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Government Response to the Nineteenth Report of the Standing Committee on Industry

Research Funding — Strengthening the Sources of Innovation

Canada

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Minister of Industry Ministre de l'Industrie

Ottawa, Canada K1A 0H5

The Honourable L'honorable
John Manley P.C., M.P. c.p., député

Ms. Susan Whelan
Chair
Standing Committee on Industry
Room 231
Confederation Building
Ottawa, Ontario
K1A 0A6

Dear Ms. Whelan:

Pursuant to Standing Order 109 of the House of Commons, I am pleased to respond on behalf of the government to the recommendations contained in the Nineteenth Report of the Standing Committee on Industry, *Research Funding — Strengthening the Sources of Innovation*, tabled in the House of Commons on June 8, 1999. Attached is the government's response to the Committee's recommendations.

First, let me thank you and the Industry Committee for your good work. This was a very ambitious report, covering a wide range of issues, over the course of two years. It is obvious that you listened to the many knowledgeable witnesses who appeared before the Committee.

The government supports the priority your committee places on strengthening the national system of innovation. Indeed, I would note that this government has made very significant investments to this end over the past two years. These included the creation of the Canada Foundation for Innovation, increased funding for the Granting Councils and the expansion of the Networks of Centres of Excellence Program.

Many initiatives are already under way within the government, which address several of the Committee's 16 recommendations:

- The Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) have established a task force, which will likely be completed in 2000, which will propose actions for the various aspects of Arctic research (Recommendation 3).

- In the process of assessing the recommendations of the report of the Advisory Council on Science and Technology Expert Panel on the Commercialization of University Research, the government has consulted with stakeholders to determine whether the report's recommendations will achieve the government's objectives. Their views will be incorporated in the government's response later this year, as appropriate (Recommendations 7 and 8).

- Revenue Canada has issued guidelines to aid industry in assessing the eligibility of research in the health sciences for the scientific research and experimental development tax credit (Recommendation 11).

- The Health Protection Branch of Health Canada is already two years into a three-year renewal process. Improving the regulatory efficiency of the Branch is one of the desired outcomes of the renewal process (Recommendations 12 and 13).

- The government has a good understanding of the impact of foreign ownership on research and development (R&D) performance through Statistics Canada surveys and on their innovative performance through a Conference Board study. It has the ability to influence the R&D performance of foreign controlled corporations through the incentives of Investment Partnerships Canada or by the conditions of the *Investment Canada Act* (Recommendation 16).

The government accepts Recommendations 9 and 10 that concern forming a plan to collect and analyse data to be able to make policy in the complex areas of the division of research and development expenditures into its basic, applied and experimental development components and the mobility of knowledge-based workers. Statistics Canada has already started the collection of data in these areas.

The government recognizes the objective underlying Recommendation 1, to establish R&D targets and plans to achieve these targets for the various performing sectors. However, the government set out a science and technology (S&T) strategy to strengthen the national innovation system. This strategy makes it clear that all ministers of science-based departments or agencies must manage their investments in S&T in order to best fulfil their mandates. This decentralized approach argues against national R&D targets. In this context, the Secretary of State (Science, Research and Development) will continue to support me in ensuring the implementation of the S&T Strategy (Recommendation 14).

Similarly, the government recognizes the growing importance of science, technology and innovation (Recommendation 15). However, it believes that the current parliamentary committee structure adequately addresses the horizontal nature of S&T. The work of the Industry Committee on this report, and the Public Accounts Committee in the area of S&T human resources in the federal government are exemplary in this respect.

Recommendation 2 asks the federal government to consult with provincial governments to safeguard research funding passed to universities from Canada Health and Social Transfer (CHST) and provincial sources. However, the CHST is a block transfer that provinces are free to allocate according to their priorities, including university budgets.

Recommendations 4, 5 and 6 request increased and new funding for the National Research Council Canada (NRC) to allow it to strengthen its current activities and to adopt new research initiatives and programs. The government attaches considerable importance to the NRC as a vehicle for scientific research and technology assistance in the Canadian S&T system. Investments in federal S&T capacity, including the NRC's regional and community innovation capacity and strategic initiatives, must be weighed against competing requests from both within the federal S&T community and from other priorities across government.

Yours very truly,

John Manley
Minister of Industry

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GOVERNMENT RESPONSE

Recommendation 1

That the federal government set out a long-term plan for R&D (basic and applied) funding in Canada establishing strong growth targets for research spending by the research councils, universities and federal departments as well as forecasts of tax expenditures and spending by industry.

Response

1. The government recognizes the importance of investments in research and development to Canada's future prosperity and increases in our standard of living.

2. In 1996, the government issued a federal strategy for science and technology, *Science and Technology for the New Century*, that set out goals for the federal investment and principles to assist departments in working toward those goals. A key theme of the strategy was the federal role in building the Canadian innovation system. Recognizing that the innovation system is made up of a diverse range of key players (universities, industries, federal and provincial governments, private non-profit research institutions, research hospitals, etc.), the strategy aims to deploy the federal levers in this system (performance of R&D, research funding, tax measures, networking, etc.) as effectively as possible to build a strong national system. It aims to create an environment that will encourage and reward investments in science and technology by these key players.

3. As the Committee has noted, the government has made a number of key strategic investments in recent years. A total of $1000 million has been invested in the Canada Foundation for Innovation to strengthen the Canadian capability for research by funding R&D infrastructure improvements in universities, colleges and hospitals jointly with business and the provinces. The university research Granting Councils' budgets have been restored to earlier levels and increased funding has been established to the innovative Networks of Centres of Excellence Program. In the last budget, three-year funding initiatives to establish the Canadian Institutes for Health Research and for advanced research were announced as well as funds to assist federal science-based departments in fulfilling their mandates in areas such as genomics and geo-connections, and electronic means of disseminating information categorized by geographical locations. These investments have helped to ensure that Canadian universities, the federal government and industry remain well placed to contribute to Canada's innovative capacity and productivity performance.

4. The federal strategy established the principle that S&T is not an end in itself. Individual ministers must use S&T in ways they think best to fulfil their mandates. Horizontal coordination on key S&T issues has been strengthened through such mechanisms as the Advisory Council on Science and Technology (ACST) and the Council of Science and Technology Advisors (CSTA), but the notion of R&D targets is inconsistent with the decentralized approach established in the S&T Strategy.

5. The federal government believes it has created an environment that encourages and rewards the performance of business R&D through devices such as generous tax incentives, repayable loans for technology commercialization, and technical and business advice for small and medium-sized enterprises. The Scientific Research and Experimental Development Tax Credit Program (SR&ED), in effect, lowers the cost of performing R&D to participating firms. Firms choose the amount and in which project they will invest their R&D spending. Through programs such as Technology Partnerships Canada, the government shares the risk in developing promising technologies and products. Through the Industrial Research Assistance Program and the programs of other government departments, the government helps firms to find the technology and receive the technical advice that they need to remain competitive.

6. The government agrees that strengthening Canada's innovation system in order to provide an attractive environment for both talented people and investment is important. The government will continue to make strategic investments as necessary to strengthen the contribution of the various players in the innovation system. However, it is felt that the current strategy ensures that individual ministers have the tools they need to fulfil their mandates is the most appropriate at this time.

Recommendation 2

That the federal government seek ways, in consultation with the provincial governments, to safeguard and strengthen those research activities that are funded through the core university budgets financed by the CHST and provincial funds.

Response

7. While the CHST provides funding to provinces for purposes that include post-secondary education, the decision-making authority over university budgets lies with provincial governments and individual institutions. The legislation underlying the CHST does not provide the federal government with any control over provincial decision making in the area of post-secondary education.

8. The Minister of Human Resources Development Canada, who has, under the *Federal-Provincial Fiscal Arrangements Act,* specific responsibility for consultations with provinces on the development of shared principles and objectives on the non-health areas (e.g. post-secondary education) that the CHST provides funding toward, will continue to explore the issue of support for universities with the provinces.

Recommendation 3

That NSERC and SSHRC assign Arctic research as one of their priority research areas.

Response

9. The government recognizes the importance of Arctic research. Canada has a well-earned reputation of excellence and leadership in Arctic research, including a prominent role in the Arctic Council. The government also recognizes the decline in recent years in both our research capacity and international reputation. Therefore, two of the research Granting Councils, the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) established the Task Force on Northern Research. Phase 1 of the Task Force's work — data collection — was completed in early 1999. Phase 2 — the development of proposed actions to address the issues identified in Phase 1 — will likely be completed in 2000. The recommendations will figure in the Councils' priority setting for future funding allocations and may also lead to new mechanisms to enhance linkages between the Granting Councils, university researchers and the federal government, northern communities, territorial governments and other non-university sectors.

10. University research in the Arctic is an expensive and complex undertaking, requiring logistics and planning support not needed for research in the rest of Canada. The Polar Continental Shelf Project (PCSP), administered by Natural Resources Canada, provides an essential logistics and coordination service to university, as well as government, researchers. Recognizing the important role that the PCSP plays in the viability of Arctic research, the Minister of Natural Resources announced earlier this year $1 million in bridge funding for logistics support in anticipation of a broadly based federal initiative to ensure the future strength of Canada's Arctic research.

11. More broadly, the government is addressing federal northern S&T activity and issues through the Interdepartmental Committee on Northern Science and Technology (ICNST), at the ADM level. This committee is taking cross-government leadership in ensuring that federal S&T efforts in and for the North are coordinated to meet the needs of northerners and of all Canadians. The ICNST is keenly aware of the key role that federal research and logistics activities in the

North play in the career paths of the northern scientists of the future and are making strong efforts to ensure that these linkages remain strong. Once again, however, new resources for northern S&T must be weighed against competing requests from both within the federal S&T community and other priorities across government.

Recommendations 4, 5 and 6

That the federal government increase the base funding of the National Research Council Canada (NRC) by a minimum of $75 million.

That the federal government fund the NRC's proposed major strategic initiatives to take Canada into the 21st century.

That the federal government provide the NRC with the necessary resources to be a key player in regional innovation programs to bridge Canada's critical gap between knowledge and application.

Response

12. The government recognizes the important contribution that the NRC makes to Canada's national innovation system. It remains a major source of ideas and technology for Canadian industry and is an important source of technical advice and assistance for small and medium-sized enterprises in Canada. Equally important, it is a major partner in regional and community innovation in numerous centres across the country.

13. As noted by the Committee, the NRC has received increased funding in the last three federal budgets aimed at strengthening the Industrial Research Assistance Program and enhancing the NRC's participation in key technology areas such as health and biotechnology. The government awarded funding to a cross-government initiative in the area of genomics in the 1999 budget. In August 1999, it announced a reallocation of $30 million in funding for fuel cells, based on the NRC's proposals.

14. However, the NRC's proposals must be weighed against current national needs and our government-wide capacity to provide resources in the face of competing science- and non-science-based opportunities and challenges.

Recommendation 7

That the federal government investigate other measures to address the issue of commercialization of university research by leveraging private sector resources.

Response

15. Research performed by universities are critical to the future of Canada and the well-being of its citizens. The government also recognizes the importance of increasing Canada's ability to deploy the knowledge created in university research to contribute to wealth creation in the Canadian economy. Strong partnerships are key to maximizing Canada's system of innovation.

16. In May 1999, the Prime Minister's Advisory Council on Science and Technology's (ACST) Expert Panel on the Commercialization of University Research submitted its report *Public Investments in University Research: Reaping the Benefits* to the government. The report recognized an underachievement of potential commercialization and contained recommendations aimed at maximizing the social and economic benefits from public investments in university research. The government launched further consultations with both public and private sector stakeholders in September 1999. New opportunities for partnerships, networking, leveraging resources and strengthening the system of innovation are aspects of this dialogue, and will be present, as appropriate, in the government's formal response to the recommendations of the ACST later this fall.

17. The industrial sector in Canada benefits from the innovative capacity of Canadian universities, and financed almost 12 percent of all R&D performed by universities in 1997, more than in any other G-7 country. Several initiatives are already in place to strengthen university–industry relationships, including collaborative programs run by NSERC, the Medical Research Council and the NRC, such as university–industry partnership programs, the NRC's Industrial Research Assistance Program and the Canadian Technology Network. The Networks of Centres of Excellence are also instrumental in leveraging private sector involvement in university research and creating commercial successes. The Canada Foundation for Innovation also seeks private sector involvement with its requirement for shared funding and partnerships.

18. Another factor in the success of commercialization is the existence of an efficient venture capital market for technology-based companies. The government has encouraged the further development of the private sector venture capital industry through the creation of tax incentives to create labour-sponsored venture capital funds. In addition, the Business Development Bank of Canada (BDC) has a venture capital program that works with other partners to provide venture capital to Canadian small business. Most of this support is provided to information and

biotechnology companies. Part of this program includes the Seed Capital for Technology fund, the first Pan-Canadian seed capital fund to offer financing and management support specifically for early-stage technology projects. The BDC also provides a variety of other financing and consulting services to support innovation and commercialization initiatives.

19. Any new initiatives, designed to bolster commercialization of public-funded university research, resulting from the government's response to the work of the ACST, will serve to strengthen the system of innovation and generate lasting benefits for years to come.

Recommendation 8

That the federal government urgently consult with the universities and research councils about fully reimbursing the indirect costs of federally funded research grants, and seek accords with the provinces to maintain the provincial share of university research funding if the federal government assumes responsibility through the research councils for indirect costs.

Response

20. University research is a principal source of innovation in Canada, and by its nature is of direct interest to federal and provincial governments and the private sector. The effective management of the research effort, including a better understanding of what constitutes indirect costs, requires ongoing communication and collaboration among the interested parties.

21. This recommendation contains two components: to consult and then to seek accord with the provinces. The federal government has already been addressing the need to consult with universities and research councils about the indirect costs of research.

22. The May 1999 report from the Prime Minister's Advisory Council on Science and Technology's Expert Panel on the Commercialization of University Research proposed six major recommendations, including one that relates to resolving the issue of the indirect costs of university research. The federal government launched consultations with the provincial governments, the academic community, the private sector and across federal departments and agencies regarding the Expert Panel report in September 1999. The government's formal response to the recommendations will be provided later this fall.

Recommendation 9

That Industry Canada and Statistics Canada estimate a breakdown of research into its basic and applied components.

Response

23. Canada is one of the few industrialized countries that does not produce a statistical breakdown between expenditures on basic research, applied research and experimental development. The Committee felt that this information would prove useful for international comparisons and to detect changes in the ratio between basic and applied research in Canada for policy purposes.

24. The government is in the process of developing estimates for R&D spending in the business enterprise sector in the three categories of basic research, applied research and experimental development. These estimates will be available in 2000. Together, Industry Canada and Statistics Canada will investigate means to extend this breakdown of R&D expenditures to the other performing sectors.

Recommendation 10

That the federal government analyse transfers out, transfers in and transfers within Canada of knowledge-based workers, and the areas of skill shortages.

Response

25. The government recognizes the importance of a skilled and knowledgeable labour force to compete in the knowledge-based economy and to improve Canada's productivity and standard of living. It is making efforts to better understand this complex issue, through a many pronged approach. Officials from Statistics Canada, Industry Canada, Citizenship and Immigration Canada and Human Resources Development Canada (HRDC) have been collaborating in the development and analysis of several new data sources as detailed below:

- Data from Revenue Canada's tax files, the Census of Population Reverse Record Check and the United States Current Population Survey have been used to estimate the magnitude of the flow of labour market bound emigrants to the United States. Statistics Canada will continue to track these sources to identify change.

- Data from Revenue Canada's tax files have been used to examine the income profile of those leaving the country. Statistics Canada will continue to track this series to determine long-term trends.

- Statistics Canada and HRDC surveyed a sample of 1995 post-secondary graduates who moved to the United States following graduation. This data, which was released in September 1999, shed light on the characteristics of these graduates, factors underlying their decisions to move to the U.S. and their relative labour market success. This survey will be repeated within the regular cycle of ongoing National Graduate Surveys conducted jointly by Statistics Canada and HRDC. This survey program will also be used to track interprovincial flows of post-secondary graduates.

- Data from the United States 2000 Census of Population and the Canadian 2001 Census of Population will be used to analyse the profile of all emigrants and immigrants between Canada and the United States and flows within Canada, including flows of knowledge workers.

- HRDC will continue to monitor trends in the Canadian labour market including the supply and demand of knowledge workers. Much of this work is undertaken jointly with the provinces under the aegis of the Canadian Occupational Projection System.

- A new Statistics Canada/Citizenship and Immigration Canada longitudinal survey will provide information on the early experiences of recent immigrants, including their economic integration into Canadian society.

- Statistics Canada and Citizenship and Immigration Canada will continue to work with the United States Immigration and Naturalisation Service to improve the quality of the data related to temporary flows of workers between Canada and the United States.

26. The ACST created an Expert Panel on Skills to advise on critical skills in knowledge-intensive industrial sectors. These sectors are aerospace, automotive, biopharmaceuticals and biotechnologies in agriculture, aquaculture and forestry, environmental technologies, and information and telecommunications technologies. Once it has been submitted to the ACST late this fall, the Panel's final report will be published and made available to the public.

Recommendation 11

That the government investigate the widening of the R&D tax credit to apply to research in the health and social sciences.

Response

27. The SR&ED tax credit already applies to health research to the extent that these expenditures meet the rules for eligibility. Not all expenditures in health research qualify for the credit but these exclusions (e.g. market research and routine data collection) apply to other fields of science and technology as well.

28. The SR&ED tax incentives are tax policy measures intended to encourage Canadian businesses to conduct SR&ED to develop new or improved technologically advanced products and processes. While social sciences research is acknowledged as an important area of study, the SR&ED tax incentive program is not intended to support this type of research. This exclusion is consistent with the SR&ED tax incentives that are available in the other Organisation for Economic Co-operation and Development countries, which also exclude research in the social sciences.

29. The government supports social science research through SSHRC and universities. SSHRC distributes funds to Canadian researchers, scholars and universities through highly competitive granting programs. In 1998–1999 SSHRC's total program budget was $102.7 million in support of research, research training, and research communication. Planned spending for 1999–2000 is $119.2 million; for 2000–2001 it is $121.5 million; and for 2001–2002 it is $121.0 million.

Recommendation 12

That the federal government use cost recovery monies to improve service in regulatory agencies to provide a more attractive working environment for innovative companies.

Response

30. The cost-recovery policy is intended to promote fair allocation of public funds by charging individuals or organizations who benefit from specific services. This may allow a "greater share of general tax dollars to be devoted to activities that benefit the general public," to "reduce the debt" or to "facilitate improvements in the delivery of specific cost-recovered services."

31. Monies raised through cost-recovery fees are returned to the Consolidated Revenue Fund in keeping with the provisions of the *Financial Administration Act*. They may also be approved for spending by the recipient department, in which case the department's appropriations are reduced by the amount of the anticipated revenue. The question of reallocating cost-recovery fees for service improvements must be weighed with the government's overall priorities.

32. Apart from using revenues from cost recovery, all government departments are committed to improving service in their regulatory programs. The Committee raised several specific concerns with respect to the Health Protection Branch (HPB) at Health Canada. There, the regulatory programs have been extensively re-engineered over the past six years to ensure that the Branch's activities are the most appropriate to deliver on its mandate, conducted in as efficient a manner as possible, and delivered through an appropriate organizational structure.

33. Health and safety are the mandate of HPB and the primary objective of its regulatory programs. Without compromising this purpose, the Branch endeavours to ensure that its regulations do not impose an unwarranted cost on those impacted by them. An explicit example is found in the submission review performance targets defined and reported on quarterly by the Therapeutics Products Programme (TPP) in HPB.

Recommendation 13

That the federal government examine ways of reducing the regulatory burden and improve efficiency in the Health Protection Branch.

Response

34. The primary goal of the regulatory system is to protect the health and safety of Canadians. Any change to procedures must contribute to achieving this fundamental and overarching goal. Below are some examples of regulatory initiatives already undertaken which meet this test and which also lessen the regulatory burden and improve efficiency.

Within TPP at Health Canada:

- TPP is pursuing development of Mutual Recognition Agreements with a number of other countries. These will, after suitable mutual verification and confidence building regarding the regulatory processes in place, allow each country to accept regulatory conclusions (e.g. drug plant licensing decisions, medical device product licensing decisions) without having to duplicate the work.

- Development of a regulatory framework that promotes a range of interventions other than regulations, including, for example, for organ transplantation — where the practitioners are highly trained and motivated — an approach based on oversight by TPP of a self-regulation model.

- Development of a third-party quality system approach to medical device establishment licensing, based on the ISO 9000 quality system model.

- Devolution of advertising monitoring from TPP to an industry-funded third party, subject to TPP oversight.

- Pursuit with the Pest Management Regulatory Agency of regulatory changes that will eliminate the overlapping regulation of certain disinfectant products as both drugs and pest control products.

Within the Food Programme:

35. Following the creation of the Canadian Food Inspection Agency (CFIA), which amalgamated responsibility for the administration and/or enforcement of federal food laws, a task force was formed with representatives of CFIA, Health Canada and Industry Canada to develop proposals for legislative renewal. As a result of the partnership between CFIA, Health Canada and Industry Canada, the Canada Food Safety and Inspection Bill (Bill C-80) was introduced in the House of Commons on April 22, 1999, by the Minister of Agriculture and Agri-Food Canada.

36. Bill C-80 proposes to consolidate and modernize five food Acts (*Canada Agriculture Products Act*, *Meat Inspection Act*, *Fish Inspection Act* and the food-related aspects of the *Food and Drugs Act* and *Consumer Packaging and Labelling Act*) and the three agricultural inputs Acts (*Feeds Act*, *Seeds Act* and *Fertilizers Act*).

37. In anticipation of the new legislation, a comprehensive regulatory review of all the current regulations under the consolidated Acts has been initiated to allow for an effective implementation of the single statute on food safety. This review, which will include extensive consultation with other federal agencies, provincial and territorial governments, consumers and industry, is intended to combine several sets of regulations with a view to:

- eliminating any impediments to trade and harmonize with international standards as much as possible;

- identifying and eliminating conflicting, inconsistent or duplicate regulatory requirements;

- rendering the regulatory framework as flexible as possible to accommodate development of new products and permit innovation;

- simplifying language based on user-friendly principles to permit a better comprehension by stakeholders, facilitate service delivery and encourage uniformity in development of future regulations; and

- reconciling and improving provisions for health, safety and consumer protection based on sound scientific evidence and risk assessment.

38. The development of this consolidated and modernized legislation for food safety and inspection is but one aspect of a major initiative, HPB Transition, which has one of its focuses addressing the health risks of the 21st century. One of the measures being undertaken is a consolidation and modernization of the legislative base of HPB.

Recommendation 14

That the Secretary of State for Science, Research and Development be given the responsibility to coordinate and implement the federal Science and Technology Strategy across all departments and report annually to Parliament.

Response

39. As the Committee has noted, the federal S&T Strategy strikes a balance between the need for ministers to retain their individual responsibility and accountability to Parliament and Cabinet, and the need for horizontal management of the federal S&T effort. In implementing the strategy, a new governance structure was put in place, and the Minister of Industry, supported by the Secretary of State (Science, Research and Development), was given the responsibility for "lead[ing] the coordination of S&T policy and strategies across the federal government." The Secretary of State (Science, Research and Development) occupies a prominent place in the governance structure established by the strategy — he chairs the Council of Science and Technology Advisors (CSTA), which provides the government with advice on crosscutting issues related to the internal management of federal S&T, and is the Vice-Chair of the ACST. Under his leadership, and with the support of the Assistant Deputy Minister Committee on Science and Technology, two reports have been issued on federal S&T and the implementation of the strategy and guidelines for the use of scientific advice for government decision making have been developed by CSTA. Clearly, the fundamental basis of the Committee's recommendation is already in place.

Recommendation 15

That the House establish a committee to oversee science, technology and the innovation system in Canada.

Response

40. The government agrees that science, technology and innovation as a policy area is horizontal in nature. In recognition of this, the Government of Canada announced its strategy, *Science and Technology for the New Century* in 1996. The strategy provides a framework for ministers from across the federal government to contribute to the realization of the government's goals.

41. The existing portfolio-based committee structure contributes to this approach. Sectoral committees can offer informed policy and program advice in their area of expertise, and may hold individual ministers accountable for their portfolio initiatives. The government considers these committee roles essential to the good functioning of our parliamentary system of government.

42. As it stands, each committee considers the science, technology and innovation components within their purview. A new committee with exclusive jurisdiction in this area would create unnecessary overlap and duplication in the work of other committees.

43. The standing committee structure has demonstrated that it has the flexibility to contemplate a variety of issues in the science, technology and innovation universe, including such areas as environment and biotechnology. Parliamentarians' goal to strengthen Canada's knowledge-based economy is shared by the government. However, the government believes this important work should not be the responsibility of only one standing committee.

Recommendation 16

That the federal government review the impact of foreign ownership on investment in research and explore ways to encourage research by foreign entities in Canada.

Response

44. The perception over the past 30 years is that one reason for Canada's relatively low R&D spending intensity is the relatively high participation of foreign controlled businesses in Canada compared with other countries. This is due to the observed tendency of many multinational enterprises to perform most of their R&D in their home territory, and to transfer the derived

technology as needed to their subsidiaries in other countries. Comparing the performance of Canadian controlled to foreign controlled companies in terms of R&D expenditures in Canada lends some support for this interpretation of the Canadian data on R&D spending intensity. R&D expenditures in Canada as a percentage of R&D performing companies' revenues are 1.2 percent for foreign controlled companies whereas the figure for Canadian controlled companies is 2 percent for 1995. However, the innovative performance of firms involves factors other than the amount of R&D performed, such as technology transfer and managerial expertise.

45. The government has a good understanding of investment in R&D by Canadian controlled and foreign controlled companies in Canada through Statistics Canada's survey of industrial R&D performance. Also, the government has explored the differences in innovation performance between Canadian controlled firms and foreign controlled firms in studies performed by the Conference Board of Canada.

46. Foreign businesses operating in Canada are not typically subjected to different treatment in terms of access to R&D resources and incentives. This is true in respect of access to resources for performing R&D in labour and capital markets, and in terms of tax treatment under the SR&ED tax credit.

47. However, under the *Investment Canada Act*, foreign acquisitions of control of Canadian enterprises with assets above a threshold currently at $184 million are subject to review by the Minister of Industry for net benefit to Canada. Under this Act, it is possible for foreign firms to undertake to perform R&D or to commit to a certain total of R&D spending. Typically, a certain level of R&D performance or spending would be required to maintain the overall performance of the company in the marketplace, but a formal commitment to reinforce this performance could be required of a foreign buyer in order to assure that expertise remain in Canada as a condition of the transaction.

48. Investment Partnerships Canada performs an active role in promoting Canada as an attractive location for foreign direct investment, which includes informing investors of Canada's positive attributes for R&D. This includes the resources available for performing R&D including R&D personnel and availability of capital, generous tax credits for R&D spending, the role of university and industry collaboration.

49. Two recent examples of increased R&D performance in Canada by foreign controlled firms are:

- The $33-million investment in IBM for software development by Technology Partnerships Canada that will help position Canada as a location of choice for electronic commerce research and development.

- The establishment of the Canadian Regional Engineering Centre by GM Canada will create 160 new high technology engineering and product design jobs, bringing to over 330 the Product Engineering Staff in Oshawa.