corporatist consensus, is no longer considered to be relevant to the present circumstances. In a globalized world, this sort of consensus-building exercise would be rather futile, and comprehensive macro-economic planning sounds like an obsolete idea. Of course, the mandate of a re-created ECC could be written in a way that would reflect this new reality. As I explained, even the old ECC had in its last decade abandoned the vision that had inspired its designers. But then there is no need for another policy research institute specializing in economic policy. The field is already rather crowded with more than half a dozen think tanks commenting on more or less the same issues (e.g., the C.D. Howe Institute, the Fraser Institute, the Atlantic Institute for Market Studies, the Institute for Research on Public Policy, the Montreal Economic Institute, the Canadian Centre for Policy Alternatives, the Parkland Institute). It could be argued that a larger institution could play a useful co-ordinating function, as the old ECC did to some extent, but the need for such coordination is not really evident and the already mentioned CPRN offers policy analyst some means of "networking."

From a normative standpoint, the case for re-creating the ECC does not appear to be very convincing either. Would it bring to economic policy research a greater emphasis on fairness? This is very doubtful. The role played by the ECC in its early years, i.e., the search for a consensus that could guide the management of the national economy, contributed to the achievement of a greater degree of fairness by highlighting the problems emerging at the interface of economic policy and social policy. But the Council had to move away from that goal as circumstances changed. It is more than likely that the voice of a re-created ECC would be the

voice of mainstream economists; it would not contribute anything really new to on-going debates. Now I am not trying to imply that mainstream economics is antithetical to fairness—indeed economic growth, even unequally distributed, works more to the advantage of the least advantaged than economically unsound redistributive schemes, and contemporary economists, in any event, have developed a new interest for issues like social cohesion, altruism, the voluntary sector, and other related issue that touch more or less directly on fairness. What I am saying is that these issues have become so complex that the standpoint of fairness can only be moved forward by inventing new forms of interdisciplinary dialogue. The economists' voice is already quite well heard; what is missing is a theoretical approach for articulating a far broader dialogue, as well as an institutional framework for achieving it. A re-born ECC would not fit the bill even if, as I have underlined above, under Judith Maxwell's leadership, it began to pay more attention to redistribution, but her vision, in any event, has now become well entrenched in the CPRN.

The opportunity costs, therefore, of re-establishing the ECC would be rather high since there are obviously more efficient ways of promoting fair societal ends (e.g., more investment in students' access to higher education). Moreover, it would seem that the Hayekian lesson that comprehensive planning is futile has been well learned; in other words, there is simply no need for a sort of super-think tank at the top. Again, either a new ECC would be asked to supply a grand vision of long term prospects which has become almost impossible to do, or it would be just another and probably redundant think tank. However, a more in-depth investigation of this question, for example, using questionnaire to determine where the policy research community stands in relation to it, might reveal another picture.

The case for re-creating the SCC looks stronger. This is not to say, however, that the probability that the next government will do anything about it is any higher. But it is worth articulating an argument for reversing this inertia. The point I want to make is not that what we need today is an advocate for (the outdated idea of) an interventionist industrial policy, as the SCC was for many years, but rather that an institution with a mandate similar to that of the defunct SCC would be able to bring into view a whole range of new issues that have not received the attention they deserve.

<sup>&</sup>lt;sup>103</sup> See, for example, L.-A. Gérard-Varet et al., eds., *The Economics of Reciprocity, Giving and Altruism*, London: Macmillan, 2000; and L. Dobuzinskis, "Social Norms in Transition: Gift-Giving and Reciprocity in the Global Era," in L. Dobuzinskis and J. Busumtwi-Sam, eds., *Turbulence and New Directions in Global Political Economy*, London: Palgrave, 2003.

Again, the budget surplus opens up some opportunities for policy innovation. The original mandate of the old SCC has never really become obsolete; even if the era of comprehensive macro-economic planning has passed, there is still room for well targeted interventions, especially with respect to science and technology. (More often than not, private sector firms tend to "free ride" on the research carried out by publicly funded institution.) Of course, a new Science Council would have to stay away from the subject of a nationalist industrial policy, but there is much to do on a smaller scale. Indeed, G.B. Doern has suggested that Canada is now experiencing a "science deficit" that needs to receive as much attention as the fiscal deficit of the last decade. 104 William Leiss further observes that "[r]ecent experience indicates that there is some serious misalignment between science and public policy"; 105 by that he means that government's role is to manage health and environmental risks, not to conduct scientific research on its own because scientists need autonomy to do their work. I agree entirely with this diagnosis but since a reborn SCC would not be involved in scientific research but in policy research, it could play a modest role on the policy side of the interface. Thus there seems to be good factual reasons for bringing back the SCC or some modified version of the original model.

Now the question is: Can this pious wish be justified in a coherent manner? I want to suggest that it can. As far as the goal of fairness is concerned, the status quo could most certainly be improved upon. In spite of the fact that all Canadians are potentially at risk from a variety of sources—and threats to public health seem to be becoming more prevalent, as the examples of SARS, Bovine Spongiform Encephalopathy (mad cow disease), the spread of the West Nile Virus, the contamination of drinking water, etc., children, the elderly, and the poor are often more at risk. Their immune systems are less capable of coping with viral, bacterial or chemical threats. <sup>106</sup> Besides, there are other aspects of the science-policy interface that raise issues of fairness; women's access to education and professional opportunities in engineering comes to mind. One would hope that government agencies responsible to Parliament (e.g., Health Canada) would feel compelled to take these dimensions into account. But they are also subject to a whole range of short term pressures and all sorts of political and economic incentives

<sup>&</sup>lt;sup>104</sup> See G.B. Doern and T.Reed, "Canada's Changing Science-Based Policy and Regulatory Regime: Issues and Framework," in G.B. Doern and T.Reed, eds., Risky Bussiness: Canada's Changing Science-Based Policy and Regulatory Regime, Toronto: University of Toronto Press, 2000, p. 6.

<sup>&</sup>lt;sup>105</sup> W. Leiss, "Between Expertise and Bureaucracy: Risk Management Trapped at the Science-Policy Interface," in ibid., p. 49.

<sup>&</sup>lt;sup>106</sup> This would not be the case with BST, admittedly.

prevent them from focusing on fairness in a sustained manner. Of course, there is no guarantee that a newly re-established Science Council would be much more concerned with fairness—the old SCC's record in that respect is not very impressive—but its "at arms-length" status would give it an advantage.

Another interesting aspects of fairness concerns the imbalance between basic research, for which there are today too few advocates, and applied research. A properly designed SCC might be able to do something about this imbalance. Finally, fairness and publicness are related. By publicness, I mean the extent to which public affairs are conducted in public and the extent to which citizens are able to hold public officials accountable for their decisions. Science and technology are areas characterized at the moment by a lack of publicness in that sense; the ACST, for example, reports to the Prime Minister and is only incidentally involved in public debates. One would hope that re-creating the SCC could help to turn things around in that respect. After all, the difficulty here is political indifference rather than a lack of theoretical reflections on the subject, since one could almost say that from Dewey to Jürgen Habermas<sup>107</sup> the subject of how to improve deliberative democracy has been exhausted.

This project would be feasible because the opportunity costs are low. The budget of the SCC was never very big and since there is no competing institution at the moment, the creation of a new SCC would probably be a Pareto efficient measure. The only serious objection I can see to an initiative of this sort would be that it presupposes that policy research on risk management and science policy in general would contribute new and relevant knowledge. Given the degree of uncertainty that characterizes the issues at stake, and given the propensity of many pressure groups to press their often questionable claims (e.g., the campaign against vaccination based on the now disproved assumption that vaccination is linked to autism), <sup>108</sup> this concern must be weighed against the advantages mentioned above. The courts have sometimes erred into giving too much credence to "junk science." There would be little to gain from the establishment of a policy research and consultation mechanism that would legitimize cumbersome and intrusive regulations based on questionable assumptions. The solution to this problem might require a more balanced mix of policy researchers and natural scientists on the staff of the new SCC as compared to what was the case in the old SCC.

<sup>&</sup>lt;sup>107</sup> See J. Habermas, Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy, Cambridge, Mass.: MIT Press, 1996; and The Inclusion of the Other: Studies in Political Theory, Cambridge, Mass.: MIT Press, 1998.

<sup>&</sup>lt;sup>108</sup> On this subject, see A. Wildavsky, *But Is it True? A Citizen's Guide to Environmental Health and Safety Issues*, Cambridge, Mass.: Harvard University Press, 1995.

To conclude, the two councils have left a valuable legacy that vividly illustrates changing trends and recurrent themes in policy research. In particular, they bear witness to the demise of the post-war model of societal management and planning. I have argued that the case for recreating the SCC with a more focused mandate would be a defensible idea. And I hope to have shown also that making even such a narrowly circumscribed recommendation requires the careful consideration of a broad ranger of factual and normative considerations. When the complexity of the problems under review reaches an another order of magnitude, policy analysis becomes an immensely challenging exercises that should at some point be merged with deliberative processes involving as many participants as possible. In the case of risk management, for example, I have argued that this is precisely why we need a re-designed SCC.

#### **TABLE 3.1**

# Classification by Subject of the Publications (1964-92) of the Economic Council of Canada<sup>109</sup>

N (%) \*\*\*\*\*\*\*\*\*

- 1. ECONOMIC THEORY; METHODOLOGY: 55 (6.78)
- 2. CANADIAN ECONOMY
- a. Planning and economic management techniques: 110 (1.23)
- b. Governing instruments other than regulation: 111 23 (2.84)
- c. Government regulation; competition policy: 71 (8.75)
- d. Public finance:
- 1) Fiscal policy; monetary policy; public debt: 35 (4.32)
- 2) Budgetary process and government expenditures: 9 (1.11)
- e. Macroeconomic trends; economic growth; medium and long term strategies: 112 50 (6.16)
- g. Short term (stabilization) strategies: 10 (1.23)
- h. Technological change; productivity: 41 (5.06)
- i. Employment; industrial relations:<sup>113</sup> 90 (11.1)
- j. Incomes (real wages, etc.): 40 (4.93)
- k. Pricing and inflation5: 25 (3.08)
- 1. Savings, investment; banking; mortgage financing: 29 (3.58)
- m. Environmental issues: 9 (1.11)
- n. Social programmes:
- 1) Education: 19 (2.34)
- 2) Health care: 6 (0.74)
- 3) Income support programmes; pensions: 15 (1.85)
- o. Sectoral policies:
- 1) Natural resources, energy: 19 (2.34)
- 2) Agriculture: 10 (1.23)
- 3) Fisheries: 3 (0.37)
- 4) Construction, housing: 11 (1.36)
- 5) Manufacturing: 17 (2.1)

All publications categories are included here: Annual Reviews, Council Reports, Conference Papers and Reports, Candide Project Reports, Staff Studies, Research Studies, and Discussion Papers. As some of the documents overlap several categories, the total number of citations (811) is greated than the total numbers of titles. Percentages do not add up to 100% because of rounding error.

<sup>&</sup>lt;sup>110</sup> For example, social indicators.

<sup>&</sup>lt;sup>111</sup> For example, Crown corporations, etc

<sup>&</sup>lt;sup>112</sup> Includes all (i.e., 28) Annual Reviews.

<sup>&</sup>lt;sup>113</sup> Including only some Annual Reviews dealing very explicitly with this subject, although all deal with it to some extent.

6) Services (including transportation): 8 (0.99)

#### 3. REGIONAL AND PROVINCIAL ECONOMIES:

- a. Federal-provincial relations; regional disparities: 30 (3.7)
- b. Atlantic region, or Maritimes (as a whole): 3 (0.37)
- c. Newfoundland: 20 (2.47)
- d. Quebec: 5 (0.61)
- e. Ontario: 3 (0.37)
- f. Western region, or Prairies (as a whole): 18 (2.22)
- g. British Columbia: 2 (0.25)
- h. Alberta: 10 (1.23
- i. Saskatchewan: 4 (0.49)
- j. Manitoba: 3 (0.37)
- k. Urban economics: 17 (2.1)
- l. The North: 4 (0.49)

#### 4. INTERNATIONAL TRADE AND RELATIONS:

- a. Global issues; comparative studies: 15 (1.85)
- b. Canada and world markets: 12 (1.48)
- c. Canada and the U.S. market: 9 (1.11)
- d. Canada and the developing world: 11 (1.36)
- e. International monetary system; balance of payments: 2 (0.25)
- 5. MISCELLANEOUS: 41 (5.06)

# TABLE 3.2 Classification by subjects of the publications (1966-92) of the Science Council of Canada

## N (%)

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- 1. Agriculture: 5 (2.2%)
- 2. Aquaculture, fisheries and oceonography: 9 (3.9%)
- 3. Biotechnology and the life sciences: 7 (3.0%)
- 4. Computers, communications and the information society: 10 (4.3%)
- 5. Education and university research: 37 (16.1%)
- 6. Energy: 10 (4.3%)
- 7. Environment: 16 (6.9%)
- 8. Health care and occupational safety: 14 (6.1%)
- 9. International issues: 9 (3.9%)
- 10. Natural resources: 20 (8.7%)
- 11. Northern issues: 8 (3.5%)
- 12. Physical sciences: 8 (3.5%)
- 13. Science (generalities), and science policy (including support for basic research): 21 (9.1%)
- 14. Technological innovation, R&D, and industrial development strategies: 39 (16.9%)
- 15. Transportation: 7 (3.0%)
- 16. Unclassified: 10 (4.3%)