Recent Canadian Policy toward Industry: Competition Policy, Industrial Policy and National Champions*


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This version dated:
January 9, 2008
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Paper Prepared for:

The Second Lisbon Conference on Competition Law and Economics

Lisbon, Portugal

November 15-16, 2007

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ABSTRACT

This paper reviews recent Canadian experience with industrial policy. Beginning in the 1980s, governments increasingly turned to freer and more open markets to guide the allocation of productive resources in the Canadian economy. Policy steps taken at this time included the privatization of a number of state-owned enterprises, significant deregulation in several sectors, free trade with the United States (and later Mexico), and increased openness to international investment. Also very significant was the adoption of a new, more effective competition law in 1986. This paper examines all of these policy changes and goes on to consider the relative lack of interest in more direct policies to foster national champions.
I. Introduction

Industrial policy and competition policy have been linked in Canada almost from the beginning. Canada’s first Prime Minister, Sir John A. MacDonald introduced perhaps the nation’s first significant industrial policy, the National Policy, in 1879.\(^1\) Erecting substantial tariff barriers to the importation of manufactured goods, this was MacDonald’s attempt to create a domestic manufacturing base (largely in central Canada – Ontario and Quebec) to reduce dependence on imports from the United States and the United Kingdom. In terms of its objective of creating that base, the National Policy was somewhat successful -- but at a cost. For example, western farmers forced to pay high prices for domestically manufactured goods but sell their outputs in competitive North American (or broader) markets resented the special treatment granted to central Canada by the policy. “Western alienation” continues as a recurring problem in Canadian confederation.

Not surprisingly, the protection of a small market by high tariff barriers provided the opportunity for small numbers of producers in many industries to work together to jointly control prices. Domestic firms began to cooperate to achieve higher prices – creating “combines” in Canada (similar structures would be called “trusts” in the United States) to further control competition between cartel members. A Select Committee of the House of Commons studied combines in sugar, coal, agricultural implements and fire insurance, among other industries, in 1888. Significantly, collusion was in general not illegal under common law.\(^2\)

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\(^1\) Canada secured its independence from Great Britain in 1867. Others might argue that MacDonald’s 1871 promise to build a railroad across the country to British Columbia was the first important announcement of an industrial policy. It was built between 1881 and 1885.

\(^2\) For much more on this history, see Trebilcock et al. [2002].
Something of a populist revolt in Canada (as in the U.S.) produced demands for controls on collusion – resulting in the first modern antitrust statute in 1889 in Canada, predating the American Sherman Act by a year. The first Canadian law was directed at price-fixing; amendments in later years added provisions for mergers and the abuse of dominance as well as for some pricing practices like resale price maintenance.

While this first example suggests that some kinds of industrial policy and competition policy may be complementary public policy instruments, more recent Canadian experience suggests they can be substitutes as well. That is, a strong competition policy can itself serve as an element of industrial policy rendering alternative policies such as public ownership or intensive regulation unnecessary.

The purpose of this paper is to briefly review the Canadian experience with industrial policy since the 1980s, with a particular emphasis on the role of competition policy as a substitute for other policies. To begin, I need to define just what I mean by industrial policy.

There is no end to the list of possible definitions of industrial policy. A very useful list of definitions from the literature is provided in Aiginger [2007] which illustrates just how very differently various authors view the term. In times gone by – perhaps a quarter century or so ago – the term was used in a general way to refer to government policies that sought to target certain industries and direct resources toward those industries where higher social returns were expected to be realized. Implicit, and sometimes explicit, reasons for these reallocations derived from various kinds of real or perceived market failures. For example: capital markets were so imperfect they did not

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3 The first law was called *An Act for the Prevention and Suppression of Combinations formed in Restraint of Trade.*
see the possibilities for this industry in this location and would not finance it; government assistance will speed the development of an industry and put that country’s producers at an advantage relative to their foreign competition, shifting rents to the domestic economy; or supporting a particular industry in a particular, economically depressed geographic area, was an efficient way of giving citizens in that area a “hand up” rather than a “hand-out”.

For my purposes, I am going to take a much broader definition; an approach which I sense has become much more common. Here I will consider a government’s “industrial policy” to be the set of its policy initiatives that seek to redirect productive resources in the economy for the (stated) purpose of enhancing productivity and increasing the total wealth generated. This definition is indeed broad, but I would suggest that it excludes: (i) policies that are purely about redistribution of income and consumption opportunities; and (ii) policies that may redirect productive resources but for which this is not the primary purpose, as when a ban on dangerous chemical pesticides for health reasons causes a boost in demand for, and production of, safer alternative products.

What my definition does include (in addition to more traditional industrial policies) are policies that do not target individual industries, regions or sectors directly (as did the old-fashioned industrial policies) but aim to raise wealth by improving the quality and or quantity of inputs available to many industries and sectors (maybe all) at once. These would include educational programs, improved infrastructure (roads, ports, airports), and support for research and development. Certain framework policies, such as competition law and intellectual property law can also be fit inside this definition.
I begin my review in the 1980s, very much a period of transition for the Canadian economy. As had many other countries, Canada at this point had experienced slower growth than after the Second World War and it was a time of concern about whether current economic policies were serving the country well.\footnote{In 1981-82 Canada in fact suffered a recession.} In 1982 the federal government established a royal commission to study the state of the economy and recommend policies to move it forward. The Royal Commission on the Economic Union and Development Prospects for Canada, popularly known as the MacDonald Commission, reported in 1985.\footnote{For more on the MacDonald Commission’s views on industrial policy and on what has happened since the Commission reported, see McFetridge [2006].}

The MacDonald Commission studied many aspects of the Canadian economy and society but of importance to this paper are its recommendations for public policy toward industry. Over time, many of the Commission’s recommendations to work toward a more market-driven economy, less reliant on government oversight and regulation, have been realized. This is true even of more controversial recommendations such as to pursue a free-trade agreement with the United States, which was in fact implemented in 1988.\footnote{And subsequently expanded to include Mexico into what is now the North American Free Trade Agreement (NAFTA) negotiated in 1992. NAFTA took effect on January 1, 1994.}

The MacDonald Commission did not come to recommend that governments in Canada devote a great deal of attention to industrial policies that targeted particular industries or tried to pick winners. It observed that a few countries had enjoyed some success with this approach, but it also recognized failures.\footnote{Some of the countries it identified as successful, such as Japan, came to seem less so within a few years.} Its focus was more on industrial policies of the framework variety: it advocated free-trade, deregulation,
privatization and a vigorous competition policy. As I discuss below, all of these have been addressed to at least some extent in the twenty years plus since the report was released. Indeed, many initiatives in these directions were underway within a few years and some developments even began while the Commission was still doing its work. The Commission also studied issues that continue to challenge Canadian governments. It was very interested in productivity and competitiveness; noted arguments that there may not be enough government support for research and development in Canada; and cited concerns about a lack of venture capital for entrepreneurs.

Concern about Canadian productivity and international competitiveness was taken up in another influential study produced by Michael Porter and the Monitor Group in 1991.\footnote{It was titled, “Canada at the Crossroads”.} Professor Porter has had the opportunity to revisit that work in more recent research with Roger Martin [2001]. In his original study, Porter had recommended that the federal government move aggressively to tackle its recurring budget deficits. On the microeconomic front he recommended an emphasis on building strong domestic rivalry in Canadian business; regulatory standards that made Canadian governments more demanding consumers; deregulation in infrastructure sectors; greater government investments in education and training; and technology development policies tied to industry clusters. In their 2001 update, Martin and Porter noted the significant progress made on the macroeconomic and budget fronts, but argued that the country still needs much greater investment in higher education and specialized skills training.\footnote{The federal government has enjoyed a string of budget surpluses since the 1997-98 budget year. This was accomplished by controlling spending in a growing economy. From 1992 to 2006, federal government spending as a fraction of GDP fell from 25% to 15%.} Some support for exporting firms is encouraged (though they do not argue strongly for direct
subsidies). Finally, they argue again for a focus on the development of productive clusters where there is evidence they will succeed, perhaps assisting them with specialized educational programs, specialized infrastructure or special regulatory structures.10

In the sections that follow, I review many of the most important developments of the 1980s and 1990s that shaped what we might view as Canada’s current approach to industrial policy. Taking much from the pages of the MacDonald Commission report, this includes a new comprehensive competition law (Section II); as well as the deregulation of important industries, privatization of a number of major public enterprises, free-trade and the encouragement of foreign investment (Section III). The current approach to subsidies is briefly discussed in Section IV. Section V addresses some current issues, while Section VI considers the Canadian approach to national champions. Section VII concludes.

As will be evident below, Canada did not adopt a broad-based old-style industrial policy approach of trying to pick winners (and supporting and protecting them) and/or propping up losers, though there was certainly some of this. Rather, what has been referred to as a “horizontal” approach emerged, in which the government focused on creating the conditions for free competition that might push firms and markets to greater achievements in terms of efficiency.11

10 Martin and Porter [2001, p. 20]. Coming from a somewhat different direction, Rahnema and Howlett [2002], argue for a more activist industrial policy for Canada including, again, support for technology intensive industries, but also an increase in vertical and horizontal integration within Canada (encouraging, for example, more downstream processing of Canadian raw materials).
11 Maincent and Navarro [2006, p.22] explain that a similar pattern emerged in Europe, though there were some notable experiments with “building” national or European champions (e.g. Airbus, HDTV) some successful, some less so. They also discuss the recent renewal of interest in a somewhat more targeted industrial policy in Europe.
II. Background on Canadian Competition Policy 12

While Canada’s first competition law (of 1889) predates by one year the American Sherman Act, Canada had not enjoyed a very active antitrust history up to the 1980s. I will not get into the details of why this was so, but in brief the problems stemmed (at different points in time) from: (i) the lack of a purpose-built enforcement machinery (in the early years); (ii) the inappropriate treatment of many matters (including mergers and abuse of dominance) under criminal law; which led to (iii) a series of judicial decisions that made it extremely difficult for the Crown to win cases.

A very painful reform process led, finally, to the substantial re-writing of Canadian antitrust law, in two stages, beginning in the mid-1970s and finishing with the passage of the Competition Act and Competition Tribunal Act in 1986. Repealed by the new law were the criminal merger and monopoly offences, replaced by new civil provisions. A new preamble explained the purpose of the Competition Act, and the Competition Tribunal Act established a new quasi-judicial tribunal with mixed judicial and lay membership, to adjudicate matters under the civil provisions.

The Purpose Clause

The purpose clause (Section 1.1) recognizes that competition is a means to an end (or several ends) and that Canada has become part of a global economy:

“The purpose of this Act is to maintain and encourage competition in Canada in order to promote the efficiency and adaptability of the Canadian economy, in order to expand opportunities for Canadian participation in world markets while at the same time recognizing the role of foreign competition in Canada, in order to ensure that small and medium-sized enterprises have an equitable opportunity to

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12 This review will be brief. It draws extensively on parts of Ross [1998]. See also Stanbury [1986-7], Kaiser and Nielsen-Jones [1986], and Maule and Ross [1989]. On the battles to reform the law see, for example, Reschenthaler and Stanbury [1981].
participate in the Canadian economy and in order to provide consumers with competitive prices and product choices.”

While this might not be as clear a statement of the primacy of efficiency as a goal of competition policy as some economists might have wished, it probably does represent a large step in that direction. It is certainly possible that the various objectives outlined in the preamble will be found to conflict in practice. While many economists working in antitrust would argue that competition laws should be primarily directed at improving the efficiency or total welfare of an economy, this view is not universal. In a recent series of judgements in the Superior Propane merger case, the Federal Court of Canada instructed the Tribunal that, at least in some circumstances, the pursuit of greater total surplus cannot be without regard for the other objectives listed in the Purpose Clause.

**Criminal Offences**

The principal criminal provisions under the new law are listed in Table 1 together with the maximum punishments available under the Act. At this writing the largest fines obtained to date for a single case totalled over $91 million from the international vitamin cartel. The largest single fine on a company was $50.9 million on Hoffman LaRoche for its participation in this cartel.

With the removal of the monopoly and merger provisions to the civil side, the central element of criminal competition law in Canada is undoubtedly the section related to conspiracy (S. 45). It retains much of the language of the original law of 1889 and as such is the most important part of Canada’s competition law that was not “modernized”

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13 Jail sentences have only rarely been applied in competition cases in Canada.
14 Remedies other than fines and jail sentences are available to the court in some cases. For example: the reduction or removal of customs duties, alteration of patent and trademark rights, interim injunctions, prohibition orders, requiring information returns for three years after conviction and the recovery of damages by injured parties.
through the amendments of the 1970s and 1980s. Some authors have argued that, in light of changes in the ways firms today organize themselves for productive purposes through, for example, strategic alliances and other cooperative ventures, the time has come to rethink the way Canadian law handles agreements between competitors.¹⁵

Two other of the substantive criminal offences in the Act largely untouched by the 1986 amendments, the price discrimination/predatory pricing and resale price maintenance provisions, would also seem ready for revision. The price discrimination section has been very little used, in part because it allows different prices for different quantities, so it is hard to see how it protects anyone. It does, however, generate a lot of concern for sellers who do not want to inadvertently break the law. The large number of inquiries about this part of the law led the Competition Bureau to issue a set of enforcement guidelines in 1992. Consideration has been given to the repeal of the price discrimination provisions.

The virtual *per se* illegal treatment of resale price maintenance agreements would also seem to be out of step with current thinking that recognizes that vertical restraints such as RPM can be socially efficient.¹⁶

Private enforcement of competition law in Canada is largely restricted to these criminal provisions. Those harmed as a result of behaviour covered under these sections (but not most of the civil provisions including mergers and abuse of dominance) may launch actions requesting (single) damages.

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¹⁵ See, e.g. Kennish and Ross [1997] and Trebilcock and Warner [1996]. These authors suggest that the current law has two main flaws. It is not very good at disciplining pure cartel behaviour due to the need to prove that competition was lessened “unduly”. And it is not very flexible when it comes to reviewing agreements between competitors (e.g. strategic alliances) that, while they may reduce competition in some dimensions, are on balance socially beneficial.

¹⁶ With its recent decision in *Leegin Creative Products Inc. v. PSKS Inc.* (decision June 28, 2007), the U.S. Supreme Court also supports a rule-of-reason approach to minimum resale price maintenance.
Competition Bureau and Competition Tribunal

The central antitrust enforcement agency in Canada is the Competition Bureau, headed by the Commissioner of Competition. While the Bureau has no adjudicatory function, it does have responsibility for most other aspects of competition law enforcement including investigation, prosecution and competition advocacy.

One of the main points of dispute when amendments were being proposed in the 1970s and 1980s was whether or not a specialized adjudicatory body should be created to hear competition cases. On one side of the debate were those who appreciated the predictability and attention to process that characterizes regular court proceedings. Opponents argued that competition cases are too complicated to be given to judges with limited expertise in economics, finance, and other business disciplines. The 1986 legislation represented something of a compromise.

The most serious offences (e.g., price fixing) remain criminal and will continue to be heard in regular criminal courts with all the familiar protections for the accused. To hear other civil “reviewable matters”, such as mergers and abuse of a dominant position, a specialized body was created. The legislation did not go so far as to make this strictly a lay panel of experts. The Competition Tribunal is a quasi-judicial body with many of the trappings of a court. Not more than four members of the Tribunal are to be judges of the Federal Court of Canada and not more than eight other (lay) members are to be appointed by the Prime Minister for seven year renewable terms.\(^{17}\) The Prime Minister must select the Chairman of the Tribunal from among the judicial appointees. While the legislation

\(^{17}\) Almost all members serve the Tribunal on a part-time basis. The judicial members will generally continue to serve the Federal Court and join Tribunal panels when needed.
does not specify what qualifications are necessary for the lay members, they are generally expected to be experts from the business, academic and civil service communities.

The Tribunal hears cases on application by the Commissioner of Competition. All applications are heard by a panel of three to five members (almost always three in practice), consisting of at least one judicial member and at least one lay member. A judicial member, appointed by the Chairman of the Tribunal, must preside. In any proceeding before the Tribunal, questions of law are to be determined only by the sitting judicial members, while questions of fact or mixed law and fact are to be determined by all the panel members. Appeals of Tribunal decisions can be made to the Federal Court of Canada (Appeals Division).

To stress an important point, the Competition Tribunal is strictly an adjudicative body. It has no authority to conduct investigations, to provide advice on public policy or to authorize the use of formal investigatory powers (e.g. “searches”) by the Commissioner of Competition.

Matters Reviewable by the Competition Tribunal

Table 2 below lists the most important of the civil reviewable matters adjudicated by the Tribunal. There are no per se prohibited practices among these reviewable matters. In most cases, the Tribunal is charged with determining whether the practice or action has or will have an adverse effect upon competition. If it finds such an anticompetitive effect, it can issue an order to prohibit the practice or action (e.g., to

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18 There are some exceptions. Private parties may approach the Tribunal for approval of specialization agreements. None has yet done so. Recent amendments also provide rights to private parties to approach the Tribunal for relief when they believe they have been harmed by actions that would fall under the Competition Act’s refusal to deal provisions or its provisions related to exclusive dealing, tied selling and market restriction.
block a merger). The Tribunal has the authority to review a number of trade practices that can be characterized as vertical restraints: refusals to deal, consignment selling, exclusive dealing, market restrictions (generally geographic restrictions on resale) and tied selling. Upon review, the Tribunal can order that the practice be discontinued or modified. While it cannot impose financial penalties for these practices, the failure to comply with an order of the Tribunal is a criminal offense punishable by fines and jail sentences.

The abuse of dominant position provisions replaced the old criminal monopoly offence in 1986. Where dominant firms, defined as one or more persons who substantially or completely control, throughout Canada or any area thereof, a class or species of business, engage in “anticompetitive acts”, the Tribunal “may make an order prohibiting all or any of those persons from engaging in that practice.” There is a competition test however: the Tribunal must find that the practice has had, or is likely to have, “the effect of preventing or lessening competition substantially in a market”. Importantly, fines are generally unavailable to punish abusive behaviour by dominant firms.

Three points are worth noting about these provisions. First, the “persons” referred to in S. 79 do not all have to be in the same firm. A group of firms acting together in some way could be held to have joint dominance and be subject to these provisions as was the case with a number of major financial institutions that cooperatively developed the Interac network of automated banking machines in Canada.

Second, the term “anticompetitive acts” is not defined, though S. 78 offers a non-exhaustive list of acts that could be found to be anticompetitive such as “squeezing” a
customer who is also a downstream competitor, the use of “fighting brands”, the “pre-emption of scarce facilities” and the selling of articles at “a price lower than acquisition cost for the purpose of disciplining or eliminating a competitor.” The Tribunal has not felt at all restricted by this list.

Finally, there are only limited provisions for private enforcement for abuse of dominance or any of the reviewable matters under the *Competition Act*. As indicated above, private parties can try to recover (single) damages only when they can establish they are harmed by criminal offences under the *Competition Act*. Of course, private parties can file a complaint about abuse of dominance with the Competition Bureau, but in abuse of dominance cases, is up to the Commissioner to decide if an application is to be made to the Tribunal. As a result of recent amendments, in the case of the refusal to deal, exclusive dealing, tied selling and market restriction provisions (S. 75 and S. 77), private parties can approach the Tribunal to secure orders to supply (for refusal to deal) or cease and desist orders. They may not recover damages this way.

The decriminalization of the merger provisions may have been the most important of all the amendments. Not only was merger review given over to a process more appropriate to the evaluation of complex situations over which reasonable people (even experts) could disagree, but an efficiency defence and pre-notification provisions were also added. The efficiency defence (S. 96) instructs the Tribunal not to issue an order if the merger will produce gains in efficiency “that will be greater than, and will offset, the effects of any lessening of competition” resulting from the merger if those efficiency gains are not likely to be attained were the merger to be blocked. It further explains, appropriately enough, that a transfer from one party to another is not a gain in efficiency.
In 1991, the Bureau released its Merger Enforcement Guidelines to inform Canadian business how it interprets and intends to enforce the new provisions. A revised set of guidelines were released by the Bureau in 2004.

The new merger provisions certainly revitalized this part of Canadian antitrust: in recent years over 200 merger examinations have been commenced by the Bureau each year.\(^{19}\) A large majority of merger examinations are closed as posing no issue under the Act. As McFetridge [1998] explained in his thorough review of the first ten years of Canada’s new merger law, many cases are resolved through consent orders, restructuring agreements or contested proceedings, and in some cases the parties have been quite creative in resolving competitive problems. McFetridge [1998] notes however, and this continues to be true, that there remains a great deal of uncertainty over this part of the Act; for example, uncertainty about the application of the efficiency defence, and uncertainty about the respect the Tribunal will accord to the Merger Enforcement Guidelines.\(^{20}\)

**Enforcement of the Competition Act**

Apart from the creation of the Tribunal, the enforcement machinery of Canada’s competition law was not much changed by the passage of the 1986 Acts. The Commissioner of Competition, continues in her role as the principal investigator of all competition matters. Although appointed by the Cabinet, the Commissioner enjoys statutory independence from the Minister of Industry in whose department the Competition Bureau resides. The Bureau also brings actions in civil matters before the

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19 An “examination” implies at least two person-days of effort.

20 On the current state of the efficiency defense, see, e.g., Ross and Winter [2005].
Criminal prosecutions are led by the Attorney General with support provided by the Bureau. Before a matter gets to court or before the Tribunal, the Commissioner will frequently try to negotiate a resolution to her competitive concerns. Even on criminal matters the Commissioner has on some past occasions chosen to seek a prohibition order without conviction. In this way, the Commissioner’s role can be seen as more regulatory and less as pure law enforcement.

The Commissioner also serves an important function as a champion of competition in Canada. Frequently the Commissioner and other Bureau officials will appear before regulatory agencies or other government bodies to argue for competitive markets as the best regulators of economic activity. As in many other countries – and as discussed below -- governments in Canada are increasing turning to competition, supported by vigorously enforced antitrust laws, to control firms released from the constraints of direct regulation or public ownership.

All of this represents a considerable increase in responsibilities for the Competition Bureau since 1986, an increase that was not accompanied by large increases in the Bureau’s budget. When the budget for public enforcement is tight, it is natural to consider private alternatives. Continuing from the 1975 amendments is the private right of action for parties suffering damages as a result of a criminal offence under the Act, but there has been very little private enforcement activity. There are probably a variety of reasons for the lack of interest in private actions, including uncertainty about the

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21 This understates the importance of the Department of Justice which typically provides the legal support for applications to the Tribunal as well as for criminal prosecutions. The Department can exert considerable influence on what applications are made.

22 Prohibition orders have been used like consent orders. They provide a way for defendants to promise not to continue criminal activity without suffering a conviction (which might be used against them in private actions).
constitutionality of these provisions which was not resolved until 1989, the fact that only single damages can be recovered, and the “English” cost rules that typically require that unsuccessful plaintiffs cover the defendant’s costs. That said, there is some feeling that private actions will grow in importance as follow-ons to successful Crown prosecutions. In fact, this has begun in the form of class action litigation, which has been more recently facilitated by revisions to various provincial class proceedings legislation.

**Competition Policy as Industrial Policy in Canada**

There are at least two ways to look upon competition policy as industrial policy in Canada. The first, suggested earlier, is to see it as an example of policies intended to get the economic framework right, providing a set of rules to be broadly applied with the purpose of pushing all firms to be more competitive and efficient. In this sense, we see competition policy as an example of what has been called a horizontal industrial policy.

It is also true however, that nuggets of industry specific regulation are buried in the *Competition Act*. That is, competition rules are, in some cases, tailored to the specific needs of certain industries. It should be pointed out that these are needs as perceived by Parliament, not typically by Canadian antitrust scholars who generally dislike the inclusion of special provisions for selected industries. Without going into details as to the reasons for them, let me list a few of the special provisions contained in the Act. Some have their counterparts in the antitrust laws of other countries.

(i) S. 3 exempts collective bargaining activities;

(ii) S. 4.1 exempts travel agents sections of the Act related to price-fixing when they collectively try to negotiate commissions with a dominant domestic airline;
(iii) S. 5.1 exempts some activities of underwriters;
(iv) S. 6 exempts amateur sport;
(v) S. 45 exempts export cartels;
(vi) S. 48 provides specialized price-fixing rules for professional sports;
(vii) S. 49 provides special (per se) price-fixing rules for federal financial institutions;
(viii) S. 78 and 79 have had added to them special provisions to address concerns about abuse of dominance in the domestic airline industry. These additions include the only monetary penalties permitted for abuse of dominance in Canada.

III. Liberalizing in the 1980s: Privatization, Deregulation, Foreign Investment and Free Trade

As suggested above, during the 1980s, Canada took a fairly sharp turn away from more interventionist microeconomic policies toward a greater reliance on getting the framework right for markets to work their magic allocating resources efficiently and creating wealth. In this section, I briefly describe the related policy shifts in four major areas: privatization, deregulation, foreign investment and free trade. My purpose is not to offer a comprehensive review of how these policy changes came about individually, rather it is simply to note that they did occur and that the policy shifts that generated them all began around the same period of time.
**III.1 Privatization**

Canada has, throughout its history, embraced public ownership to a greater extent than many other developed Western countries – and much more so than the United States. Even before Confederation, significant public enterprises had built and operated canals, but public enterprise in Canada got a strong boost when the province of Saskatchewan created provincially owned firms in the bus, air transportation, telephone, electricity and auto insurance industries, after World War II. No other government in Canada went quite this far, but a number of provincial and federal “Crown Corporations” were created across the country. A study of the degree of public enterprise in Canada and other countries in the mid-1980s by the Economic Council of Canada ranked Canada in the middle of this pack in terms of the importance of state ownership: Canada at this time had more public enterprise than Switzerland, Australia, Japan and the U.S., but less than Austria, France, Italy and the U.K.23

Public enterprises were created in Canada for a variety of reasons, including: (i) a desire to speed the development of infrastructure (particularly in telecommunications and electricity); (ii) to bail out failing firms and protect employment in economically disadvantaged areas; (iii) to support “nation-building” by creating national carriers in the railroad (Canadian National) and airline (Trans-Canada Airlines, later renamed Air Canada) industries out of a group of regional (and not always very successful) carriers; (iv) a desire to control strategic assets in the interest of provincial economic development; and (v) a desire to avoid federal taxation of provincial resource revenues.24

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23 Economic Council of Canada [1986]. The same report indicated that, in 1986, government-owned enterprises held about 26% of assets of Canadian companies.

24 Provincial Crown Corporations were not subject to federal natural resource taxation.
Some experiments were clearly related to old-fashioned industrial policy whereby governments tried to pick winning industries, but here the plan was to develop them “internally” rather than by protecting or subsidizing private sector firms. However, I would not say that these reasons predominated.  

By the 1980s, interest in government enterprise had definitely waned. Dissatisfaction with the performance of some government operations combined with a greater willingness to trust private enterprise and market forces (and learning from more liberal regimes elsewhere) led provincial and federal governments to privatize many of the largest Crown Corporations. Table 3 below lists the major privatizations by the federal government and Table 4 provides a list of the largest privatizations by provincial governments. Both tables reveal how active the late 1980s and early 1990s were with respect to privatization. Privatization activity has slowed since the 1990s, in part because many of the major prospects had already been sold. However, many large Crown Corporations continue to operate in Canada, and many of the largest (and some high profile smaller Crowns) are listed in Table 5. The biggest are concentrated in the financial and electricity sectors. While there are regularly debates about the merits of privatizing these firms, particularly those in electricity as part of broader efforts to introduce market discipline to power markets, no such large privatizations are imminent, to the best of my knowledge.

25 For example, the Canadian government owned the aircraft maker de Havilland for a time (now part of the Bombardier enterprise). Its ownership was partly a bail-out, but also a bet that this was a winning industry in which Canada wanted a place. The Urban Transportation Development Corporation was created in the 1970s by the Province of Ontario to develop transit vehicles for province’s transit authorities and also for what were expected to be lucrative foreign markets. The activities were also eventually sold to Bombardier.

26 In a related development, governments in Canada are expanding their use of public-private partnerships in which private sector partners work with government departments to deliver public services, such as toll roads, bridges, schools, hospitals and water treatment facilities. See, e.g., de Bettignies and Ross [2004].
III.2 Deregulation

Not unlike the United States and many other developed countries, Canada has retreated from intensive regulation of prices and entry in a number of industries, though this came somewhat later in Canada than in some other countries. The original purposes of this regulation were many, but in some cases the regulatory structures served industrial policy purposes, as when cross-subsidies from long distance and business telecommunications services allowed the provision of basic telephone services to households at prices well below cost. Another example, which continues to this day, involves regulations requiring certain amounts of “Canadian content” as a condition of licensing for television and radio broadcasters in Canada.

The reasons for deregulation in Canada, as elsewhere, varied by industry of course, but included: (i) technological developments that made it possible for smaller firms to compete in markets that had to that point been considered natural monopolies (e.g. combined-cycle gas turbines for electricity generation); (ii) the development of new products or services that could offer real competition for incumbent providers (e.g. wireless telephony to compete with wired services); (iii) accumulating evidence that the costs of regulation exceeded the social benefits; to the point that (iv) even some of the alleged beneficiaries of regulation came to see that the inefficiencies had significantly eroded their regulatory rents (e.g. in airlines).

The deregulatory initiatives with the greatest impact in Canada occurred in the following industries:

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For an excellent discussion of the Canadian experience with deregulation in the industries discussed here, see Iacobucci et al. [2006].
**Airlines:** Almost ten years after the Americans had led the way, the Canadian government launched the process that would, within a few years (largely complete by 1988) remove most restrictions on prices and entry (subject only to “fitness” tests) for domestic airlines. There was difficult resistance to overcome from the major airlines themselves and much of the staff of the Department of Transport, but the government was persuaded to act, in part by observing long distance Canadian travelers crossing the border both ways to take advantage of much cheaper US flights across the continent.\(^{28}\) Regulations on pricing and entry in most other areas of transportation have been removed as well.\(^{29}\)

While the Canadian experience with the deregulation of airlines has been largely positive (for consumers if not airline shareholders), as in many other countries it presented significant challenges for major established carriers with high cost structures and networks designed for a regulated environment but not optimal post-deregulation. The challenges faced by one of the two national carriers, Canadian Airlines International, were such that it effectively failed. In 2000 it was acquired by the other major national carrier, Air Canada, in one of the most famous merger cases in Canadian history.

Other competition challenges have arisen in this deregulated environment. Air Canada has been accused on a number of occasions and by a number of rivals of predatory pricing. The Competition Bureau took some of these claims seriously enough to challenge the behaviour before the Competition Tribunal. Only Air Canada’s retreat behind court protection due to its own financial distress stopped the proceedings. In

\(^{28}\) A particularly inefficient form of regulatory by-pass.

\(^{29}\) Intra-provincial trucking is regulated by the provinces and these regulations vary across the country.
addition, the privatization of a number of airports and the national air traffic control system has led many to believe that these were the locations of real monopoly power that were not likely to be checked by competition.  

**Telecommunications:** A rather steady retreat from regulation in telecommunications has proceeded since the late 1970s and early 1980s. Throughout this period entry and price controls were removed from (or never imposed on some newer services) a number of sectors including terminal equipment markets, mobile telephony, long distance, inter-exchange private lines, retail internet and wide area networking. With new competition emerging for even basic local wired telephone service via wireless services and cable company voice-over-IP (VoIP) telephony, the Canadian regulator has signaled its willingness to withdraw from this last major regulated market segment.

In contrast to the rather chaotic situation that existed after airline deregulation, the evolution of telecommunications markets has been much smoother. This does not, however, mean that there are not significant competition issues confronting the Competition Bureau and government as the telecommunication regulatory body retreats. Despite the formal openness of most of these markets, most remain highly concentrated and concerns have been expressed about the need to stimulate competition further. A recent (but unsuccessful) proposal from Canada’s second largest telecommunications company (Telus) to buy the largest (BCE) would have presented the Competition Bureau with a number of very significant challenges.

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30 To be fair, these have not typically been privatized into for-profit operations. Nevertheless, concerns have been raised about the rapidly rising costs of accessing these facilities.
The combination of high costs of establishing the facilities needed to offer real new competition and the entrenched positions of the few providers in the market now, have encouraged the federal government authority responsible (Industry Canada) to consider reserving some spectrum for new entrants in its next spectrum auction for wireless providers. We might see this as an old-fashioned kind of industrial policy – akin to a subsidy for entrants – being used to complement competition policy.

**Electricity:** The story of electricity deregulation in Canada has been a short and not particularly happy one. Frightened by the famous problems with the deregulated markets in California, and damaged by its own design problems and lack of political commitment, market reform initiatives that had begun in the province of Ontario in the late 1990s were effectively stalled a few years later. The province of Alberta has had similar (but not quite as embarrassing) problems designing their market structures, but is moving ahead again.

While no other provinces have tried to move as much toward deregulated electricity markets as have Ontario and Alberta, other provinces such as British Columbia, with what had been monopoly provincial Crown Corporations providing electricity, have moved to make it easier for private power producers to enter the generation part of the industry.\(^{31}\)

\(^{31}\) The OECD Survey on Canada \[2006, p. 54\] reports, based on 2003 data at Figure 2.4, that in terms of the restrictiveness of electricity regulation, Canada is second among its members. It argues that “Greater competition in electricity markets would boost productivity and efficiency in electricity generation and distribution, while exposing consumers to market-determined prices would provide stronger signals for households and firms to manage their electricity use optimally.”
Financial Services: The long list of important deregulatory initiatives in the financial services sector will not be reviewed in any detail here, but I did want to note that this industry has been substantially restructured as a result. Historically, financial services in Canada had been provided by firms comprising the “four pillars” of the industry: banks, trust companies, insurance companies and securities dealers. For many years, firms were not permitted to operate in more than one of these areas and foreign firm participation was limited. Over the last thirty years, most of these regulations have been gradually removed or relaxed. In the 1980s and 1990s, the major banks in Canada acquired most of the trust and brokerage companies and started their own mutual fund and insurance businesses. Foreign banks have made greater inroads in some product lines than in others, but there has been progress overall. As a result, there are financial institutions in Canada that operate in all fields and foreign banks now have a more significant (but by no means large) presence in the Canadian marketplace.

In 1998, when the Canadian financial services marketplace was dominated by five large national banks, two pairs of these five banks proposed mergers – which would have reduced the “big five” to the “big three” (or really the “very big two and big one”). Charged with reviewing the two largest proposed mergers in Canadian history, in the same market at the same time, the Competition Bureau assembled the largest merger review team in its history. The review considered many product and geographic markets and identified a number of areas of concern. At this point the Minister of Finance
stepped in and used his authority (only available to him in the case of bank mergers) to prohibit the mergers.\textsuperscript{32}

This is certainly not the end of this story – Canadian banks continue to argue that they need to merge to create the scale necessary to compete with the largest global banks. We expect that another merger proposal will come forward at some point, but only after government signals a willingness to revisit the idea. Popular opinion has always been rather negative on bank mergers, with the result that no political party has shown much interest in the idea to date.

\textbf{III.3 Foreign Investment and Free Trade}

During the 1980s the government’s treatment of foreign investment took a sharp turn as well. Foreign direct investment has historically been an important part of Canadian industry, and this continues to this day. Canada has one of highest levels of foreign ownership of industry in the developed world, a point that at some points in time has raised concerns about the extent to which Canadians really control their own country.\textsuperscript{33}

In 1973, the federal government created the Foreign Investment Review Agency (FIRA) to screen investments by foreign parties to determine whether they were consistent with Canadian interests.

\textsuperscript{32} That is, the merging parties did not get an opportunity to respond to the concerns expressed by the Bureau (by challenging the conclusions or offering remedies), which would be normal in merger review in Canada.

\textsuperscript{33} Rahnema and Howlett [2002, p. 120]
By 1986 however, Canada was back, like much of the world, chasing international investment dollars. FIRA was re-branded “Investment Canada” and given the reverse mandate of encouraging foreign investment.34

While there were not significant movements toward a more protectionist attitude in foreign investment, concerns always reside close to the surface. Interestingly, there have been some stirrings very recently. A number of recent acquisitions of high profile iconic Canadian companies by foreign interests, and arguments that these events contribute to a “hollowing out” of Canadian business, are heard more regularly from Canadian nationalists. Major Canadian companies acquired recently include:

- Forestry giant MacMillan Bloedel, bought in 1999 by Weyerhaeuser;
- Department store chain Eaton’s, purchased by Sears (1999) then closed (2000);
- Seagram Distillery, bought by Vivendi Universal in 2000;
- Hudson’s Bay Company department store chain (founded in 1670), bought by an American investor in 2004;
- Molson Breweries merged with Coors in 2005;
- Dofasco, a major steel producer, acquired by Arcelor in 2006;
- Noranda and Falconbridge mining companies purchased by Xstrata in 2006;
- ATI Technologies, graphics chip maker, bought by AMD in 2006;
- Stelco, a major steel producer, taken over by United States Steel in 2007; and
- Alcan, a major aluminum producer, purchased by Rio Tinto in 2007.

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34 This slightly exaggerates the extent of the reversal. Investment Canada must still review many takeovers by foreign parties to assure itself that they are of net benefit to Canada. This review has led to some restructuring of transactions. It may have discouraged some takeovers as well. More on this below.
With the exception of the “new economy” firm ATI, these are very old and familiar Canadian institutions. Having so many go to foreign owners in such a short period of time was, I suspect, bound to anger Canadian nationalists who argue that when head offices relocate out of the country so do many of the most important (and higher paying) managerial and professional jobs.

While these acquisitions may have created concern in some quarters in Canada, it does not yet appear to be pushing politicians to action against foreign investments generally. This despite the fact that the Investment Canada Act subjects every acquisition of control by a non-Canadian of a Canadian business either to a government notification requirement or a detailed review by either the Department of Industry or the Department of Canadian Heritage (the latter for acquisitions in the cultural industries) to determine that the transaction will be to the net benefit of Canada. Thus, there is legislation in place to protect a variety of firms from take-over by foreign buyers. However, even in the cases in which the acquisition needs Ministerial approval, this is very rarely denied. More commonly, some conditions are attached to the approval, such as the retention of head offices in Canada for a period of time.

This said, one specific area in which a policy response is very likely is in the area of acquisitions of Canadian companies by foreign state-owned companies.\(^{35}\) As I write this, newspapers are reporting that the federal government is developing a new policy.

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\(^{35}\) Noranda had been a target of state-owned China Metals Corp in 2005, but the transaction was not pursued, in part because of public concern about Chinese state control of a major Canadian company. On the current policies and reforms that might be coming, see, e.g. Neylan and Rushton [2007].
requiring consideration of national security interests before approval of such
transactions.36

These newest developments notwithstanding, investments by foreign interests are
now welcome in most industries in Canada, with just a few important exceptions. There
are limits on the fractions of companies that can be held by foreigners in a number of
special sectors, including airlines, telecommunications, and broadcasting. Limits
requiring large banks to be widely held have protected Canadian banks from takeovers by
foreign financial institutions.37 Interestingly, concern about lack of competition in some
of these industries (particularly airlines and telecommunications) has prompted calls for
removal of the limits on foreign ownership in these sectors in the hope that foreign firms
will enter and provide additional competition for the Canadian oligopolists.

Likely the most important, and certainly the most remembered, recommendation
of the MacDonald Commission was that Canada should aggressively pursue a free-trade
agreement with the United States. An earlier proposal for free trade with the United
States, in 1911 cost the government of the day an election and it threatened to do the
same to the government in 1988. The free-trade agreement was the main issue in that
year’s election, but the government survived and the agreement came into force in 1989.
The agreement, supplemented with the addition of Mexico into the North America Free
Trade Agreement, has stimulated trade between Canada and the U.S. and further
cemented Canada’s dependence on buyers and sellers in the U.S. 38


No single entity, domestic or foreign, may hold more than 20% of the voting shares of large Canadian banks.
This has the effect of preventing foreign banks from buying large Canadian banks.

Currently about 80% of Canadian exports go to the United States and over 50% of Canadian imports
come from the United States. Canada and the United States have been each other’s largest trading partner.
Canada’s pursuit of free-trade has not been limited to flows to and from the United States, of course. It has also actively participated in GATT and WTO discussions toward multilateral liberalizations and it has struck a number of smaller free trade arrangements (and is working on more) with other countries.  

The combined effects of this liberalization – particularly the deregulation and privatization initiatives – have been substantial. The fraction of GDP coming from sectors that can be viewed as regulated has fallen from over 35% to just above 25% from the early 1980s to today.  

Put another way, the Competition Bureau has a bigger “beat” these days – many industries that were not in its area of responsibility because they were otherwise regulated are now theirs to police. Interestingly, the two biggest merger events confronting the Bureau in the last ten years involved industries (banking and airlines) that only a few years earlier were regulated and not the Bureau’s responsibility.

IV. Subsidies and Other Supports for Business

Canada’s experience with subsidies in support of business is – like that of many countries – not an entirely happy one, and the idea that governments should subsidize for many years, but China is poised to replace Canada as the leading source of U.S. imports. Each country now has about 16% of U.S. imports. All trade data from the CIA World Factbook.

Canada currently has free trade agreements with Chile, Costa Rica, Israel, the U.S. and Mexico. It is currently in discussions with South Korea, Singapore and the European Free Trade Association, among other countries and groups of countries. From the Department of Foreign Affairs and International Trade: http://www.dfait-maeci.gc.ca/tna-nac/reg-en.asp.

These statistics should be taken as illustrative of the trend rather than precisely correct as to levels. With respect to the derivation of these statistics, Duhamel [2007] reports that whole industries were considered regulated when only parts may have been regulated but disaggregated data were not available. Industries still subject to some regulation at the end of the period include agriculture, fisheries, social and health services, education, pipeline transportation and some utilities.

Anderson et al. [1998] also recognized the expanding responsibilities of the Bureau (and noted that its allocated resources might not be keeping up).
individual firms directly is not widely applied today. Government subsidies (some provincial, some federal) have taken many forms and been directed to a number of areas, including:

(i) regional development subsidies designed to stimulate economic development in lower-income parts of the country;

(ii) agricultural subsidies to maintain farm incomes;

(iii) lending to small and medium-sized firms at (what is largely assumed) to be below market interest rates;\(^{42}\)

(iv) export finance, to “level the playing field” for firms competing globally with rivals subsidized by their governments;\(^{43}\) and

(v) support for research and development, both in the form of direct subsidies and in tax credits.

In part because of constraints imposed by international trade agreements, but also because of evidence that many subsidy programs were not particularly successful, subsidy levels are not unusually high by international standards today. The OECD report (p. 63), based on 2004 data, reports that subsidies in Canada are at about the same level (as a fraction of GDP) as in other OECD countries.\(^{44}\)

Figure 1 below illustrates that, in some sense, government transfers to business are much less important today then they were in the 1980s. The graph shows that

\(^{42}\) For example, the province of Quebec has created the Quebec Business Investment Company to help finance small businesses in the province.

\(^{43}\) The most famous recent battles in this arena involved the competition between Canada’s Bombardier and Brazil’s Embraer in the small commercial airliner market.

\(^{44}\) Of course, many kinds of support can have the effect of subsidies without showing up in government accounts that way. For example, the long-running dispute between Canada and the United States relating to softwood lumber, involves American claims that the allegedly low prices (“stumpage”) charged Canadian forestry companies for trees taken off government land (which is most of the usable forested land) constitute a subsidy. See, e.g., Brander [2005, pp. 217-220].
government transfers to business (all governments and all programs) peaked at about 3.5% of business sector GDP and fell below 1.5% by 2000. Most of the decline was driven by reduced spending by the federal government and the recent increase since 2000 is largely driven by increased spending by provincial governments.\textsuperscript{45}

Regional development subsidies have a particularly bad name in Canada, though they live on to some degree.\textsuperscript{46} In 1983 the federal government launched the Industrial Regional Development Program (IRDP) to combine two programs, one that found certain sectors that merited support of some kind and another that sought to make investments in poorer areas of the country. As Atkinson and Powers [1987] report, the two merged programs had different goals and this contributed to a lack of clarity about what the new program was to do. This combined with a great deal of bureaucratic discretion led to decision-making not necessarily consistent with what the program’s designers had in mind. Eventually, the Minister responsible directed that the program focus more directly in supporting innovative activity (and less on regional development).

Canada has strong party system with a great deal of control exerted by the Prime Minister and Cabinet. Milligan and Smart [2006], studying data from 1988 to 2001, nevertheless find evidence of “pork barrel politics”, whereby monies for regional development projects are allocated in part based on characteristics of the local Member of Parliament (e.g. is he/she a member of the governing party or the opposition?).

\textsuperscript{45} There are certainly still arguments heard that the federal government gives away too much in subsidies. The Canadian Taxpayers Federation [2007, p. 7] reports that one department, Industry Canada, gave away over $18 billion between 1982 and 2005 with more than half of that since 1997. (Some of these awards were technically repayable loans, but 88% were either not loans or were only conditionally repayable.)

\textsuperscript{46} Spending on regional development initiatives has been delegated to regional development agencies: Western Economic Diversification (WED), the Atlantic Canada Opportunity Agency (ACOA) and Canada Economic Development – Quebec (CEDQ). In fiscal year 2005/06 these agencies handed out a little less than a billion dollars to business.
The area of government subsidies that gets the most attention now involves support for research and development. Government support here can take a number of forms including direct subsidies to business for conducting R&D, tax credits for R&D expenditures, “in-house” research, and support for university-based research (mostly done through funding councils). Table 6 shows that in some cases the amount of support that gets to private business can be small. This table shows the level at which the federal government funded the ten departments and agencies most responsible for supporting R&D (representing 80% of that funding in 2004-05). It also shows the fraction that was awarded to business.

There are significant programs that seek to support private sector R&D including the Industrial Research Assistance Program, Technology Partnerships Canada and the Scientific Research and Experimental Development Tax Credit. The latter program of tax credits is generous – foregone tax revenue in 2006 was about $2.5 billion. The interesting question is whether this generous treatment of R&D expenditures is buying Canadians anything. McKenzie [2006] argues that it has not. Recognizing that the specific tax treatment of R&D expenses is among the most generous in the developed world, McKenzie points out that the actual level of private sector R&D conducted in Canada is not high – as a fraction of GDP it is among the lowest in the OECD.

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47 For example, through the government-owned National Research Council of Canada.
48 Data provided by Industry Canada reveals that, of research expenditures funded by the federal government, the share being done in universities has been growing since the 1990s while that being done by business has been falling.
49 The importance of these tax credit subsidies to R&D has been growing. Data provided by Industry Canada indicate that as a share of total federal government outlays, this tax support has grown from just over 1% to over 1.4% between 1998 and 2004.
50 For example, the OECD STI Scoreboard (Table A.5) reports that, as a percentage of value added in industry, business enterprise sector R&D expenditure in Canada in 2003 was just 1.4% compared to the OECD average of 2.1%, the level of 2.6% achieved in the United States and the stunning level of 4.7% in Sweden. Some of Canada’s deficit in business R&D expenditure is made up by public sector (including
McKenzie indicates that some of the explanation is Canada’s relatively high tax rates on returns to capital that discourages all kinds of investment.

The Technology Partnerships Canada (TPC) Program, which began in 1996, had a mandate to assist Canadian companies (small, medium and large) perform R&D that brings technology closer to the marketplace in both traditional sectors and in emerging technologies.\textsuperscript{51} TPC documents specifically express interest in environmental technologies, life sciences, information and communications technologies, advanced manufacturing, and (in a special program) in “the development and early adoption of hydrogen and hydrogen-compatible technologies into the marketplace.”\textsuperscript{52} Many prominent Canadian companies (and Canadian subsidiaries of multinationals) have participated in the program including Pratt & Whitney Canada (authorized assistance of $1.04 billion), CAE Inc. ($301 million), Bombardier ($142 million), Honeywell ($113 million), Rolls Royce ($75 million), Research in Motion ($40 million), and IBM Canada ($33 million).\textsuperscript{53}

TPC has been criticized on a few fronts. First, while many of the payments were to be repayable loans, repayment rates have been very low. Second, the program is accused of a lack of transparency: recipients have often not been forthcoming about their

\textsuperscript{51} An earlier program, the Defense Industry Productivity Program (DIPP) was designed to serve the needs of the cold-war aerospace and defense industries in the 1970s and 1980s. The Technology Partnerships Canada (TPC) program was designed, at least in part, to replace DIPP.

\textsuperscript{52} Industry Canada TPC website under “Programs”: http://tpc-ptc.ic.gc.ca/epic/site/tpc- ptc.nsf/en/h_hb00016e.html.

\textsuperscript{53} Ibid, Repayment Status Report as of June 11, 2007. Many less well-known companies received considerable amounts of assistance as well, for example, Cascade Data Service ($77 million), CMC Electronics ($24 million) and International Truck & Engine Corp. Canada ($30 million).
repayment plans and the government has not released this information.\textsuperscript{54} An Industry Canada (the government department responsible for TPC) audit of the program was not particularly kind:\textsuperscript{55}

- In conclusion, TPC has, in theory and rhetoric, been established to serve several publicly stated industrial innovation goals and sectors, while subjecting itself to the constraints of economic development assistance in the modern era. In reality, it would appear that the ’one-size fits all’ approach that has been taken up to now may not be up to the task.

- The TPC assistance process is complex in terms of both its number of steps and the number of groups involved. Some of this complexity is likely unavoidable due to the numerous constraints placed on modern industrial assistance of this magnitude. However, when combined with a low investment in program administration, the effect has been to unfairly handicap the speed, flexibility and ’learning ability’ of this program.

- The use of a single program, essentially based on an assistance model from a previous era, to assist three critically different sectors in high risk innovation appears to have hampered the effectiveness of TPC.

The terms and conditions for the TPC expired on December 31, 2006. As result, while previously contracted arrangements continue, no new projects are being contracted. It remains to be seen if the federal government will renew the program, replace it with another, or abandon this kind of program entirely.

\textsuperscript{54} See, Canadian Taxpayers Federation [2007, 15].
\textsuperscript{55} Canada [2003].
V. Some Current Challenges

The Canadian economy is facing a number of challenges in the coming years, some that might be usefully addressed by a dose of the right kind of industrial policy. Let me list a few briefly here:

(i) There is a continuing sense that Canadian productivity (and productivity growth) continues to lag behind other countries, most importantly behind the United States. Efforts are under way to measure the productivity gap, and if it is real, to develop policies to address it. It is hard to imagine that such policies will not include a considerable amount of support for research and development and higher (and specialized) education, but what is less clear is the extent to which Canadian governments might choose to target sectors more carefully.

(ii) One of the sources of the productivity gap is the lack of a strong internal free market across Canada. Provincial governments have erected a number of barriers to trade and mobility that are only slowly coming down. This is felt most directly in the (provincially) regulated professions where mobility is, in some cases, extremely limited. Government procurement is another issue here. It is often pointed out that trade is freer between Canada and the United States than it is between Canadian provinces.

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56 I note that there are similar concerns about Europe’s productivity levels. See, e.g. Maincent and Navarro [2006].

57 Interesting parallels exist perhaps with Europe, where Maincent and Navarro [2006, 39-40] argue that the internal EU market still lacks complete integration that would provide greater benefits to European consumers. They specifically mention energy, transport, defence, financial services and postal services as areas in which more complete integration might be beneficial.
(iii) As in many countries, agriculture poses significant challenges. While Canada has some of the most efficient farmers in the world (particularly in globally traded products like wheat), in some areas producers are protected from competition by government marketing boards that limit output and control prices.\textsuperscript{58} Canadian marketing boards are a frequent target for other countries in multilateral trade negotiations and it is hard not to believe that eventually they will have to be phased out. The problem lies in finding a practical, affordable way to compensate current farmers who paid very high capitalized values for their quotas.

(iv) Canada is perhaps the only high income country in the world that does not have a single national securities regulator. Securities regulation in Canada is handled as a provincial matter and while there has been significant progress towards a near-national system by simple cooperation of the provinces, most business groups and economists argue that a single regulator would lower the cost of doing business in Canada for listed firms.\textsuperscript{59}

(v) Let me just quickly repeat a few challenges I described in earlier sections. There is concern today about takeovers of Canadian companies by state-owned foreign companies and a policy to review those transactions on national security grounds is in the works. There is also some concern about the selling off of a number of iconic Canadian companies to foreign interests and a “hollowing out” of Canadian business.\textsuperscript{60} It is not clear what exactly

\textsuperscript{58} Marketing boards with supply management powers include those in poultry, milk and cheese.

\textsuperscript{59} The federal government is supportive of the concept of a single national regulator in Canada.

\textsuperscript{60} Significantly, however, since the mid-late 1990s, there has been more FDI flowing out of Canada than coming in.
hollowing out means in terms of effects on Canadians, and -- if it exists -- how large these effects are; but there will likely be some further study of the issue. Finally, there is some recognition that the electricity industry in Canada is not efficient and that introducing competition where feasible is desirable.

VI. Canadian Industrial Policy: What of National Champions?

A governmental policy to promote national champions could include one or more of a number of elements. National champions may be promoted by, for example, (i) subsidies (direct or indirect) targeting specific firms or sectors; (ii) relaxed competition policy regulation (e.g. merger review and monopolization controls) that allows industrial consolidation and a building up of scale and permits champions wide latitude to defend their positions;\(^{61}\) and (iii) foreign ownership restrictions to keep champions in the hands of domestic interests.\(^{62}\)

As the review above should have made clear, there has been no formal, consistent policy to develop national champions by the federal government in Canada over the last quarter century. While some of the elements have been in place for some firms at some points in time, these would appear to be less important today. Certainly there have been grants paid and/or loans granted to firms of “high profile” in Canada.\(^{63}\) These include firms in the aerospace industry (e.g. Bombardier, Pratt & Whitney Canada), and firms in the automotive industry (e.g. General Motors, Toyota, Ford); two industries that have been considered of particular strategic importance in Canada. It is also true, as explained

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61 Governments may even protect champions from domestic entry through licensing requirements.
62 A nice, concise discussion of national champions and competition policy in the Canadian context can be found in Hutton and Rushton [2007].
63 See the tables in the Canadian Taxpayers Federation [2007].
above, that foreign ownership restrictions exist in certain industries such as airlines, telecommunications, broadcasting and (effectively, if not formally) banking. However, there does not appear to be any strong desire to advance subsidy, grant and loan programs beyond their current levels (and the reverse may be true under the current Conservative government) and serious consideration is being given to relaxing foreign ownership restrictions to stimulate competition in some of these industries – particularly telecommunications.  

Many policy makers, and most academic economists working in the area in Canada, seem to have subscribed to the view that national champion policies are inappropriate and counterproductive if the goal is increased productive and dynamic efficiency. Paul Geroski, the former Chairman of the Competition Commission in the U.K. nicely summarized what arguments must be made in order for a Champions policy to make sense, they include (in my words, adapted from Geroski [1985]):

(i) markets are global, so that a national champion is out competing with rivals from around the world. This means that competition in domestic markets is assured even if the champion becomes the only domestic producer;

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64 As noted, there is however a very good chance that legislation will be introduced within the next few months to provide Investment Canada with greater power to screen takeovers by foreign state-owned enterprises, particularly when national security interests might be at stake.

65 This is not to say that there have not been some deliberate attempts to create champions in recent years, particularly by provincial governments. One famously sad example involved the plan of the government of British Columbia to stimulate the provincial ship-building industry by supporting the development of a new generation of fast ferries (the provincial Crown Corporation BC Ferries has one of the largest public ferry fleets in the world.) Three ferries were planned in the initial phase, with the hope that this would make BC a global leader and spur considerable growth in the provincial shipbuilding industry. The final cost to build the three ferries was more than double estimates (reaching about $454 million) and when it turned out that the design did not make them suitable to their tasks they were quickly pulled from service. After some time (they were up for sale for two and a half years) the three ferries were sold at auction for slightly more than $19 million dollars in 2003 and the experiment ended. See the CBC news story at: www.cbc.ca/canada/story/2003/03/24/ferries030324.html.
firms need to reach a very large scale to be productively or dynamically efficient – so all domestic production must be concentrated in one or a very few number of firms; and

(iii) certain industries are so strategically important such that a country must have participants in those markets.

Geroski [2005] and others question all of these conditions. First, it is clear that many markets are not global. Even when firms sell in many countries, the competitive conditions in those countries can be very different. The implication is then that a country that permits the development of a single national champion may well face a powerful domestic monopolist at home, at least in some of those champion’s markets.66

With respect to the second point, economies of scale can often be achieved through ways other than through the creation of one or a few champions. In many cases industrial clusters may serve this purpose, as might joint ventures with other domestic or foreign firms. And of course, firms can build up their scale of operations by selling in other countries – that is, it is not clear that size in the domestic market is necessary to realize economies of scale before sales can be made in export markets. In many cases, export sales can lead the drive to realize those economies.

Whether or not there might be certain industries of such strategic importance that a country feels it demands a domestic champion is the third question. On a theoretical level, it is certainly possible that some industries will generate such high levels of

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66 This is particularly true with multi-product firms. In some industries, financial services for example, firms produce many (possibly hundreds) of products. Economies of scope likely explain the multi-product firms. Some of the products may be so easily transported that the markets (barring regulatory barriers) can be properly viewed as global (e.g. M&A advising), while other markets may be local (e.g. personal and small business banking). We must be careful to recognize that the development of national champion to serve global markets in some products can create powerful domestic monopolies in others.
positive spillovers or be so tightly connected to national security that some support might
be justified. However, the practical problems are daunting; two come to mind in
particular. First, can a government actually pick these industries – one would imagine
that many industries would offer themselves up as positive spillover generators worthy of
government protection and support – but getting accurate data with which to cut through
these claims is likely to be a challenge. And even when good data are available, can
governments be counted on to use them or will the temptation be to use champion
policies for political purposes – to serve favoured firms, or regions or interest groups.

Second, even if a well functioning domestic monopolist champion could generate
significant spillover benefits, this is no guarantee that it will. Problems of X-
inefficiency must loom particularly large for protected monopolists; with the possible
result that the domestic economy has the worst of both worlds: an allocatively and
productively inefficient monopolist.

None of this is to say that national champion arguments are not heard in Canada.
On the contrary, they are heard regularly, but the proponents are almost always firms
putting themselves forward as potential champions, or those with the interests of those
firms in mind. For example, in the last ten years, national champion arguments have
been advanced:

(a) During the debates surrounding the two large (by Canadian standards)
proposed bank mergers in the late 1990s, it was frequently argued by the banks and their
supporters that Canadian banks are small by global standards and that mergers must be

67 Geroski [2005, pp 4-5] makes this point as well.
68 I don’t want to exaggerate the extent to which these arguments have been advanced. In none of these
cases am I aware of anyone putting forward a carefully reasoned and substantiated argument in support of a
national champion. The comments tend to made to the press or in public speeches.
permitted to allow them to reach efficient scale. While these bank mergers were blocked by the Minister of Finance, it is generally expected that major bank mergers will be proposed again. As a result, it is perhaps not surprising that we are still hearing these arguments made by supporters of the banks.\(^\text{69}\)

(b) When Air Canada and Canadian Airlines International were in an intensely competitive period, and it appeared that Canadian Airlines would fail, it was argued that the Canadian market was not big enough for two major carriers and that the Competition Bureau should be open to the idea of a merger of the two airlines. Of course this merger did happen (in 2001), but somewhat against the wishes of the Bureau, and only after Canadian Airlines had effectively failed.\(^\text{70}\)

(c) The forestry sector in Canada has gone through a period of considerable consolidation, feels that it needs to do more and that Canadian competition policy may be getting in the way.\(^\text{71}\)

(d) In the telecommunications sector there has also been some consolidation\(^\text{72}\), but a recent proposed merger of the largest and second largest telecom companies in Canada – certainly problematic from a competition standpoint and subsequently abandoned – brought out national champion arguments.\(^\text{73}\)

\(^{69}\) But less so by the banks themselves, which are being more cautious in their approach to public relations and in building support in government than they were in the late 1990s.

\(^{70}\) The Competition Bureau did succeed in attaching some conditions to the merger approval. Those conditions (including the surrendering of scarce airport slots) were intended to facilitate new entry.

\(^{71}\) See Hutton and Rushton [2007, pp. 2-3].

\(^{72}\) Most notably, the two wireless communications providers that were not owned by long-established telecommunications or cable companies were acquired by wireless divisions of competitors, reducing the number of facilities-based participants in the wireless market in Canada from five to three. Clearnet was acquired by Telus (Canada’s second largest telecommunications company) in 2000 and Microcell (operating the Fido brand) was acquired by Rogers Communications (Canada’s largest cable television provider) in 2004.

\(^{73}\) This was the proposed purchase of BCE (parent of Bell Canada, Canada’s largest telecommunications company) by Telus (the second largest) when BCE was found to be the target of some other bids in 2007.
Common to all of these cases is the fact that the call for a policy of support for Canadian champions has come from those putting themselves forward as potential champions themselves. There is not much support coming from other quarters.

This said, while the arguments of potential champions may then be seen to be self-serving, it does not mean they are necessarily wrong-headed, at least with respect to an overly aggressive competition policy. This then raises the question, is Canada’s competition law today able to fully appreciate the benefits Canadian firms (and their customers) competing in global markets derive from being able to take advantage of greater economies of scale, possibly through merger or joint venture.

In this regard I would suggest that the Canadian law is better suited than most to this task for a number of reasons, chief among them (briefly):

(i) **Recognition of role of international markets:** the *Competition Act* recognizes at several points that Canada is a trading nation and that many markets extend well beyond the country’s borders. Firms need not worry that the *Act* forces the Competition Bureau to view market shares completely in domestic terms, and indeed the Bureau has found markets to be international in scope on many occasions.

(ii) **Efficiency defense in mergers:** Almost unique in the world, the *Competition Act* provides a defense that permits the Competition Tribunal to approve a merger, even when it has concluded that the merger would lead to a substantial lessening of competition, as long as there are efficiencies from the merger that are greater than the harm to

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Eventually a deal was struck to sell BCE to a group of investment funds including the Ontario Teachers Pension Plan.

Sections where the international dimension of markets in which Canadian firms participate is mentioned include the Purpose Clause (S. 1.1) and in the mergers area (S. 93(a)). In addition, the fact that markets may be larger than national is clearly anticipated in the Competition Bureau’s Merger Enforcement Guidelines [2004, 3.19-3.28].
competition.\textsuperscript{75} Thus the Canadian Act creates an environment in which firms that benefit from, for example, economies of scale as a result of a merger do not need to fear that very large efficiencies which they may feel they need to compete globally will be trumped by relatively small harms to domestic consumers.

(iii) **Forward-looking institutions:** Both the Competition Bureau and Competition Tribunal have shown that they are capable of being forward-looking and need not be caught using today’s market structure as the basis for their conclusions in dynamic industries. This is not to argue that they always guess the future correctly, only to point out that they recognize that they are not to make decisions solely based on current market structure and conduct without considering how these might be evolving.\textsuperscript{76} In a related way, it is worth pointing out that the merger section of the Act explicitly requires that the Tribunal not block a merger solely on the basis of concentration or market share (S. 92(2)).

(iv) **R&D exemptions:** Research and development is given special treatment at a couple of points. The horizontal agreements provisions allow for a qualified exemption of

\begin{footnote}
75 \textsuperscript{75} The relevant section: \textit{96. (1) The Tribunal shall not make an order under section 92 if it finds that the merger or proposed merger in respect of which the application is made has brought about or is likely to bring about gains in efficiency that will be greater than, and will offset, the effects of any prevention or lessening of competition that will result or is likely to result from the merger or proposed merger and that the gains in efficiency would not likely be attained if the order were made.}

76 \textsuperscript{76} Two examples. In the Rogers-Microcell (2004) merger combining two cellular telephone operations, the Bureau looked to the very significant investments that wireless firms needed to make in Canada going forward to prepare for the next generation of services and concluded that one of the parties (Microcell) was not as well-positioned (i.e. not as well-financed) to continue to compete aggressively over the longer term. This led the Bureau to the conclusion that the assets moving to the larger Rogers operation might in fact allow them to be better used in competition with the other large operators. In the Hillsdown (1992) case, two meat rendering operations in Southern Ontario were combined by merger. The Tribunal, noting the increasing specialization of the rendering industry into separate white and red meat streams, allowed the merger on the grounds that going forward the two firms were very likely to specialize in the different kinds of meat and hence not to compete in any case. Not exactly a high-tech story, but evidence that the Tribunal is prepared to consider where a market is going rather than focusing solely on current conditions.
\end{footnote}
agreements relating to cooperation in research and development. There is an R&D joint venture exemption in the merger provisions as well.

One area in which the Canadian Act could be improved that might help Canadian firms work together to build expertise and scale, as mentioned above, is in the area of the treatment of joint ventures and strategic alliances. Currently, horizontal agreements such as joint ventures that are not covered by the merger provisions may be seen to contravene the criminal conspiracy provisions. These provisions provide for substantial fines for firms and individuals and even jail terms for offenders. It has been argued that this has a chilling effect on legitimate, pro-competitive cooperation between competitors. In light of this concern, proposals have been advanced to reform this part of the Canadian law to create provisions which would allow a civil review of such agreements (akin to merger review).

VII. A Final Word

Modern Canada has never really adopted a strong form of industrial policy, of the sort associated with Japan in the past for example, in which governments select key industries and support their development through a combination of protection from foreign competition, protection from take-over by foreign firms and a mix of direct and indirect subsidies. This said, Canada has experimented with more limited kinds of industrial policy, notably involving state-owned enterprises, bailing out of failing firms,

77 While not a settled point, this may be so “qualified” as to not really be an exemption at all.
78 See, e.g., Kennish and Ross [1997] and Trebilcock and Warner [1993]. The Canadian Competition Bureau has created a working group to look at preparing an amendment proposal to address this concern (among other concerns with this section of the Act.)
regulation-directed cross-subsidization, foreign ownership restrictions and some subsidization of business (particularly in aid of regional economic development).

The 1980s saw a significant change in direction however, in Canada as in many other countries. A marked turn toward letting competitive markets direct the flow of resources in the economy involved privatizing state-owned enterprises; deregulating markets; an embrace of free trade; a resistance to the bailing out of failing firms; and the development of a new, more effective competition law. While subsidies to business continue, their importance has diminished and they are somewhat less focused on individual firms or sectors (or regions). More liberalization may be coming as restrictions on foreign ownership in certain sectors are under review.

The shift toward a more horizontal industrial policy was experienced in Europe and elsewhere as well. However, while Europe seems prepared to revisit this new approach, to some extent, to see whether the horizontal policies should be supplemented by sectoral efforts, this would not appear to be the case in Canada. Perhaps an extended period of solid macroeconomic performance including low levels of unemployment has discouraged policy-makers from sharp policy changes.

This said, there are factors that could re-ignite debates about industrial policy in Canada. First, should Canada’s productivity growth continue to lag that of the United States, governments will look harder for explanations and for ideas to address the problem. While I would not expect this to bring Canada toward a policy of embracing (and protecting) national champions, it could well involve expanded subsidy programs, targeting industries with the greatest potential for productivity improvements and spillovers across and beyond their sectors.
Second, we may only be a few more takeovers of iconic Canadian companies away from a push for policies to keep those head offices at home. We are almost certainly going to see greater scrutiny of take-overs by foreign state-owned enterprises, but here I mean more than just this. For example, a new policy could involve a more aggressive mandate for Investment Canada generally; my fear is that it could translate into a push for relaxed antitrust treatment of domestic mergers in an effort to build Canadian firms too big to be taken over.

Finally, Canada has never been shy about adopting policy ideas from other jurisdictions when it perceives them as successful. For example, efforts toward privatization and deregulation in general followed leads from the Europe (mostly the U.K) and the United States. Should Europe make significant progress with a renewed “more than horizontal” approach to industrial policy, Canadian policy makers will notice.

**Postscript**

Just as this paper was being finalized, the consultation paper “Sharpening Canada’s Competitive Edge” was released by the recently constituted Competition Policy Review Panel. This panel was struck by the federal government in July, 2007 with the mandate to review key elements of Canada’s competition and investment policies to ensure they are working effectively. The panel will work on some of the problems described here. For example, it will consider the workings of two important laws discussed above: the *Competition Act* and the *Investment Canada Act*. The consultation paper lays out the panel’s approach to its task, indicating that it will work in four main areas (in my words):

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79 It was released on October 30, 2007.
(i) *Investment policies:* when might foreign investment not be of net benefit to Canadians?

(ii) *Competition policies:* does Canadian competition policy serve domestic consumers and “enable our most successful enterprises to grow beyond Canada” (p. 3);

(iii) *Outward investment by Canadians:* how can we support Canadian firms in their efforts to expand internationally?; and

(iv) *Canada as a destination for investment generally:* how can we encourage all kinds of firms (e.g. foreign and domestic) to undertake more investment in Canada?

The panel is to report by June 30, 2008.
### Table 1

**Selected Criminal Offences and Penalties under the *Competition Act***

*Relevant section of Competition Act in parentheses.*

$\$ = fine up to amount shown, or $\text{CD} = $ fine at the discretion of the court

<table>
<thead>
<tr>
<th>Offence</th>
<th>Maximum Penalty (per count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conspiracy (S. 45)</td>
<td>5 years $&amp;/\text{or}\ $10\ Million</td>
</tr>
<tr>
<td>Agreements among banks to restrict competition (S. 49)</td>
<td>5 years $&amp;/\text{or}\ $5\ Million</td>
</tr>
<tr>
<td>Following a foreign directive that results in a conspiracy (S. 46)</td>
<td>$\text{CD}$</td>
</tr>
<tr>
<td>Bid-rigging (S. 47)</td>
<td>5 years $&amp;/\text{or}\ $\text{CD}$</td>
</tr>
<tr>
<td>Price Discrimination/Predatory Pricing (S. 50)</td>
<td>2 years</td>
</tr>
<tr>
<td>Resale Price Maintenance (S. 61)</td>
<td>5 years $&amp;/\text{or}\ $\text{CD}$</td>
</tr>
<tr>
<td>Obstruction of an inquiry (S. 64)</td>
<td>2 years $&amp;/\text{or}\ $5,000</td>
</tr>
<tr>
<td>Failure to comply with an order of the Competition Tribunal (S. 74)</td>
<td>5 years $&amp;/\text{or}\ $\text{CD}$</td>
</tr>
</tbody>
</table>

*Consumer Protection Offences (not a complete list):*

- Misleading advertising (S.52)                                         | 5 years $\&/\text{or}\ $\text{CD}$ |
- Misrepresentation as to testing and testimonials (S. 53)             | 5 years $\&/\text{or}\ $\text{CD}$ |
- Double-ticketing (S.54)                                               | 1 year $\&/\text{or}\ $10,000    |
- Pyramid selling (S. 55)                                               | 5 years $\&/\text{or}\ $\text{CD}$ |
- Bait and switch selling (S.57)                                        | 1 year $\&/\text{or}\ $25,000    |
- Sale above advertised price (S. 58)                                   | 1 year $\&/\text{or}\ $25,000    |
Table 2

Matters Reviewable by the Competition Tribunal and Possible Action to be Taken

Relevant section of Competition Act in parentheses.

<table>
<thead>
<tr>
<th>Matter</th>
<th>Possible Tribunal Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refusal to deal (S. 75)</td>
<td>Order suppliers to supply</td>
</tr>
<tr>
<td>Consignment selling (S. 76)</td>
<td>Prohibition order</td>
</tr>
<tr>
<td>Exclusive dealing, tied selling, market restriction(^8^0) (S.77)</td>
<td>Prohibition order</td>
</tr>
<tr>
<td>Abuse of Dominant Position (S. 78, 79)</td>
<td>Prohibition order (fines in special cases)</td>
</tr>
<tr>
<td>Delivered Pricing (S. 80, 81)</td>
<td>Prohibition order</td>
</tr>
<tr>
<td>Foreign judgments and laws (S. 82, 83)</td>
<td>Order not to obey</td>
</tr>
<tr>
<td>Specialization agreements (S. 85-90)</td>
<td>Registration</td>
</tr>
<tr>
<td>Mergers (S. 91-107)</td>
<td>Allow, disallow, modify</td>
</tr>
</tbody>
</table>

\(^8^0\) “Market restriction” refers to the practice in which a seller limits the market in which a purchaser is permitted to resell the product.
## Table 3
Major Federal Privatizations in Canada

<table>
<thead>
<tr>
<th>Company Name (year acquired/formed)</th>
<th>Industry</th>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada Development Corp. (1971, mixed enterprise)</td>
<td>investment/development</td>
<td>1986-7</td>
<td>$361 million for 47%</td>
</tr>
<tr>
<td>de Havilland (1972) [Note: Sold back to a new mixed enterprise in 1992 and then completely privatized again in 1997]</td>
<td>aircraft</td>
<td>1985</td>
<td>$90 million + $65 mill. in notes over 15 years</td>
</tr>
<tr>
<td>Canadair (1975)</td>
<td>aircraft</td>
<td>1986</td>
<td>$205 million for 100%</td>
</tr>
<tr>
<td>Teleglobe Canada (1949)</td>
<td>communications</td>
<td>1987</td>
<td>$488 million for 100%</td>
</tr>
<tr>
<td>CN Hotels</td>
<td>hotels</td>
<td>1988</td>
<td>$265 million for 100%</td>
</tr>
<tr>
<td>CNCP Telecommunications (1980)</td>
<td>communications</td>
<td>1988</td>
<td>$235 million for 50%</td>
</tr>
<tr>
<td>Northwestel and Terra Nova Telecom.</td>
<td>telephone cos.</td>
<td>1988</td>
<td>$370 million for 100% combined</td>
</tr>
<tr>
<td>Air Canada (1937)</td>
<td>airline</td>
<td>1988/9</td>
<td>$718 million for 100%</td>
</tr>
<tr>
<td>Petro-Canada (1975)</td>
<td>integrated oil</td>
<td>1991-92 1995 &amp; 2004</td>
<td>In several tranches, final total $5.7 Billion</td>
</tr>
<tr>
<td>Telesat (1969, mixed enterprise)</td>
<td>communications</td>
<td>1992</td>
<td>$155 million for 53.7%</td>
</tr>
<tr>
<td>Canadian National (1919-22)</td>
<td>railways</td>
<td>1995</td>
<td>$2.26 Billion for 100%</td>
</tr>
<tr>
<td>Air Traffic Control System (to a non-profit)</td>
<td>air traffic control</td>
<td>1996</td>
<td>$1.5 Billion for 100%</td>
</tr>
</tbody>
</table>
Table 4

Significant Provincial Privatizations

<table>
<thead>
<tr>
<th>Province</th>
<th>Significant Privatizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>BC Hydro natural gas distribution system (1988), BC Resources Investment Corp (1979)</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>Sask Oil &amp; Gas (1986/7/9), Prince Albert Pulp (1986), Potash Corp. of Sask. (1989/91)</td>
</tr>
</tbody>
</table>
Table 5

Large Canadian Crown Corporations

<table>
<thead>
<tr>
<th>Name of Corporation</th>
<th>Type*</th>
<th>Assets ($ billion) in 2005</th>
<th>Type of Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caisse de Depot</td>
<td>PC</td>
<td>179.7</td>
<td>Financial</td>
</tr>
<tr>
<td>Can. Mort. &amp;Housing</td>
<td>FC</td>
<td>101.1</td>
<td>Financial</td>
</tr>
<tr>
<td>Hydro Quebec</td>
<td>PC</td>
<td>60.4</td>
<td>Electricity</td>
</tr>
<tr>
<td>Ontario Power Gen.</td>
<td>PC</td>
<td>21.6</td>
<td>Electricity</td>
</tr>
<tr>
<td>Export Devel. Corp.</td>
<td>FC</td>
<td>19.7</td>
<td>Financial</td>
</tr>
<tr>
<td>B.C. Hydro</td>
<td>PC</td>
<td>12.2</td>
<td>Electricity</td>
</tr>
<tr>
<td>Manitoba Hydro</td>
<td>PC</td>
<td>9.9</td>
<td>Electricity</td>
</tr>
<tr>
<td>Business Devel. Bank</td>
<td>FC</td>
<td>9.4</td>
<td>Financial</td>
</tr>
<tr>
<td>Insurance Corp of BC</td>
<td>PC</td>
<td>8.1</td>
<td>Insurance</td>
</tr>
<tr>
<td>Canada Post</td>
<td>FC</td>
<td>4.6</td>
<td>Post Office</td>
</tr>
<tr>
<td>Sask. Power</td>
<td>PC</td>
<td>4.1</td>
<td>Electricity</td>
</tr>
<tr>
<td>CBC</td>
<td>FC</td>
<td>1.6</td>
<td>Radio/TV</td>
</tr>
<tr>
<td>GO Transit</td>
<td>PC</td>
<td>1.2</td>
<td>Transit</td>
</tr>
<tr>
<td>BC Transit</td>
<td>PC</td>
<td>1.1</td>
<td>Transit</td>
</tr>
<tr>
<td>Atomic Energy Can.</td>
<td>FC</td>
<td>0.9</td>
<td>Nuclear</td>
</tr>
<tr>
<td>Via Rail</td>
<td>FC</td>
<td>0.9</td>
<td>Rail Trans.</td>
</tr>
</tbody>
</table>

*Types:

PC = provincial crown corporation
FC = federal crown corporation

Source: Globeinvestor 2005
Figure 1

![Graph showing Government Transfers to Business - Canada from 1960 to 2000. The graph plots the percentage of Business GDP for all governments (1961-2003). The data shows a trend of government transfers increasing and then decreasing over time, with peaks in the late 1970s and early 1980s, and a more consistent decrease towards 2000.](image)

Source: Duhamel [2007]
**Table 6**

Federal Funding of Business R&D Expenditures, 2004-05

**Top 10 Departments**

<table>
<thead>
<tr>
<th>Federal Departments</th>
<th>Total Expenditure</th>
<th>Share of Funding Directed to Businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Sciences and Engineering Research Council</td>
<td>713 Millions ($)</td>
<td>2.0 %</td>
</tr>
<tr>
<td>Canadian Institutes of Health Research</td>
<td>712 Million ($)</td>
<td>0.0 %</td>
</tr>
<tr>
<td>National Research Council</td>
<td>706 Million ($)</td>
<td>12.5 %</td>
</tr>
<tr>
<td>Social Sciences and Humanities Research Council</td>
<td>466 Million ($)</td>
<td>0.0 %</td>
</tr>
<tr>
<td>National Defence</td>
<td>357 Million ($)</td>
<td>26.3 %</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>352 Million ($)</td>
<td>83.5 %</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>336 Million ($)</td>
<td>11.3 %</td>
</tr>
<tr>
<td>Canada Foundation for Innovation</td>
<td>308 Million ($)</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Canadian Space Agency</td>
<td>300 Million ($)</td>
<td>36.3 %</td>
</tr>
<tr>
<td>Agriculture and Agri-Food</td>
<td>264 Million ($)</td>
<td>0.0 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4514 Million</strong></td>
<td><strong>14.1 %</strong></td>
</tr>
</tbody>
</table>

*Source: Duhamel [2007]*
REFERENCES


