Industry Canada Research Publications

Discussion Paper

# **Industry Canada Research Publications Program** The Industry Canada Research Publications Program provides a forum for the analysis of key micro-economic challenges in the Canadian economy and contributes to an informed public debate on these issues. Under the direction of the Micro-Economic Policy Analysis Branch, the Program's research paper series features peerreviewed analytical working papers or policy-related discussion papers written by specialists on micro-economic issues of broad importance. The views expressed in these papers do not necessarily reflect the views of Industry Canada or of the federal government.

# IMPLICATIONS OF FOREIGN OWNERSHIP RESTRICTIONS FOR THE CANADIAN ECONOMY – A SECTORAL ANALYSIS

Discussion Paper Number 7 April 1999

By Steven Globerman Western Washington University

Aussi disponible en français

# Canadian Cataloguing in Publication Data

Globerman, Steven

Implications of foreign ownership restrictions for the Canadian economy – A sectoral analysis

(Discussion paper)

Text in English and French on inverted pages.

Title on added t.p.: Conséquences des restrictions à la propriété étrangère pour l'économie canadienne.

Includes bibliographical references.

ISBN 0-662-64203-1 Cat. no. C21-25/7-1999

- 1. Investments, Foreign Canada.
- 2. Industries Canada.
- 3. Canada Economic conditions, 1991- .
- I. Canada. Industry Canada.
- II. Title.
- III. Series: Discussion paper (Canada. Industry Canada)

HG4538.G56 1999 332.67'3'0971 C99-980164-3E

The list of titles available in the Research Publications Program and details on how to obtain copies can be found at the end of this document. Abstracts of research volumes and papers published in Industry Canada's various series, and the full text of our quarterly newsletter, *MICRO*, are available on *STRATEGIS*, the Department's online business information site, at http://strategis.ic.gc.ca.

Comments should be addressed to:

Someshwar Rao Director Strategic Investment Analysis Micro-Economic Policy Analysis Industry Canada 5th Floor, West Tower 235 Queen Street Ottawa, Ontario K1A 0H5

Tel.: (613) 941-8187 Fax: (613) 991-1261

E-mail: rao.someshwar@ic.gc.ca

# TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	INWARD FDI AND HOST ECONOMIES: THE WELFARE FRAMEWORK	3
۷.	FDI and Efficiency	
	Displacement	
	Spillovers	
	Potential Adverse Impacts on Efficiency	
	The Research Questions	
	Some Evidence	
	FDI and Distributional Concerns.	
	Other Considerations	
	Other Considerations	
3.	THE EFFECTS OF INWARD FDI IN A SET OF CANADIAN INDUSTRIES	9
	Theorical Considerations	
	Telecommunications	
	Transportation	
	Financial Services	
	Natural Resources	
	Agriculture	
	Summary	
4	FOREIGN INVESTMENT POLICIES AND THEIR EFFECTS	17
٠.	Financial Services.	
	Oil and Gas	
	Telecommunications	
	Transportation	
	Agriculture	
5.	SUMMARY AND SUGGESTIONS FOR FUTURE RESEARCH	23
NC	OTES	25
BI	BLIOGRAPHY	31
IN	DUSTRY CANADA RESEARCH PUBLICATIONS	35

# 1. INTRODUCTION

The purpose of this report is to assess the implications of foreign ownership restrictions for the Canadian economy on a sectoral level. The assessment draws largely upon a literature review, although it also incorporates some original theoretical analysis.

It is worth briefly noting how this review differs from the numerous and fairly comprehensive reviews of the welfare implications of inward foreign direct investment (FDI) for host countries. One is that the review concentrates on sectors rather than on the overall host economy. While a fundamental consensus has emerged over time in favour of the view that inward FDI imparts substantial net economic benefits to the host economy, primarily in the form of a variety of "spillover" efficiency benefits, these efficiency gains are not necessarily uniformly distributed across host country industries. Moreover, to the extent that there are certain costs associated with inward FDI that are not borne completely by the foreign investor, and to the extent that the nature and magnitude of those costs vary across industrial sectors, application of "macroeconomic" findings to the liberalization of inward FDI within specific sectors may lead to biased, if not misguided, conclusions.

This review also differs from most found in the literature in that it considers economic benefits and costs in a somewhat broader context than most similar studies. This is because, at this point in time, significant remaining government restrictions on inward FDI (in Canada and elsewhere) tend to be focused on so-called infrastructure industries such as transportation, telecommunications and financial services. Critics of inward FDI often take the positions that while the net costs of inward FDI may be insignificant for other industries, infrastructure industries are "critical" to the economic development of the host economy, and that the role of infrastructure companies will only be satisfactorily executed if the latter are domestically owned. Hence, a particularly close look at these infrastructure industries seems merited.

Unfortunately, there have been relatively few studies of the sectoral impacts of inward FDI, as well as few studies of the impacts of government policies on FDI flows on a sectoral basis. Hence, it is necessary to evaluate in some detail the organizational structure of the sectors of interest, as well as the nature of government FDI policies in those sectors, in order to assess whether the "conventional wisdom" about FDI and government policies toward inward FDI are applicable to specific industrial sectors.

The report proceeds as follows. The second section reviews the general arguments for and against host government restrictions on foreign ownership and summarizes the available evidence bearing upon the relevance of these arguments. The third section provides a conceptual discussion of the applicability of the theoretical arguments and the empirical evidence to the sectors of interest to this report: transportation, telecommunications, financial services, oil and gas and agriculture. The fourth section reviews the available empirical evidence on the impacts of inward FDI on the host country sectors of interest, as well as the effects of government restrictions on and regulation of FDI in those sectors. The fifth and concluding section evaluates existing Canadian government FDI policies in the sectors and offers an analysis of those policies.

# 2. INWARD FDI AND HOST ECONOMIES: THE WELFARE FRAMEWORK

Evaluations of inward FDI have considered a wide range of potential consequences including impacts on overall investment, overall employment, national income, productivity, exports, imports, research and development expenditures and innovation.<sup>3</sup> This wide range of considerations reflects the eclectic policy concerns of politicians; however, the traditional focus of welfare economists is on efficiency and equity. Higher levels of efficiency promote higher real income levels for host country residents, while faster rates of productivity growth lead to faster rates of real income growth, all other things constant. With respect to the equity criterion, greater equality in the distribution of income is preferred to greater inequality, all else constant. As a practical matter, policy analysis of FDI tends to focus on the efficiency criterion, since the redistribution of income is primarily the (separable) consequence of a host of government tax and expenditure programs.

In fact, efficiency is directly or indirectly linked to several of the considerations identified above including R&D, innovation, capital investment and so forth; however, in some cases, the linkage between inward FDI and efficiency is sufficiently indirect (or tenuous) to require a separate focus. An example of this is economic sovereignty. Complaints about inward FDI for many years were linked to the notion that foreign ownership compromised a nation's political sovereignty. Without necessarily supporting the notion, it seems clear that to address it requires a broader perspective than that provided by standard economic welfare theory.

Distribution also becomes a somewhat more complex matter when FDI is the focus of evaluation. This is because a distinction *per force* exists between foreigners and nationals, both of whom may be host country residents. In this context, a redistribution of income from foreigners to host country nationals might be seen as an improvement upon the *status quo* from the perspective of host country policymakers, all other things constant.

In this section, therefore, the issue of primary concern is the relationship between foreign ownership and efficiency in host country industries; however, attention is also paid to other consequences that have been featured in public policy debates on inward FDI.

# **FDI** and Efficiency

By efficiency, economists usually mean the ratio of the value of output to the value of all inputs used to produce output. The more technical definition for this concept is total factor productivity. The latter can be affected by inflows of FDI in several conceptual ways.

# Displacement

One way is when more efficient foreign-owned firms displace domestically owned firms in the host economy. There is abundant evidence that foreign-owned firms generally have higher average levels of labour productivity than their domestically owned counterparts; however, since the former generally operate with higher ratios of capital to labour, it is unclear whether they also consistently enjoy higher average levels of total factor productivity. However, the fact that foreign investors must absorb certain sunk costs of entry that domestic investors do not have to absorb suggests that the former also enjoy certain productivity advantages compared to the latter or they presumably could not be successful entrants into the

host economy. Nevertheless, there is very little available evidence directly comparing total factor productivity of foreign-owned and domestically owned firms within the same host country industries.

# **Spillovers**

A second way in which FDI can affect efficiency in the host economy is through a broad range of "spillover" effects. In this context, spillovers refer to indirect impacts on the total factor productivity of domestically owned firms that arise from the host country presence and activities of foreign-owned firms. There is a growing body of empirical evidence documenting the existence and magnitude, if not the precise nature and source of such spillovers.

Spillovers are potentially related to a number of factors: (1) the "adoption" of foreign technology by domestically owned firms where the prices paid by the latter are less than the value of the technology adopted. In some cases, the technology can be adopted through (legal) copying or imitation. In other cases, the technology might be embodied in inputs purchased from multinational affiliates doing business in the host economy. In still other cases, the technology may be transferred by scientists, engineers or other employees of multinational affiliates who leave to start their own companies in the host economy or to join a domestically owned company; (2) the "appropriation" of training and other investments in general human capital where some of that human capital investment is paid for by multinational affiliates but where the affiliates do not recapture their investments, either because the trained employees leave to start their own businesses or go to work for domestically owned firms; (3) the adoption of strategic management, marketing, human resource management and other managerial functions by domestically owned firms that contribute to efficiency improvements in the latter.

Naturally, the additional competitive pressure supplied by the entry and growth of foreign affiliates stimulates domestically owned firms to identify and exploit potential spillovers, as well as to identify their own initiatives to reduce or eliminate inefficiencies in their business practices and activities.<sup>5</sup>

# Potential Adverse Impacts on Efficiency

Proponents of restrictions on inward FDI have suggested that the presence and activities of foreign-owned affiliates can actually have adverse efficiency consequences for the host country. The bulk of these (often poorly articulated) arguments related to a notion that inward FDI will "truncate" the ability of domestically owned firms to improve efficiency through their own investment and innovation initiatives. The most intellectually appealing formulation of this argument maintains that there are external economies of scale in innovation and efficiency improvements. Specifically, firms can innovate and improve efficiency most effectively when they are part of a "network" of firms that are both vertically and horizontally linked. A specific complaint about foreign-owned affiliates is that they are "biased" against doing business with domestically owned firms preferring to concentrate their business linkages with the parent company and other affiliates within the MNC's network.

The foregoing argument essentially reverses the notion that foreign-owned affiliates confer efficiency-enhancing externalities upon domestically owned firms. Rather, the alleged weak vertical and horizontal linkages that foreign firms have to domestically owned firms suggests that such externalities will be limited in magnitude and scope. An enhancement of this argument maintains that the host economy would be better off in terms of future efficiency levels if foreign ownership was limited or constrained, so that key positions in infrastructure activities could be filled by domestically owned firms who would arguably be more inclined to transact with other domestically owned firms.

Other arguments in favour of the efficiency benefits of inward FDI have been reversed by critics. For example, it is alleged that foreign-owned affiliates do less investing in general human capital development, including management development, so that there is little, if any, spillover human capital development as there would be if domestically owned firms had carried out the same activities. In a related vein, with fewer managers and skilled professionals being "developed" in foreign-owned affiliates, the host economy does not enjoy the dynamic process of new firm formation that it would were domestically owned firms performing the activities undertaken by foreign-owned affiliates. An extension of this argument is, again, that whatever short-run advantages are gained by allowing inward FDI, the long-run gains would be even larger if foreign investment had been restricted and domestically owned firms allowed to build dominant positions in the relevant activities.<sup>10</sup>

Even the notion that inward FDI increases competition in host country industries has been challenged by an argument that multinational companies enjoy substantial market power and that they extend this power into foreign markets through direct investment.<sup>11</sup> In this case, abuses of dominant positions by foreign-owned affiliates might actually result in small, entrepreneurial companies being driven out of host country industries or being discouraged from entering in the first place, with adverse consequences for future rates of innovation and technological change in the host country.

# The Research Questions

The issues raised in this section suggest a set of questions that should be addressed. One major empirical question is whether foreign-owned affiliates confer efficiency externalities upon domestically owned firms. A related question is the nature of these externalities, e.g. what are their sources and magnitudes? Evidence on the nature and magnitude of such externalities might help address a third question which is intrinsically difficult to answer as a counter-factual argument. Namely, would spillover benefits to the host economy have been even larger in the long-run had little or no FDI been permitted in host country industries? The nature of the externalities might help address this question, if only in an inferential way.

For example, if the evidence shows that many of the spillovers are related to the transfer of proprietary technology (or knowledge, more generally) that is traditionally developed in the MNCs' home countries, and for which the MNCs enjoy significant firm-specific advantages, it seems unlikely that domestically owned firms could readily duplicate those benefits, even if they were given a "temporary" period of protection from foreign competition.

Another relevant empirical question is the impact of inward FDI on competitive conditions in host country industries. Since the evidence on this issue is relatively clear and unambiguous, it can be readily addressed here. Specifically, the evidence is unequivocal that foreign-owned firms are generally better able to overcome industry entry barriers than are domestically owned firms. As well, entry by foreign-owned firms does not appear to increase industrial concentration, either in the short-run or the long-run. Rather, foreign-owned firms tend to be drawn to invest in highly concentrated host country industries.<sup>12</sup>

# Some Evidence

The existence and magnitude of efficiency spillovers from foreign affiliates to the host economy have been investigated in a variety of ways. One set of studies examines the nature and extent of forward and backward economic linkages between foreign affiliates and domestically owned firms in the host country. The presumption underlying these investigations is that efficiency spillovers are unlikely to be substantial if

foreign affiliates largely function in "enclaves" separated from domestically owned firms. Of course, even the threat of entry from foreign-owned firms could precipitate initiatives to improve efficiency in domestically owned firms, so that measuring forward and backward linkages might well obscure the effects of FDI on the host economy. On the other hand, to the extent that domestically owned firms pay "full value" for any technology, higher quality inputs, more efficient distribution services and so forth that they enjoy from forward or backward linkages with foreign-owned suppliers or distributors, these benefits should not be considered spillovers in that the real incomes of host country nationals (including profits to shareholders of domestically owned firms) need not increase as a result of those linkages. In short, the nature and extent of forward and backward linkages is only suggestive of the existence of spillovers.

In this context, Kokko (1994) concurs that while there is a substantial number of studies documenting the existence of forward and backward linkages between foreign affiliates and locally owned firms in host markets, few of these studies document that the linkages result in efficiency spillovers. <sup>13</sup> Moreover, most of the available evidence on linkage effects refer to the manufacturing sector. Similarly, Kokko (1994) notes that the evidence on spillovers related to the training of local employees by foreignowned affiliates is also quite limited and tends to come from studies of developing countries. He speculates that since public education systems in developing countries are relatively weak, training and education spillovers are likely to be more relevant for developing host economies than for developed host economies.

One set of studies providing more definitive insights into the magnitude of spillover efficiency benefits, albeit not the precise source of such benefits, are statistical studies focusing on productivity (or cost levels) in domestically owned firms and relating productivity (or cost levels) to the extent of foreign ownership in the sector. Virtually all of the relevant studies are for manufacturing industries. Moreover, the samples are usually cross-sections of manufacturing industries. An implication is that the "average" spillover effects identified in these studies may not be representative of the true spillover relationship in any individual industry within the overall sample. The focus on manufacturing (primarily the consequence of data being more readily available for manufacturing industries) particularly limits the ability of policymakers to draw inferences about spillovers in service-sector industries.

The available evidence from these statistical studies suggest that spillovers do vary across sectors and industries. Indeed, in some industries, positive productivity spillovers cannot be identified. As an example, a recent study finds evidence that a 1 percent increase in the FDI stock in the U.K. manufacturing sector raises technical progress in that sector by 0.26 percent. By contrast, there does not appear to be any discernible significant effect from non-manufacturing FDI in the private sector, even though some two-thirds of inward investment in the United Kingdom has taken place in these sectors.<sup>15</sup>

There has been only very limited attention paid to the identification of the factors that condition the magnitude of spillover benefits from inward FDI across sectors and industries. Cantwell (1989) argues on the basis of the experience of U.K. manufacturing industries that the entry of U.S. affiliates provided a highly beneficial competitive spur in those industries where local firms had some traditional technological strength, whereas local firms in other industries were forced out of business or pushed to market segments that were ignored by the foreign MNCs. Along similar lines, Kokko (1994) argues that there may be little scope for learning and associated spillovers when MNCs operate in "enclaves." Conversely, when foreign affiliates and local firms are in more direct competition with each other, spillovers are more likely. <sup>17</sup>

In summary, if one is evaluating the economic welfare implications of changing the legal or regulatory regime surrounding FDI in any specific industry or sector, the available evidence on the spillover efficiency benefits of inward FDI is of limited utility. While the available evidence supports a presumption

that there are positive spillover benefits from inward FDI, on average, the presumption may be exaggerated, if not misleading, for specific sectors. Were the only policy concern about inward FDI its potentially adverse impact on long-run economic efficiency in specific domestic industries, there would be no substantive basis of support for any significant restrictions on inward FDI, since there is virtually no reliable evidence documenting spillover efficiency losses associated with the activities of foreign affiliates; however, arguments for sectoral restrictions or regulations on inward FDI usually make a case that there are unique considerations associated with the sectors in question. <sup>18</sup>

# **FDI** and **Distributional Concerns**

If foreign investors earn, or expect to earn, economic rents (returns above the cost-of-capital) in host country activities, host government interventions (of an appropriate nature) can conceptually capture those rents for host country nationals without necessarily reducing inflows of foreign direct investment. This argument has most typically been applied to natural resource industries but has also featured in debates surrounding technology-intensive industries such as telecommunications. Two important questions are related to this issue. One is whether foreign investors typically earn an economic rent on their direct investments. A second is whether host country bureaucrats are capable of capturing any such rents without significantly discouraging inward FDI. The latter is a conceptual more than an empirical question; however, it is largely a moot question, since evidence suggests that the foreign direct investment process is fairly competitive, and that foreign investors in Canada usually earn no more than their relevant costs-of-capital.

More subtle distributional issues are raised by the possibility that foreign-owned affiliates operate differently from domestically owned firms in the host market giving rise to a different pattern of income distribution. For example, foreign-owned firms may use relatively fewer managers, scientists and engineers and relatively more production workers and marketing representatives than their domestically owned counterparts. There is some indirect evidence to support this possibility. For example, foreign-owned affiliates in Canada tend to be less research and development-intensive than similar Canadian-owned firms. Also, trade liberalization in North America appears to have contributed to some "repatriation" of head office functions, such as finance and research and development, back to U.S. parent-company affiliates.<sup>21</sup>

All other things constant, the displacement of domestically owned firms by foreign-owned firms would, therefore, redistribute income away from managers, scientists and engineers and towards production and marketing workers; however, it is difficult to see why any such redistribution would directly constitute a public policy issue.<sup>22</sup>

The usual distributional concern is to improve the income-earning capacity of the less wealthy relatively to those of substantial wealth. In this context, it is difficult to see how foreign investment is a relevant concern or policy-instrument focus. Indeed, the only way in which foreign investment, *per se*, might be relevant in this regard is if foreign-owned affiliates are less likely to pay appropriate taxes (e.g. by exploiting transfer pricing opportunities) than their domestically owned counterparts which, in turn, limits the host government's ability to initiate policies to aid low income workers and families. Since the antidote to this problem resides in tax policy rather than foreign investment policy, the latter possibility is not considered any further.

It has been suggested in the context of outward FDI that intra-company trade within home country multinational companies contributes to the geographical relocation of low-wage production activities, thereby contributing to a reduced demand for relatively low-skilled workers in the home country. All other

things constant, this development would exacerbate income inequality in the home country; however, Canadian trade and FDI flows are predominantly with the United States, and a theoretical concern about the systematic relocation of low-wage activities to the United States seems irrelevant.<sup>23</sup>

# **Other Considerations**

Other concerns about foreign ownership of an essentially non-economic nature are sometimes raised by economic nationalists. For example, it has been suggested that the presence of foreign-owned firms directly or indirectly promotes a transfer of home country values over host country values which, in turn, is suggested to be undesirable. Thus, cultural nationalists argue that the presence of foreign-owned bookstores will result in the display and sale of fewer titles authored by Canadians with an adverse consequence for the cohesiveness and, possibly, the civility of Canadian society.

In other cases, it is argued that foreign-owned firms will "discriminate" against Canadian artists or Canadian "themes", either through xenophobic bias or ignorance of the availability of local talent and creations. Furthermore, unless Canadian cultural producers and distributors are protected from the cost advantages enjoyed by their U.S. counterparts, owing to economies of scale, the former will not be able to compete successfully in an open market, even if they are responsive to the demands of consumers.<sup>24</sup> In a similar vein, Canadian franchises in the National Football League have been discouraged by the federal government on the grounds that such investments would lead to the bankruptcy and disappearance of the Canadian Football League (CFL), and that the CFL is an important source of Canadian national identity.

Such national identity arguments are difficult to address for a variety of reasons, not the least of which are the malleability of the concept of national identity and the virtual absence of any knowledge about what factors strengthen or weaken Canadians' sense of country.<sup>25</sup> Furthermore, and especially outside of the culture industries area, it is difficult to see how the presence of foreign-owned firms can alter the values of host country residents. Indeed, it would seem more likely that foreign investors seeking to sell products and services that are inconsistent with host country values would swiftly go bankrupt.<sup>26</sup> For these reasons, we do not address the national identity argument for government restriction of foreign investment any further.<sup>27</sup> Furthermore, it can be argued that any "underproduction" of Canadian culture is more efficiently addressed by public subsidies to "desirable" cultural activities than by erecting barriers to inward FDI.

A more insidious way in which home country values can displace host country values is through political lobbying and other pressure tactics of foreign investors. An example here is the ongoing lobbying by U.S.-owned film distribution companies to restrict Canadian government efforts to promote the domestically owned firm distribution sector. The view that lobbying efforts of foreign-owned firms is somehow of greater social concern than the lobbying activities of domestically owned firms, must rest on a belief that the latter are likely to be more "socially conscious" than the former; however, we have seen no theoretical or empirical evidence supporting a claim that the lobbying of domestically owned firms is any less driven by narrow self-interest than is the lobbying of foreign-owned firms.

# 3. THE EFFECTS OF INWARD FDI IN A SET OF CANADIAN INDUSTRIES

The analysis in this section will focus on two broad issues: (1) are there any reasons to believe that the broad findings surrounding the allocative and distributional consequences of inward FDI summarized in the preceding section fail to apply to the specific industries of interest in this study: agriculture, oil and gas, transportation, telecommunications and financial services?; (2) what is the empirical evidence bearing upon the allocative and distributional consequences of inward FDI on these host country sectors?

# Theorical considerations

It should be note at the outset that there have been very few studies of the economic welfare consequences of FDI in the specific sectors of interest to this study. Hence, it is difficult to identify a common theme to the arguments for active government policy in these activities and even more difficult to identify evidence that is relevant to evaluating those arguments.

# **Telecommunications**

Arguments for restricting foreign ownership in the telecommunications sector are eclectic and encompass a number of separate considerations.<sup>28</sup> One major argument is that the telecommunications system is a fundamental part of Canada's industrial infrastructure and such a critical piece of infrastructure should not be foreign-owned. The concern about infrastructure also arises in the context of financial services and transportation, so it is important to consider precisely what attributes of "network infrastructure" services give rise to potential concerns about foreign ownership.

One seemingly obvious a priori concern is that foreign ownership of Canadian telecommunications facilities might threaten national defense given the crucial importance of communications in times of national emergencies. While this concern obviously cannot be dismissed out-of-hand, the appropriate remedy is not necessarily to impose foreign ownership restrictions or regulations targeted at foreign-owned telephone companies. Since much of the physical infrastructure (especially for terrestrial networks) is physically immobile, at least over short periods of time, the national defense concern presumably derives from the possibility that domestic defense and emergency personnel will become dependent upon foreign technicians and managers to operate the system effectively. In such circumstances, if the latter withdraw their services suddenly and opportunistically, the domestic telecommunications system may be vulnerable to disruption for a period of time. In fact, foreign-owned telecommunications companies in Canada largely staff using Canadian personnel. Moreover, there are competing distribution media (both wired and wireless) which provide defense and emergency personnel with "back-up" capacity in the event that individual system operators withdraw their services under force majeure conditions. Finally, the Canadian government can insist upon foreign communications service suppliers providing sufficient training in key management and operating activities to local personnel so that Canadians could continue to operate the network effectively even if the foreign service provider withdraws from Canada.

A second concern relating to the network infrastructure feature of telecommunications is that the utilization of the telecommunications network as an instrument of industrial and regional development policy might be less effective under foreign ownership. The specific notion here is that the industrial and regional development desired by public policymakers might require cross-subsidization within the

telecommunications network, e.g. "under-pricing" basic services in rural areas and "overpricing" the same services in urban areas. Private investors concerned with maximizing profits would have no interest in pricing services below cost to any group of customers unless forced to do so by government or regulators. While there is an implicit suggestion in the literature that domestically owned firms may be more willing than their foreign-owned counterparts to undertake cross-subsidization and other policies to support industrial and regional development goals, the rationale for the suggestion is unclear. Presumably, domestic investors are also profit-maximizers. A possible argument is that domestic investors are more "receptive" to the host government's wishes because the former have substantial sunk-cost investments in the host country which makes them more vulnerable to "rent-extraction" by the host government. Conversely, foreign investors may have only a small share of their assets in the host country and, therefore, are less subject to the "leverage" potentially exerted by retaliatory host government actions.

It is impossible to assess this argument in any definitive way. Certainly, leading Canadian companies in the telecommunications sector, including Bell Canada, are rapidly diversifying their investments into activities outside of Canada. Moreover, as the market for telecommunications services becomes increasingly competitive, even firms located exclusively in Canada will find it difficult to engage in cross-subsidization of specific services, since pricing above cost to subsidize money-losing services is impossible in a competitive industry. From a welfare economics perspective, it can also be argued that direct subsidies are generally preferred to indirect subsidies, e.g. pricing cross-subsidies, since the former usually have lower "deadweight efficiency losses" than the latter.<sup>29</sup>

If residual concerns about the behaviour of foreign-owned communications companies exist, perhaps because they are the only (or the largest) suppliers of telecommunications services in the host country, policies short of preventing or restricting foreign ownership might be considered. For example, the granting of corporate charters or sale of domestic assets to foreign investors might be made conditional upon certain commitments being kept, e.g. a commitment to provide telephone service as a supplier of last resort. Appropriate penalties and forfeitures of operating licenses and property would be made an explicit feature of key foreign investments in the sector.<sup>30</sup>

The potential existence of economic rents, also a major focus of government intervention into the resource sector, has figured in some arguments for foreign ownership restrictions in the telecommunications sector. In particular, arguments have been made that domestically owned telephone carriers are more likely than foreign-owned carriers to purchase advanced telecommunications equipment from domestically owned equipment manufacturers. The telecommunications equipment sector is seen as a rapidly growing, technology intensive industry with strong complementarities to the computer industry. This is the type of economic activity that most governments like to encourage. Both because high profits might be generated for domestically owned firms, as well as because of the relatively high skill level of the jobs created. By keeping the carriage sector reserved for domestically owned firms, demand for domestically produced equipment will be encouraged, thereby assisting domestic suppliers of telecommunications equipment to capture economies of scale and scope, along with other "first-mover" advantages.

The argument described in the preceding paragraph cannot be dismissed on theoretical grounds. Indeed, the arguments in favour of "strategic trade (and investment) policies are well known, as are the caveats. Several prominent caveats might be mentioned with respect to Canadian attempts to restrict foreign ownership of telephone carriage. One is that the Canadian domestic market for telecommunications equipment is relatively small and may not provide sufficient scale and scope advantages to make much difference in terms of the cost structure of domestic equipment manufacturers relative to foreign-based manufacturers. A second is that higher prices of domestic telecommunications equipment imply higher

costs for domestic suppliers of telecommunications services. Given the importance and ubiquity of telecommunications services as an input to all sectors of the domestic economy, above-competitive prices for telecommunications services imply the imposition of substantial deadweight costs throughout the domestic economy. This is likely to be quite a high price to pay, even if capturable rents exist on the sale of equipment to foreigners. A third consideration is that foreign governments may retaliate with restrictions against the sale of Canadian-made equipment in their markets. These and other caveats leave very few economists in favour of strategic trade and investment initiatives.

From the more narrow perspective of this paper, a potential major cost of foreign ownership restrictions in the telecommunications sector is the (partial or total) loss of spillover benefits that are often associated with inward FDI. To my knowledge, no studies of spillover benefits have been focused on the telecommunications sector. Specifically, no studies of spillover efficiency benefits from foreign direct investment are identifiable. This is due, in part, to the fact that foreign direct investment in the telecommunications sector is a relatively new phenomenon in most countries whose telephone systems were dominated by a single national (usually government-owned) carrier.

Several relatively recent historical features of the Canadian telecommunications sector suggest that foregone spillover benefits from the inward foreign direct investment that might have been discouraged by Canadian government policy were likely modest. <sup>32</sup> One observation is that Canadian carriers enjoyed high levels of overall productivity relative to most foreign-based carriers. Hence, the scope was limited for direct efficiency improvements associated with foreign-owned carriers displacing domestically owned firms. Another is that Canadian carriers seemed as or more technologically advanced as their foreign-owned counterparts in terms of the rate of introduction of innovations such as direct distance dialing, automated (analog and digital) switching, and so forth. Hence, the opportunities for new technology to be diffused more quickly through the Canadian industry via demonstration effects and the like were also arguably limited. To be sure, in certain sectors, such as mobile communications, foreign-based carriers enjoyed a clear technological lead on Canadian-based carriers, and the possibility that cellular telephony would have been introduced more quickly and its utilization adopted more widely in Canada given direct competition from Scandinavian-based carriers cannot be dismissed.

Perhaps what is most important to note in this discussion about telecommunications is that competition in this sector is (for most countries) a relatively new phenomenon, especially in basic telecommunications. To the extent that foreign direct investment in the sector had been completely unconstrained at the same time that the sector was highly regulated and that price competition was discouraged, the spillover efficiency benefits realized in the host country would likely have been limited anyway. In a preceding section, it was suggested that spillover benefits would likely be greater the greater the level of competition in the host country market, and the more similar the technological capabilities of host and home country firms.<sup>33</sup>

Hence, the main costs (in terms of foregone efficiency spillovers) associated with direct and indirect restrictions on foreign direct investment may be substantially higher now and in the foreseeable future than they have been in the past given: (1) the commitment of policymakers to have competition in all segments of the Canadian telecommunications industry; (2) the seemingly accelerating rate of technological change in the sector along with a growing convergence between telecommunications and computer technologies, which make technological gaps between international firms more likely; (3) the proliferation of wireline and wireless alternatives, which expand the set of entry strategies available to foreign-owned carriers, as well as the market niches that can potentially be served by specialized carriers.

Several other issues seem relevant to formulating even a qualified evaluation of the foregone spillover benefits of direct and indirect restrictions on foreign direct investment in Canada's telecommunications sector. One such issue is whether existing laws and policies in Canada significantly restrict or discourage inward FDI in the telecommunications sector. A second is whether comparable spillover benefits are likely to be realized through other channels of international business, most notably increased trade and/or strategic alliances. These latter issues are addressed in Section 4.

# **Transportation**

Since the transportation network is an essential part of the host country's industrial infrastructure, concerns about foreign ownership of transportation assets parallel those surrounding the telecommunications sector; however, the concerns, if anything, seem less relevant to the transportation sector. For example, there is much less specialized expertise involved in managing the transportation infrastructure compared to the telecommunications infrastructure making foreign management of the former less of a threat to national security in the event of war or other hostilities. Moreover, transportation activities are relatively competitive, and few argue that potential economic rents in the sector justify "rent-capture" motives for restricting asset ownership to host country nationals.

Certainly, the transportation sector is used as an instrument of regional and industrial development policy as is the telecommunications sector. Again, the issue that potentially arises is whether it is as easy to accomplish public policy objectives through initiatives such as pricing cross-subsidies when assets in the sector are owned by foreigners rather than host country nationals. The analysis would seem perfectly analogous to that for telecommunications: perhaps host country governments have more political "leverage" with domestically owned companies than with foreign affiliates, but the extent to which this is so might be minimal given the international mobility of capital. Moreover, as with telecommunications, there are other potential instruments of public policy (e.g. subsidies and tax expenditures) which can be used to promote public policy objectives in this sector.

In short, the theoretical arguments for restricting foreign ownership in the transportation sector seem even weaker than in the case of telecommunications. Of course, the costs of foreign ownership restrictions are also relevant to any complete welfare analysis. In this regard, the same two broad questions arise as in the case of telecommunications: (1) what impacts do existing foreign ownership laws and regulations have on foreign direct investment flows in the sector?; (2) are international trade, strategic alliances and other modes of international business robust sources of spillover efficiency benefits compared to foreign direct investment?

# Financial Services

While the banking and financial system can be seen as an element of the host country's economic infrastructure, the main concerns expressed about foreign ownership of financial institutions relates more to "negative externalities" associated with the loss of control over credit creation and allocation. Specifically, foreign-controlled financial institutions have been seen as less amenable to government suasion, since they could have easier access to offshore funds through which they could subvert the government's financial policy.<sup>34</sup>

Another concern is that foreign-controlled financial intermediaries will be less likely than their domestically owned counterparts to make financial capital available to domestic companies. The underlying justification for this concern is unclear. One possibility is that foreign-controlled financial

intermediaries are less knowledgeable about lending opportunities in the host economy and thereby forego proportionately more privately (and socially) profitable investments than do intermediaries controlled by host-country nationals. Of course, if this were true, the latter would presumably be able to bid more for the deposits of savers and the capital of equity investors, in which case the former would presumably be driven from a highly competitive host country capital market. Another possibility is that intermediaries owned by host country nationals are more receptive to government blandishments to make "unprofitable" loans to small businesses, minority-group businesses and so forth. Even if true, it is arguably more efficient (or less inefficient) for government to subsidize such favoured groups directly, or indirectly (e.g. by granting more favourable tax treatment to profits earned on "unfavourable" loans) than to restrict the entry and/or expansion of foreign-owned intermediaries.

# Natural Resources

The major focus of foreign ownership policy in the natural resources sector has been the oil and gas industry. In this case, a concern about capturing natural resource rents for host country nationals has motivated foreign ownership limitations and discriminatory regulations and tax regimes. Another concern is that upstream and downstream linkages (with their presumed associated spillover efficiency benefits) are much less well-developed in the case of foreign-owned resource companies than their domestically owned counterparts. The desire for foreign-owned oil companies to purchase more inputs from domestic suppliers was explicit in Canadian government policy statements prior to the implementation of the National Energy Program.<sup>35</sup>

To the extent that foreign-owned oil companies have established producing oil and gas (or other natural resource) properties and have costs of exiting the host market, there is an opportunity for host governments to extract commitments and concessions, including limitations on increased ownership of producing properties, without necessarily causing those companies to substantially reduce their existing investments in the host economy. <sup>36</sup> In addition to the extraction of what economists call "appropriable rents", largely unanticipated increases in resource prices generate "resource rents" that can (in theory) be "taxed" away without affecting investment behaviour. This is in large measure the nominal rationale for the National Energy Program.

Obviously, appropriating rents that are related to sunk cost investments is a "one-shot deal" for governments. Having been "victimized" by a host government, foreign investors will attempt to ensure that future investments leave no "hostages" for host governments to take. Rather, foreign investors will look for host governments to make credible and irreversible commitments to ensure that the terms of the explicit or implicit bargain struck with them regarding activities such as buying and selling assets, repatriating profits, paying royalties, and so forth, are not easily modifiable after foreign investment commitments are made. Perhaps more important, the "market" for direct investments by multinational resource companies is highly competitive, and "opportunistic" governments are likely to find investments by those companies diverted to more "reliable" destinations.

The long-run existence of natural resource rents related to a finite supply of resources interacting with an ever-growing demand for natural (particularly energy) resources seems a dubious proposition. For one thing, real resource prices fluctuate over time, and the long-run trend of real resource prices has, if anything, been downward. Moreover, the spectacular profits earned periodically by resource companies are arguably minima required to compensate owners of resource companies for non-diversifiable risk, as well as periods of spectacular losses. For another, the anticipation of earning long-run resource rents should lead to competitive bidding processes and other behaviour which would ensure either the

capitalization or dissipation of those rents. This would leave no scope for government policy to capture rents either through regulation or discriminatory ownership rules if factor markets are competitive.<sup>37</sup> Perhaps the most salient point to note in this regard is the empirical observation that the higher profitability of MNE affiliates (compared to domestically owned firms in the same industry) is generally not due to any market power enjoyed by the affiliates.<sup>38</sup>

There is no gainsaying the fact that the appeal of economic nationalism in the area of natural resource exploration and production was particularly strong worldwide in the 1960s and 1970s, although it is unclear why the concept of a national "birthright" to ownership was so strongly attached to natural resources. <sup>39</sup> Perhaps it had something to do with the perception (especially during that period of time) that finite resources (especially oil) were in clear danger of depletion. In this case, nationalistic appeals to restrict foreign ownership and "exploitation" of host country natural resources are effectively equivalent to rent-capture motives for domestic ownership policies.

In summary, the key empirical issues in assessing the benefits of foreign direct investment in the natural resource industries include: (1) do foreign investors systematically earn economic rents in those industries?; (2) do foreign-owned affiliates operate differently from domestically owned firms in ways such that long-run economic efficiency in the host country is positively or adversely affected? A third issue which, as noted above, is relevant to analyses of any sector is whether and to what extent spillover efficiency benefits associated with inward FDI can be captured by other modes of international business including international trade and strategic alliances.

# Agriculture

I am unaware of any studies that examine historical motives for host government restrictions on foreign direct investment in agricultural activities in developed host economies. Presumably they are similar to normative justifications for restricting foreign ownership in natural resource industries. In particular, the view that agricultural activities give rise to scarcity rents has guided public policy initiatives in this sector in the past. There has also arguably been a strong income redistribution motive underlying the preservation of land ownership for host country nationals. Specifically, the goal of broad ownership of residential housing (and farms) among the population might be jeopardized to the extent that foreign investors are permitted to bid away land assets from host country nationals. At the least, allowing host country land assets to be purchased by foreigners presumably increases demand for those assets, thereby bidding up their prices. This makes home (and farm) ownership more expensive for host country nationals. The "infrastructure argument" that features so strongly as a normative justification for foreign ownership restrictions in several of the sectors reviewed above would not seem to be relevant for the agricultural sector. Furthermore, much of the technological change that has taken place in the agricultural sector has been the result of research and diffusion promotion activities of government agencies. Hence, traditional concerns about spillover efficiency benefits as they relate to ownership patterns may not be especially relevant to the agricultural sector.

It might be argued that economic rents in the agricultural sector, other than pure "Ricardian rents" associated with the ownership of particularly fertile agricultural assets, are the result of government policies (such as domestic production quotas and import barriers) which keep the prices of certain crops above competitive levels. The preservation of such rents is a dubious public policy initiative. In any case, since those rents are capitalized into the price of quota allotments and/or land prices, ongoing restrictions on foreign ownership simply prevent existing owners of quota allotments and land to "cash out" by selling to foreign investors. <sup>40</sup> In this context, foreign ownership restrictions, if anything, involve wealth transfers

from domestic holders of production rights to would-be domestic buyers of production rights, to the extent that the market prices of those rights are lower than they would be if foreigners could also bid for them.

The normative argument that foreign ownership restrictions in agriculture promote a broad-based ownership of rural land is also obviously specious. Very few Canadian families live in rural areas and even fewer are farmers. Whatever relevance this income redistribution argument may have had in the past has long since become irrelevant.

# **Summary**

Section 3 offered a fairly extensive summary and conceptual evaluation of the normative arguments for foreign ownership restrictions in a number of sectors. The fairly lengthy discussion reflects, in part, the diversity of normative arguments, as well as differences in the extent to which they apply to individual sectors; however, the primary motivation for offering an extended conceptual discussion in this section is the fact that empirical evidence on the consequences of foreign ownership restrictions in individual industrial sectors is extremely sparse.

The conceptual analysis in section 3 mitigates strongly against the relevance of historical normative arguments for sectoral restrictions on foreign direct investment. <sup>41</sup> The continued existence of such policies is therefore, from an academic standpoint, more fruitfully understood by applying interest group models from the public choice literature. This perspective, in turn, suggests the potential relevance of future research focusing on the consequences of foreign ownership restrictions for the distribution of income in the host country. It seems relatively clear that lobbyists for restrictions on the removal of foreign ownership restrictions will be motivated, at least in part, by financial interests, and that their motives are strongly coincident with restrictions on competition in their sector more generally. One can see this quite clearly in the lobbying activity surrounding initiatives to liberalize competitive conditions in the telecommunications sector. Unionized "blue collar" workers joined incumbent telephone companies in lobbying for the continuation of entry barriers to both domestically and foreign-owned potential entrants, particularly into the provision of long-distance service. The latter service has been the major source of profits earned by incumbent telephone companies and arguably the major source of net revenues to offer unionized workers relatively generous terms of employment and compensation. A better understanding of the scope and nature of the redistribution of income related to foreign ownership restrictions would likely strengthen the normative case for eliminating such restrictions; however, and perhaps more important, it would add to the public's understanding of the issues and facilitate a more informed public debate.

# 4. FOREIGN INVESTMENT POLICIES AND THEIR EFFECTS

In this section, we identify the nature of foreign direct investment restrictions in the sectors of interest and review the limited empirical evidence concerning the consequences of these restrictions. With respect to the latter objective, two questions are of particular interest: (1) Have the restrictions significantly affected inward FDI flows? (2) Have reductions in inward FDI flows had significant and measurable impacts on economic efficiency by altering competitive conditions and other contributors to spillover efficiency effects?

The first question is not a rhetorical one. Even absolute legal limitations on the amount and nature of foreign ownership in a sector may not be empirically relevant if foreign investors are discouraged from investing in that sector by economic or other political considerations. The second question is also an empirically relevant one given the potential for some spillover benefits to be "imported" into the host country economy through other avenues, as well as differences across sectors in characteristics that condition the nature and magnitude of spillover efficiency benefits.

# **Financial Services**

Canada is one of the few G7 countries that does not allow foreign banks to establish branches on their territory. <sup>42</sup> Foreign investors are required to establish separately capitalized subsidiaries in Canada rather than branches that can draw on the capital of the parent company. Foreign bankers argue that this requirement seriously diminishes the attractiveness of investing in Canada. While foreign investors with separately capitalized affiliates are now permitted to own more than 25 percent of the outstanding shares of a Schedule I bank, the 10 percent ceiling on individual holdings, which remains in effect, effectively prevents control of existing Schedule I banks from being transferred to a foreign corporation. The available evidence, including the observations that foreign direct investment in the banking sector of other developed countries is uniformly higher than in Canada, and that inward FDI in the banking sector has significantly lagged investment in other Canadian financial sectors attest to the relevance of foreign ownership restrictions in this sector. <sup>43</sup>

Federal law also prohibits any single non-resident from buying more than 10 percent of the shares of federally regulated, Canadian-controlled loan, trust and insurance companies. It also limits non-resident ownership of such companies to a maximum of 25 percent. In the provinces of Alberta, Ontario and Manitoba, non-Canadians cannot individually own more than 10 percent, or 25 percent collectively, of trust companies operating under provincial charters granted by those provinces. In Quebec, non-residents can acquire, without authorization, 30 percent of the voting shares of a Canadian-controlled, provincially chartered insurance company or up to 50 percent of the voting shares with authorization from the relevant provincial ministry.<sup>44</sup>

The transfer of control of Canadian-owned insurance companies to non-residents is prohibited, although there are no provisions imposing a limitation on the acquisition of shares of life insurance companies by residents. A similar environment exists for federally incorporated trust and loan companies. Federal provisions on share ownership do not apply to the establishment of new insurance, trust and loan companies. In this respect, foreign entry into non-banking financial sectors is significantly easier than entry into the banking sector.<sup>45</sup>

The most unrestricted sector of the Canadian financial industry for foreign investors is securities trading. Foreign firms may now participate in all aspects of securities transactions in Canada after registration as a foreign dealer; however, a foreign securities firm may be denied entry if its home country restricts the entry of Canadian firms into its securities markets. Available information suggests that there was a significant response on the part of foreign investors to liberalized entry rules; however, while the overall foreign presence in the securities sector increased, foreign firms disappeared completely from the retail side of the business following liberalization. The foreign-owned investment dealers came to focus on capital market deals and institutional clients. This focus is unsurprising given the comparative advantage that large, international investment dealers have in providing services to multinational companies headquartered in Canada, as well as to large affiliates of foreign-owned multinationals. At the same time, Canadian-based companies presumably have a relative advantage in retail activities which emphasize local market knowledge and personal reputation.

In summary, the available evidence suggests that foreign ownership restrictions, as well as their liberalization, have affected inflows of FDI in Canada's financial sector, a not unexpected result given that the main restrictions essentially act as "investment quotas". Unfortunately, as alluded to above, there are very few studies documenting the impacts of inward FDI in the financial sector. One available case study documents the impact of American Express' entry into a local urban market in England. It found that the company established strong links with local suppliers of services such as telecommunications and marketing and that these links led to improvements in the business practices of those suppliers. The study also argues that the American Express operation led to improvements in the local communications infrastructure and an enhanced reputation of the area as a financial services center. Another found that wholly owned affiliates were the preferred organizational form for selling services (including financial services) in Latin American countries. Also, the greater the degree to which relevant knowledge about products and product delivery was firm-specific, the greater the parent company ownership percentage in the affiliate; however, econometric analysis did not show a positive relationship between the extent of actual training offered to affiliate managers and staff and the degree of ownership of affiliates.

The very limited published case study evidence tends to support the conclusion that ownership restrictions in the financial services sector will reduce the rate at which new products are introduced into the host economy, although they do not suggest what the welfare implications of such reductions could be. There is also some anecdotal evidence of foreign financial service companies being prepared to bring specific new services to Canada, such as new credit assessment techniques, were the entry environment "hospitable". 49

A fairly crude analysis of the productivity of capital in the deposit-taking sector found that domestically owned companies in Canada had slightly higher capital productivity ratios than their foreign-owned counterparts. What is surprising in this result, if anything, is that the observed differences were not larger given the much larger average size of the sample of Canadian-owned deposit-taking institutions. A similar analysis found a slightly larger difference in capital productivity ratios between domestically owned and foreign-owned life insurance companies with the foreign-owned companies enjoying higher ratios. There were essentially no differences in capital productivity ratios comparing domestic and foreign-owned companies in other financial intermediary activities. This analysis does not support a strong conclusion that foreign ownership restrictions are hampering the replacement of less efficient domestically owned companies by more efficient foreign-owned companies, at least to date. Moreover, restrictions on competition between different types of financial service companies in Canada, e.g. banks and insurers, may be significantly limiting contestability and competition in the sector. Si

# Oil and Gas

Under foreign investment regulations promulgated in 1992, foreign investors would no longer be precluded from purchasing financially healthy Canadian oil and gas producers or their properties. Oil and gas were to be treated exactly the same under the Investment Canada review process as any other sector. Furthermore, the *Investment Canada Act* was modified to extend to U.S. investors the same thresholds for oil and gas investments as apply in other sectors of the economy under the Canada-U.S. Free Trade Agreement. Non-Canadian purchasers of foreign-owned upstream businesses in Canada are no longer required to make satisfactory commitments to the government regarding future Canadianization efforts and increased investment spending. Legislative restrictions on foreign ownership of frontier oil and gas properties were also removed.

There is some evidence that the liberalization of foreign ownership restrictions did stem (to some extent) the large outflow of foreign capital from the Canadian oil and gas sector pursuant to the implementation of the National Energy Program. <sup>52</sup> However, the major factors influencing foreign direct investment in the energy sector (and presumably the natural resources sector more generally) are world prices for the resources and the costs of locating and extracting the resources in Canada. In this context, foreign investment restrictions are of less practical significance than in many other industrial sectors.

We were unable to find any recent studies of spillovers from foreign direct investment in the natural resources sector generally, or the oil and gas sector specifically. A now fairly old study of the operations of oil and gas multinational companies concludes that foreign investment in resource industries usually gives rise to a number of indirect effects including increases in labour productivity and the introduction of technical and managerial improvements which benefit the economy generally.<sup>53</sup> Since this study primarily focused on developing countries, it is unclear how relevant it is to the Canadian case, especially since substantial technical and managerial expertise exists in Canada's oil and gas industry.

Available data show that Canadian-controlled oil and gas companies emphasize exploration activities while foreign-owned companies emphasize development and production. Foreign-owned companies are also more heavily involved in oil sands production. The fact that this relative degree of specialization exists suggests the potential for foreign-owned companies to have unique expertise in specific activities that would establish the potential for spillover efficiency benefits to the host economy in those sectors. A measure of capital productivity for Canadian- and foreign-owned companies in the "upstream" and "downstream" sectors of the oil and gas industry show that foreign-owned firms are more efficient with relative differences more marked in the downstream sector, where foreign ownership is more heavily concentrated.

In summary, we know little about the impacts of foreign ownership restrictions on the efficiency of the domestic natural resources sector. To the extent that this is an important policy issue, it is clear that more research is needed in this area. As well, we know little about the substitutability of strategic alliances for foreign control in this sector. That is, how and why are spillover efficiency benefits different when comparing inward direct investment through strategic alliances to inward direct investment through wholly owned or foreign-controlled affiliates?

# **Telecommunications**

Canada's legal regime towards foreign ownership in the telecommunications sector is currently shaped largely by Canadian commitments under the WTO Agreement on Basic Telecommunications. Under this

agreement, Canada accepted to remove foreign ownership restrictions in a few areas (global marine satellite services, Teleglobe and international submarine cable landings) but retained the direct and indirect limit of 46.7 percent on foreign ownership of voting shares in Canadian facility-based carriers. There are no foreign ownership restrictions for value-added telecommunications services.<sup>54</sup>

Restrictions on the allowable amount of foreign ownership in the sector has undoubtedly contributed to the prevalence of strategic alliances in telecommunications in Canada and elsewhere. Several high profile alliances involved the Canadian partner gaining access to "intelligent" network services of the foreign partner. It seems clear that the Canadian partner gained from the alliance, although the extent of the net benefits is unquantified (and likely unquantifiable). Certainly, limitations on foreign ownership have not prevented Canada's telecommunications sector from being one of the best performers in the world. One possible explanation is the presence, in recent years, of strong international competition, especially in the provision of long-distance service to corporate customers.

Whether the Canadian telecommunication sector's performance would improve significantly with a further relaxation of foreign ownership restrictions is uncertain. It has been argued that the rate of technological change in the industry is accelerating and that international technology transfer will increasingly require foreign direct investment.<sup>56</sup> It may also be relevant to note that the previously cited study of competitiveness in the telecommunications industry identified Canada's declining position in recent years in the rate of modernization of its telephone infrastructure.

# **Transportation**

Canadian regulations on and limitations of foreign ownership in the transportation sector are relatively extensive. <sup>57</sup> In air transportation, domestic air routes and particular scheduled international routes are reserved for firms at least 75 percent Canadian-owned. Canada also reserves the right to adopt any measure that restricts foreign ownership of specialty air services to no more than 25 percent. Explicit restrictions exist on foreign control of Canada's two major airlines. In water transportation, Canada reserves the right to adopt any reservations from national treatment and most favoured nation investment provisions including a "tit for tat" reservation in response to U.S. reservations in this sector.

I am unaware of any studies documenting the spillover efficiency benefits associated with FDI in the transportation sector. It is clear from a fairly large literature on the adverse impacts of restricted (by regulation) competition in the sector that increased competition has led to substantial reductions in air fares, on average, especially for "long-haul" routes. It is less clear whether competition from foreignowned air carriers played a unique role in stimulating improved efficiency. It is also clear that strategic alliances have proliferated in the airline industry. As in the case of telecommunications, it is unclear whether there would be relatively more mergers and relatively fewer strategic alliances in the absence of any restrictions on foreign ownership and control of airlines.

# Agriculture

There is only a minor regulation at the federal level reserving federal government agricultural loans to Canadians, which would not seem to be a significant barrier to direct investment in the sector by large agricultural enterprises. Potentially more relevant are reservations that different provincial governments have which can allow restrictions to be imposed on non-Canadians' ownership of land.

As noted in an earlier section, it seems unlikely that the presence or absence of foreign ownership in the "upstream" segment of the agricultural sector would have much impact on the availability and spread of technology in that sector. As well, the sector is relatively competitive for most crops, so that the increased presence of foreign-owned affiliates would not significantly enhance the competitive discipline confronting domestic producers. For marketing-board regulated products, as well, the presence of foreign-owned affiliates would not seem to be a significant influence on efficiency levels. Indeed, for conventional definitions of agriculture, as opposed to agri-business, foreign investment restrictions seem a relatively small conditioner of domestic performance compared to restrictions on imports of foreign products.

# 5. SUMMARY AND SUGGESTIONS FOR FUTURE RESEARCH

It can be readily concluded that there are very few studies of the relevance and impacts of restrictions on foreign direct investment at the sectoral level. At the same time, it is unclear how important it is to perform more studies. Theoretical considerations suggest that there is no compelling welfare economics case to be made in support of general restrictions on FDI at the sectoral level; however, if non-economic considerations continue to militate in favour of maintaining sectoral restrictions, studies focused on the potential consequences of these restrictions are relevant.

The dearth of reliable and comprehensive data militate against econometric analysis of sectoral FDI flows, at least for service related sectors such as transportation, telecommunications and financial services. Case study approaches might be more promising, although their generalizability might be questioned. For example, it might be useful to undertake case studies of the activities of Canadian telecommunication companies such as Unitel, which took in foreign strategic partners after operating for awhile as Canadian-owned companies. The study might examine how the activities of the Canadian partner changed as a result of the strategic alliance, as well as the nature of decision-making within the alliance as the degree of foreign ownership changed or remained constant. A case study in the telecommunications area might also look at the activities and performance of the two major foreign-owned telephone companies in Canada relative to some other domestically owned companies of comparable size. Similarly, a case study of Canadian Airlines partial ownership by American Airlines might prove useful, as would an examination of Air Canada's ownership of Continental Airlines and Air Canada's strategic marketing partnerships.

The relatively extensive degree of foreign participation in Canada's insurance and securities sectors would seem to permit case studies involving larger samples of organizations. For the banking sector, a useful case study might focus on wholesale banking practices of foreign- and domestically owned banks in Canada.

It is obvious that usefully detailed case studies will require the cooperation of foreign- and domestically owned companies in the relevant sectors. It is certainly unclear whether such cooperation would be readily forthcoming. Absent cooperation sufficient to perform useful case studies in the Canadian context, one might consider undertaking international comparisons (at the national level) of different sectors, where there are national differences in foreign investment regimes, either at a point in time or over time. One would presumably concentrate on whether differences in national performance are related to differences in foreign ownership regimes. The problem that can be anticipated is that available data will permit only comparisons of fairly broad performance indicators. Moreover, it will be difficult to isolate the influence of foreign ownership, *per se*, on performance.

# **NOTES**

- 1 Seminal reviews can be found in R. E. Caves, *Multinational Enterprises and Economic Analysis*, Second edition, Cambridge: Cambridge University Press, 1996; J. Dunning, *Multinational Enterprises and the Global Economy*, Reading: Addison-Wesley Publishing Company, 1993; and Ari Kokko and Steven Globerman, *The Welfare Effects of Foreign Investment on Host Countries*, Mimeo, Stockholm: Stockholm School of Economics, 1998.
- For some empirical evidence on the nature and magnitude of spillover benefits related to inward FDI, see Kokko and Globerman, *op.cit.* and A. Kokko, "Technology, Market Characteristics and Spillovers", *Journal of Development Economics*, Vol. 43, 1994, pp. 279-293.
- 3 Many of these same factors have been considered in the context of economic welfare evaluations of outward FDI. For a fairly up-to-date review of the relevant theory and evidence, see the papers in Steven Globerman, ed., *Canadian-Based Multinationals*, Calgary: University of Calgary Press, 1996.
- 4 Available productivity comparisons between foreign-owned and domestically owned firms tend to focus on labour productivity differences. For a brief review of the relevant literature, see Steven Globerman, John Ries and Ilan Vertinsky, "The Economic Performances of Foreign-Owned Subsidiaries in Canada", *Canadian Journal of Economics*, Vol. XXVII, No. 1, 1994, pp. 143-156.
- 5 Productivity spillovers are also theoretically and empirically related to other modes of international business, including international trade. To the extent that trade and FDI are net complements, on balance, as suggested by empirical evidence, the linkage between spillovers and FDI is augmented. For a comprehensive discussion of the linkages between international spillovers and modes of international business, see E. Helpman, "R&D and Productivity: The International Connection", Tel Aviv University, mimeo, May 1997.
- 6 For a review of these criticisms, see Richard Starks, *Industry in Decline*, Toronto: James Lorimer, 1978; and Edward Graham and Paul Krugman, *Foreign Direct Investment in the United States*, Third edition, Washington, D.C.: Institute For International Economics, 1995.
- 7 There is a large and growing literature on the connections between organizational linkages and national rates of innovation. See, for example, the papers in Richard R. Nelson, ed., *National Innovation Systems: A Comparative Analysis*, New York: Oxford University Press, 1993.
- 8 In the Canadian context, the argument has been made that innovation activities are concentrated in the parent affiliates of multinational companies leading to a "truncation" of innovation capabilities in the host country. This argument was prominently made in Science Council of Canada, *Innovation in a Cold Climate*, Report Number 15, Ottawa: Information Canada, 1971.
- 9 The argument for discouraging foreign ownership in order to promote domestic ownership in key infrastructure industries can be seen as a version of a much older "infant-industry" argument.
- 10 A general discussion of the potentially adverse impacts from foreign-owned firms displacing domestically owned firms is found in John H. Dunning, "Multinational Enterprises and the Globalization of Innovatory Capacity", *Research Policy*, Vol. 23, 1994, pp. 67-88.

- 11 The seminal proposition of this argument is found in S. Hymer, *The International Operations of National Firms: A Study of Direct Investment*, Unpublished Ph.D. Thesis, Massachusetts Institute of Technology, 1960.
- 12 See, for example, Steven Globerman, "A Note on Foreign Ownership and Market Structure in the United Kingdom", *Applied Economics*, Vol. 11, 1979, pp. 35-42.
- 13 Many of these studies also document that foreign-owned affiliates tend to demand higher standards of quality, reliability and speed of delivery than do domestically owned firms.
- 14 An excellent and comprehensive review and synthesis of the relevant literature is provided in M. Blomström and A. Kokko, *Multinational Corporations and Spillovers*, CEPR Discussion Paper No. 1365, 1996.
- 15 See Ray Barrell and Nigel Pain, "Foreign Direct Investment, Technological Change and Economic Growth Within Europe", *The Economic Journal*, Vol. 107, 1997, pp. 1770-1786.
- 16 See J. Cantwell, *Technological Innovation and the Multinational Corporation*, Oxford: Basil Blackwell, 1989.
- 17 A. Kokko, "Technology, Market Characteristics and Spillovers", *Journal of Development Economics*, Vol. 43, 1994, pp. 279-293. Kokko finds evidence in support of his thesis using data from Mexican manufacturing industries. Supportive results are also obtained for manufacturing industries in Uruguay as reported in A. Kokko, R. Tansini and M. Zejan, "Local Technological Capability and Spillovers from FDI in the Uruguayan Manufacturing Sector", *Journal of Development Studies*, Vol. 34, 1996, pp. 602-611.
- 18 Barrell and Pain, *op.cit.*, find that inward FDI did not increase productivity in the United Kingdom's non-manufacturing sector, even though the productivity impact was pronounced in the manufacturing sector. To the extent that their result is generalizable, it highlights the potential for foreign ownership to have different economic consequences for different industrial sectors.
- 19 See Steven Globerman, "Foreign Ownership in Telecommunications: A Policy Perspective", *Telecommunications Policy*, Vol. 19, No.1, 1995, pp. 2-28.
- 20 Relevant evidence and references to other studies are found in Steven Globerman, "Foreign Acquisitions of Canadian High-Technology Companies", in D. McFetridge, ed., *Foreign Investment, Technology and Economic Growth*, Calgary: Calgary University Press, 1991*a*, pp. 239-275.
- 21 See Stephen Blank, "The Emerging Architecture of North America" in A. R. Riggs and T. Velk, eds., *Beyond NAFTA: An Economic, Political and Sociological Perspective*, Vancouver: The Fraser Institute, 1993, pp. 22-35.
- 22 Concerns with respect to reduced technological spillovers associated with foreign-owned affiliates hiring fewer scientists and engineers were addressed in the earlier section dealing with efficiency. There may also be "quality-of-life" concerns that favour "uplifting" jobs such as research science; however, if sales jobs are intrinsically undesirable, multi-national affiliates will have to pay wages for marketing

- jobs that compensate for their lower status and so forth. If labour markets are competitive, there is no rationale for government to intrude in order to change the voluntary decisions of labour market participants.
- 23 For a discussion of the labour market impacts of outward FDI, see M. Gunderson and S. Verma, "Labour-Market Implications of Outward Foreign Direct Investment" in Steven Globerman, ed., *Canadian-Based Multinationals*, Calgary: University of Calgary Press, 1994, pp. 179-214.
- 24 For a comprehensive presentation and evaluation of the relevant arguments, see W. T. Stanbury, "Canadian Content Regulations: The Intrusive State at Work", *The Fraser Forum*, August 1988, pp. 5-90.
- 25 For a comprehensive and highly critical review of the invocation of Canadian identity as an argument for restricting the activities of foreign investors in Canada's culture industries, see W. T. Stanbury, "Canadian Content Regulations: A Consumer Perspective", paper presented at the Conference on Economic and Public Policy Issues of the Information Economy, University of Toronto, October 17-18, 1997.
- 26 The case of the American "shock-jock" Howard Stern is an interesting case-in-point. His programming, as broadcast on two Canadian radio television stations, has been condemned by the CRTC and by mainstream Canadian journalists and editorialists. Yet his shows are highly popular with listeners. The point is that Canadian values are diverse, and no one group can reliably proclaim what contributes positively or negatively to Canadians "feeling good" about being Canadians.
- 27 The argument that American entertainment companies systematically ignore or discriminate against Canadian programming is evaluated and rejected in the case of feature film in Steven Globerman, "Foreign Ownership of Feature Film Distribution and the Canadian Film Industry", *Canadian Journal of Communications*, Vol. 16, No. 2, 1991*b*, pp. 191-206.
- 28 A full discussion and evaluation of these arguments can be found in Steven Globerman, "Foreign Ownership in Telecommunications: A Policy Perspective", *Telecommunications Policy*, Vol. 19, No. 1, 1995, pp. 2-28.
- 29 Deadweight economic losses can be defined as foregone increases in real income suffered by society as a result of inefficient pricing and output decisions. For a simple discussion of this concept, see D. L. Weimer and A. R. Vining, *Policy Analysis: Concepts and Practice*, Englewood Cliffs: Prentice-Hall, 1989, p. 33.
- 30 For a description of some policy measures adopted by a number of countries to ensure that foreign investors in the telecommunications sector would maintain specific practices with regard to service supply and prices, see Richard A. Joseph, "Direct Foreign Investment in Telecommunications: A Review of Attitudes in Australia, New Zealand, France, Germany and the UK", *Telecommunications Policy*, Vol. 19, No. 5, pp. 413-426.
- 31 A thorough discussion of these issues can be found in Paul Krugman, ed., *Strategic Trade Policy and the New International Economics*, Cambridge, Massachusetts: The MIT Press, 1986.

- 32 Some of these features are discussed in Steven Globerman, *Telecommunications in Canada: An Analysis of Outlook and Trends*, Vancouver: The Fraser Institute, 1988.
- 33 A formal model of these interactions is provided in Y. Wang and M. Blomström, "Foreign Investment and Technology Transfer: A Simple Model", *European Economic Review*, Vol. 36, 1992, pp. 137-155.
- 34 See David Conklin and Donald Lecraw, "Restrictions on Foreign Ownership During 1984-1994: Developments and Alternative Policies", *Transnational Corporations*, Vol. 6, No. 1, 1997, pp. 1-30. I am unaware of any persuasive evidence verifying the relevance of this claim.
- 35 For a full discussion of Canadian government policy in the energy sector, see Steven Globerman and Daniel Shapiro, *Canadian Government Policies Toward Inward Direct Investment*, Working Paper No. 24, Industry Canada, 1998.
- 36 The seminal discussion of how sunk cost assets can create appropriable rent is found in B. Klein, R. Crawford and A. A. Alchian, "Vertical Integration, Appropriable Rents and The Competitive Contracting Process", *Journal of Law and Economics*, Vol. 21, October 1978.
- 37 This basic point is made more generally with respect to acquisitions of host country assets by foreigners in Steven Globerman, "Canada's Foreign Investment Review Agency and the Direct Investment Process in Canada", *Canadian Public Administration*, Vol. 27, No. 3, 1984, pp. 313-328.
- 38 See Nagesh Kumar, "Foreign Direct Investments and Technology Transfers in Development: A Perspective on Recent Literature", The United Nations University, Institute for New Technologies, Discussion Paper 9702, August 1996.
- 39 There is an echo of this emotional attachment to reserving natural resources for domestic use in the strong resistance of Canadians and their political representatives to authorize large-scale exports of water.
- 40 Rather, they must find host country nationals to sell out to.
- 41 Section 3 did not review arguments for restricting foreign ownership in the broadcasting sector. As discussed in an earlier section, these arguments are complex, symbolic and highly idiosyncratic to the broadcasting sector. Reasons for scepticism about the arguments were also briefly discussed earlier in the study. A full exposition and evaluation of the relevant arguments would require a separate study. The interested reader can gain some insights into the relevant arguments in W. T. Stanbury, *Canadian Content Regulations: The Intrusive State At Work*, Fraser Forum, Special Issue, August 1998, and Steven Globerman, "Foreign Ownership of Feature Film Distribution and the Canadian Film Industry", *Canadian Journal of Communications*, Vol. 16, No. 2, 1991b, pp. 191-206.
- 42 Ronald Hirshhorn, *Industry Canada's Foreign Investment Research: Messages and Policy Implications*, Industry Canada, Discussion Paper Number 5, October 1997.
- 43 For a discussion of some evidence, see Globerman and Shapiro, op.cit.
- 44 *Ibid*.

- 45 In a number of activities including the underwriting and selling of insurance policies and sales financing, U.S. residents (firms and nationals) were exempted by the Canada-U.S. Free Trade Agreement from federal ownership restrictions, although no single U.S. shareholder can own more than 10 percent of the capital of an insurance company. This means that Investment Canada can review acquisitions by U.S. investors of Canadian-owned companies in these sectors if the latters' book asset values exceed the review threshold. Takeovers of Canadian-owned loan and trust companies continue to require the approval of the Minister of Finance.
- 46 *Ibid*.
- 47 See M. Barrow and M. Hall, "The Impact of a Large Multinational Organization on a Small Local Economy", *Regional Studies*, Vol. 29, 1995, pp. 635-653.
- 48 See Robert Grosse, "International Technology Transfer in Services", *Journal of International Business Studies*, Fourth Quarter, 1996, pp. 781-800.
- 49 Globerman and Shapiro, op.cit.
- 50 Ibid.
- 51 This argument and supporting evidence can be found in I. J. Horstmann, G. F. Mathewson and N. C. Quigley, *Ensuring Competition: Bank Distribution of Insurance Products*, Toronto: C. D. Howe Institute, 1996.
- 52 Globerman and Shapiro, op.cit.
- 53 R. F. Mikesell, *Foreign Investment in the Petroleum and Mineral Industries*, Baltimore: The John Hopkins Press, 1971.
- 54 For a fuller discussion of Canadian commitments, as well as those of other countries, under the WTO Agreement, see Steven Globerman and Daniel Hagen, "Foreign Investment in Telecommunications: Assessing the Policy Environment", paper presented at The University of Toronto Conference on Economic and Public Policy Issues of the Information Economy, Toronto, 1997.
- 55 One recent study reports the results of an analysis of 43 specific variables measuring a wide range of areas critical to the telecommunications industry's performance. The overall performance of Canada's telecommunications industry ranked a close second behind Singapore's and ahead of the United States which ranked third. See Ronald Hubert, "An Analysis of Comparative Regulatory and Policy Structures Based on the Telecompetitiveness Index", in W.,T. Stanbury, ed., *Perspectives on the New Economics and the Regulation of Telecommunications*, Montreal: Institute for Research on Public Policy, 1995, pp. 81-102.
- 56 See Steven Globerman and Daniel Hagen, "The Impacts of Technological Change and Globalization on Cultural Content in Broadcasting", Western Washington University, mimeo, 1998. Some evidence is also presented showing that international telecommunications mergers are becoming increasingly important relative to strategic alliances in the sector.

57 The discussion in this section draws largely on Alan Rugman and Michael Gestrin, "NAFTA's Treatment of Foreign Investment", in A. M. Rugman, ed., *Foreign Investment and NAFTA*, Columbia: University of South Carolina, 1994, pp. 47-79.

# **BIBLIOGRAPHY**

- Barrell, R. and N. Pain, "Foreign Direct Investment, Technological Change and Economic Growth Within Europe", *The Economic Journal*, Vol. 107, 1997, pp. 1770-1786.
- Barrow, M. and M. Hall, "The Impact of a Large Multinational Organization on a Small Local Economy", *Regional Studies*, Vol. 29, 1995, pp. 635-653.
- Blank, S. "The Emerging Architecture of North America", in A. R. Riggs and T. Velk, eds., *Beyond NAFTA: An Economic, Political and Sociological Perspective*, Vancouver: The Fraser Institute, 1993, pp. 22-35.
- Blomström, M. and A. Kokko, *Multinational Corporations and Spillovers*, CEPR Discussion Paper No. 1365, 1996.
- Cantwell, J., *Technological Innovation and the Multinational Corporation*, Oxford: Basil Blackwell, 1989.
- Caves, R. E.. *Multinational Enterprises and Economic Analysis*, Second Edition, Cambridge: Cambridge University Press, 1996.
- Conklin, D. and D. Lecraw, "Restrictions on Foreign Ownership During 1984-1994: Developments and Alternative Policies", *Transnational Corporations*, Vol. 6, No. 1, 1997, pp. 1-30.
- Dunning, J., *Multinational Enterprises and the Global Economy*, Reading: Addison-Wesley Publishing Company, 1993.
- ———, "Multinational Enterprises and the Globalization of Innovatory Capacity", *Research Policy*, Vol. 23, 1994, pp. 67-88.
- Globerman, S., "A Note on Foreign Ownership and Market Structure in the United Kingdom", *Applied Economics*, Vol. 11, 1979, pp. 35-42.
- ———, "Canada's Foreign Investment Review Agency and the Direct Investment Process in Canada", *Canadian Public Administration*, Vol. 27, No. 3, 1984, pp. 313-328.
- ———, "Foreign Acquisitions of Canadian High-Technology Companies", in D. McFetridge, ed., Foreign Investment, Technology and Economic Growth, Calgary: Calgary University Press, 1991a, pp. 239-275.
- ———, "Foreign Ownership of Feature Film Distribution and the Canadian Film Industry", *Canadian Journal of Communications*, Vol. 16, No. 2, 1991*b*, pp. 191-206.
- ———, "Foreign Ownership in Telecommunications: A Policy Perspective", *Telecommunications Policy*, Vol. 19, No.1, 1995, pp. 2-28.

- ———, *Telecommunications in Canada: An Analysis of Outlook and Trends*, Vancouver: The Fraser Institute, 1988.
- ———, ed., Canadian-Based Multinationals, Calgary: University of Calgary Press, 1996.
- Globerman, S. and D. Hagen, "Foreign Investment in Telecommunications: Assessing the Policy Environment", paper presented at The University of Toronto Conference on Economic and Public Policy Issues of the Information Economy, Toronto, 1997.
- ———, "The Impacts of Technological Change and Globalization on Cultural Content in Broadcasting", Western Washington University, mimeo, 1998.
- Globerman, S. and D. Shapiro, *Canadian Government Policies Toward Inward Direct Investment*, Working Paper No. 24, Industry Canada, 1998.
- Globerman, S., J. Ries and I. Vertinsky, "The Economic Performance of Foreign-Owned Subsidiaries in Canada", *Canadian Journal of Economics*, Vol. XXVII, No. 1, 1994, pp. 143-156.
- Graham, E. and P. Krugman, *Foreign Direct Investment in the United States*, Third Edition, Washington, D.C.: Institute For International Economics, 1995.
- Grosse, R., "International Technology Transfer in Services", *Journal of International Business Studies*, Fourth Quarter, 1996, pp. 781-800.
- Gunderson, M. and S. Verma, "Labour-Market Implications of Outward Foreign Direct Investment", in Steven Globerman, ed., *Canadian-Based Multinationals*, Calgary: University of Calgary Press, 1994, pp. 179-214.
- Helpman, E., "R&D and Productivity: The International Connection", Tel Aviv University, mimeo, May 1997.
- Hirshhorn, R., *Industry Canada's Foreign Investment Research: Messages and Policy Implications*, Industry Canada, Discussion Paper Number 5, October 1997.
- Horstmann, I. J., G. F. Mathewson and N. C. Quigley, *Ensuring Competition: Bank Distribution of Insurance Products*, Toronto: C. D. Howe Institute, 1996.
- Hubert, R., "An Analysis of Comparative Regulatory and Policy Structures Based on the Telecompetitiveness Index", in W.T. Stanbury, ed., *Perspectives on the New Economics and the Regulation of Telecommunications*, Montreal: Institute for Research on Public Policy, 1995, pp. 81-102.
- Hymer, S., *The International Operations of National Firms: A Study of Direct Investment*, Unpublished Ph.D. Thesis, Massachusetts Institute of Technology, 1960.
- Joseph, R. A., "Direct Foreign Investment in Telecommunications: A Review of Attitudes in Australia, New Zealand, France, Germany and the UK", *Telecommunications Policy*, Vol. 19, No. 5, pp. 413-426.

- Klein, B., R. Crawford and A. A. Alchian, "Vertical Integration, Appropriable Rents and The Competitive Contracting Process", *Journal of Law and Economics*, Vol. 21, October 1978.
- Kokko, A., "Technology, Market Characteristics and Spillovers", *Journal of Development Economics*, Vol. 43, 1994, pp. 279-293.
- Kokko, A. and S. Globerman, *The Welfare Effects of Foreign Investment on Host Countries*, mimeo, Stockholm: Stockholm School of Economics, 1998.
- Kokko, A., R. Tansini and M. Zejan, "Local Technological Capability and Spillovers from FDI in the Uruguayan Manufacturing Sector", *Journal of Development Studies*, Vol. 34, 1996, pp. 602-611.
- Krugman, P. ed., *Strategic Trade Policy and the New International Economics*, Cambridge, Massachusetts: The MIT Press, 1986.
- Kumar, N. "Foreign Direct Investments and Technology Transfers in Development: A Perspective on Recent Literature", The United Nations University, Institute for New Technologies, Discussion Paper 9702, August 1996.
- Mikesell, R. F., *Foreign Investment in the Petroleum and Mineral Industries*, Baltimore: The John Hopkins Press, 1971.
- Nelson, Richard R., ed., *National Innovation Systems: A Comparative Analysis*, New York: Oxford University Press, 1993.
- Rugman, A. and M. Gestrin, "NAFTA's Treatment of Foreign Investment" in A. M. Rugman, *Foreign Investment and NAFTA*, Columbia: University of South Carolina, 1994, pp. 47-79.
- Science Council of Canada, *Innovation in a Cold Climate*, Report Number 15, Ottawa: Information Canada, 1971.
- Stanbury, W. T., "Canadian Content Regulations: A Consumer Perspective", paper presented at the Conference on Economic and Public Policy Issues of the Information Economy, University of Toronto, October 17-18, 1997.
- ———, "Canadian Content Regulations: The Intrusive State at Work", *The Fraser Forum*, August 1988, pp. 5-90.
- Starks, R., Industry in Decline, Toronto: James Lorimer, 1978.
- Wang, Y. and M. Blomström, "Foreign Investment and Technology Transfer: A Simple Model", *European Economic Review*, Vol. 36, 1992, pp. 137-155.
- Weimer, D. L. and A. R. Vining, *Policy Analysis: Concepts and Practice*, Englewood Cliffs: Prentice-Hall, 1989, p.33.

#### INDUSTRY CANADA RESEARCH PUBLICATIONS

#### INDUSTRY CANADA WORKING PAPER SERIES

- No. 1 Economic Integration in North America: Trends in Foreign Direct Investment and the Top 1,000 Firms, Industry Canada, Micro-Economic Policy Analysis Staff including John Knubley, Marc Legault and P. Someshwar Rao, 1994.
- No. 2 Canadian-Based Multinationals: An Analysis of Activities and Performance, Industry Canada, Micro-Economic Policy Analysis Staff including P. Someshwar Rao, Marc Legault and Ashfaq Ahmad, 1994.
- No. 3 International R&D Spillovers Between Industries in Canada and the United States, Jeffrey I. Bernstein, Carleton University and National Bureau of Economic Research, under contract with Industry Canada, 1994.
- No. 4 **The Economic Impact of Mergers and Acquisitions on Corporations**, Gilles Mcdougall, Micro-Economic Policy Analysis, Industry Canada, 1995.
- No. 5 **Steppin' Out: An Analysis of Recent Graduates Into the Labour Market**, Ross Finnie, School of Public Administration, Carleton University and Statistics Canada, 1995.
- No. 6 **Measuring the Compliance Cost of Tax Expenditures: The Case of Research and Development Incentives**, Sally Gunz, University of Waterloo, Alan Macnaughton, University of Waterloo, and Karen Wensley, Ernst & Young, Toronto, under contract with Industry Canada, 1996.
- No. 7 **Governance Structure, Corporate Decision-Making and Firm Performance in North America**, P. Someshwar Rao and Clifton R. Lee-Sing, Micro-Economic Policy Analysis, Industry Canada, 1996.
- No. 8 **Foreign Direct Investment and APEC Economic Integration**, Ashfaq Ahmad, P. Someshwar Rao and Colleen Barnes, Micro-Economic Policy Analysis, Industry Canada, 1996.
- No. 9 **World Mandate Strategies for Canadian Subsidiaries**, Julian Birkinshaw, Institute of International Business, Stockholm School of Economics, under contract with Industry Canada, 1996.
- No. 10 **R&D Productivity Growth in Canadian Communications Equipment and Manufacturing**, Jeffrey I. Bernstein, Carleton University and National Bureau of Economic Research, under contract with Industry Canada, 1996.
- No. 11 **Long-run Perspective on Canadian Regional Convergence**, Serge Coulombe, Department of Economics, University of Ottawa, and Frank C. Lee, Industry Canada, 1996.
- No. 12 **Implications of Technology and Imports on Employment and Wages in Canada**, Frank C. Lee, Industry Canada, 1996.
- No. 13 **The Development of Strategic Alliances in Canadian Industries: A Micro Analysis,** Sunder Magun, Applied International Economics, 1996.
- No. 14 **Employment Performance in the Knowledge-Based Economy**, Surendra Gera, Industry Canada, and Philippe Massé, Human Resources Development Canada, 1996.
- No. 15 **The Knowledge-Based Economy: Shifts in Industrial Output**, Surendra Gera, Industry Canada, and Kurt Mang, Department of Finance, 1997.
- No. 16 **Business Strategies of SMEs and Large Firms in Canada**, Gilles Mcdougall and David Swimmer, Micro-Economic Policy Analysis, Industry Canada, 1997.
- No. 17 Impact of China's Trade and Foreign Investment Reforms on the World Economy, Winnie Lam, Micro-Economic Policy Analysis, Industry Canada, 1997.

- No. 18 **Regional Disparities in Canada: Characterization, Trends and Lessons for Economic Policy**, Serge Coulombe, Department of Economics, University of Ottawa, 1997.
- No. 19 Inter-Industry and U.S. R&D Spillovers, Canadian Industrial Production and Productivity Growth, Jeffrey I. Bernstein, Carleton University and National Bureau of Economic Research, under contract with Industry Canada, 1998.
- No. 20 Information Technology and Labour Productivity Growth: An Empirical Analysis for Canada and the United States, Surendra Gera, Wulong Gu and Frank C. Lee, Micro-Economic Policy Analysis, Industry Canada, 1998.
- No. 21 Capital-Embodied Technical Change and the Productivity Growth Slowdown in Canada, Surendra Gera, Wulong Gu and Frank C. Lee, Micro-Economic Policy Analysis, Industry Canada, 1998.
- No. 22 **The Corporate Tax Structure and the Effects on Production, Cost and Efficiency,** Jeffrey I. Bernstein, Carleton University and National Bureau of Economic Research, under contract with Industry Canada, 1998.
- No. 23 **Restructuring in Canadian Industries: A Micro Analysis**, Sunder Magun, Applied International Economics, under contract with Industry Canada, 1998.
- No. 24 **Canadian Government Policies Toward Inward Foreign Direct Investment**, Steven Globerman, Simon Fraser University and Western Washington University, and Daniel Shapiro, Simon Fraser University, under contract with Industry Canada, 1998.
- No. 25 A Structuralist Assessment of Technology Policies Taking Schumpeter Seriously on Policy, Richard G. Lipsey and Kenneth Carlaw, Simon Fraser University, with a contribution by Davit D. Akman, research associate, under contract with Industry Canada, 1998.
- No. 26 Intrafirm Trade of Canadian-Based Foreign Transnational Companies, Richard A. Cameron, Micro-Economic Policy Analysis, Industry Canada, 1998.
- No. 27 Recent Jumps in Patenting Activities: Comparative Innovative Performance of Major Industrial Countries, Patterns and Explanations, Mohammed Rafiquzzaman and Lori Whewell, Micro-Economic Policy Analysis, Industry Canada, 1998.
- No. 28 **Technology and the Demand for Skills: An Industry-Level Analysis**, Surendra Gera and Wulong Gu, Industry Canada, and Zhengxi Lin, Statistics Canada, 1999.
- No. 29 **The Productivity Gap Between Canadian and U.S. Firms**, Frank Chung Lee and Jianmin Tang, Micro-Economic Policy Analysis, Industry Canada, 1999.
- No. 30 **Foreign Direct Investment and Productivity Growth: The Canadian Host-Country Experience**, Surendra Gera, Wulong Gu and Frank C. Lee, Micro-Economic Policy Analysis, Industry Canada, 1999.

#### INDUSTRY CANADA DISCUSSION PAPER SERIES

- No. 1 Multinationals as Agents of Change: Setting a New Canadian Policy on Foreign Direct Investment, Lorraine Eden, Carleton University, 1994.
- No. 2 **Technological Change and International Economic Institutions**, Sylvia Ostry, Centre for International Studies, University of Toronto, under contract with Industry Canada, 1995.
- No. 3 **Canadian Corporate Governance: Policy Options**, Ronald. J. Daniels, Faculty of Law, University of Toronto, and Randall Morck, Faculty of Business, University of Alberta, 1996.
- No. 4 Foreign Direct Investment and Market Framework Policies: Reducing Frictions in APEC Policies on Competition and Intellectual Property, Ronald Hirshhorn, 1996.

- No. 5 **Industry Canada's Foreign Investment Research: Messages and Policy Implications**, Ronald Hirshhorn, 1997.
- No. 6 International Market Contestability and the New Issues at the World Trade Organization, Edward M. Graham, Institute for International Economics, Washington (DC), under contract with Industry Canada, 1998.
- No. 7 Implications of Foreign Ownership Restrictions for the Canadian Economy A Sectoral Analysis, Steven Globerman, Western Washington University, under contract with Industry Canada, 1999.

#### INDUSTRY CANADA OCCASIONAL PAPER SERIES

- No. 1 **Formal and Informal Investment Barriers in the G-7 Countries: The Country Chapters**, Industry Canada, Micro-Economic Policy Analysis Staff including Ashfaq Ahmad, Colleen Barnes, John Knubley, Rosemary D. MacDonald and Christopher Wilkie, 1994.
  - **Formal and Informal Investment Barriers in the G-7 Countries: Summary and Conclusions**, Industry Canada, Micro-Economic Policy Analysis Staff including Ashfaq Ahmad, Colleen Barnes and John Knubley, 1994.
- No. 2 **Business Development Initiatives of Multinational Subsidiaries in Canada**, Julian Birkinshaw, University of Western Ontario, under contract with Industry Canada, 1995.
- No. 3 **The Role of R&D Consortia in Technology Development**, Vinod Kumar, Research Centre for Technology Management, Carleton University, and Sunder Magun, Centre for Trade Policy and Law, University of Ottawa and Carleton University, under contract with Industry Canada, 1995.
- No. 4 **Gender Tracking in University Programs**, Sid Gilbert, University of Guelph, and Alan Pomfret, King's College, University of Western Ontario, 1995.
- No. 5 **Competitiveness: Concepts and Measures**, Donald G. McFetridge, Department of Economics, Carleton University, 1995.
- No. 6 **Institutional Aspects of R&D Tax Incentives: The SR&ED Tax Credit**, G. Bruce Doern, School of Public Administration, Carleton University, 1995.
- No. 7 Competition Policy as a Dimension of Economic Policy: A Comparative Perspective, Robert D. Anderson and S. Dev Khosla, Economics and International Affairs Branch, Bureau of Competition Policy, Industry Canada, 1995.
- No. 8 Mechanisms and Practices for the Assessment of The Social and Cultural Implications of Science and Technology, Liora Salter, Osgoode Hall Law School, University of Toronto, under contract with Industry Canada, 1995.
- No. 9 **Science and Technology: Perspectives for Public Policy**, Donald G. McFetridge, Department of Economics, Carleton University, under contract with Industry Canada, 1995.
- No. 10 Endogenous Innovation and Growth: Implications for Canada, Pierre Fortin, Université du Québec à Montréal and the Canadian Institute for Advanced Research, and Elhanan Helpman, Tel Aviv University and the Canadian Institute for Advanced Research, under contract with Industry Canada, 1995.
- No. 11 **The University-Industry Relationship in Science and Technology**, Jérôme Doutriaux, University of Ottawa, and Margaret Barker, Meg Barker Consulting, under contract with Industry Canada, 1995.
- No. 12 **Technology and the Economy: A Review of Some Critical Relationships**, Michael Gibbons, University of Sussex, under contract with Industry Canada, 1995.
- No. 13 Management Skills Development in Canada, Keith Newton, Industry Canada, 1995.

- No. 14 The Human Factor in Firm's Performance: Management Strategies for Productivity and Competitiveness in the Knowledge-Based Economy, Keith Newton, Industry Canada, 1996.
- No. 15 Payroll Taxation and Employment: A Literature Survey, Joni Baran, Industry Canada, 1996.
- No. 16 Sustainable Development: Concepts, Measures, Market and Policy Failures at the Open Economy, Industry and Firm Levels, Philippe Crabbé, Institute for Research on the Environment and Economy, University of Ottawa, 1997.
- No. 17 **Measuring Sustainable Development: A Review of Current Practice,** Peter Hardi and Stephan Barg, with Tony Hodge and Laszlo Pinter, International Institute for Sustainable Development, 1997.
- No. 18 Reducing Regulatory Barriers to Trade: Lessons for Canada from the European Experience, Ramesh Chaitoo and Michael Hart, Center for Trade Policy and Law, Carleton University, 1997.
- No. 19 Analysis of International Trade Dispute Settlement Mechanisms and Implications for Canada's Agreement on Internal Trade, E. Wayne Clendenning and Robert J. Clendenning, E. Wayne Clendenning & Associates Inc., under contract with Industry Canada, 1997.
- No. 20 **Aboriginal Businesses: Characteristics and Strategies for Growth**, David Caldwell and Pamela Hunt, Management Consulting Centre, under contract with Aboriginal Business Canada, Industry Canada, 1998.

#### CANADA IN THE 21ST CENTURY SERIES

- No. 1 **Global Trends: 1980-2015 and Beyond**, J. Bradford De Long, University of California, Berkeley, under contract with Industry Canada, 1998.
- No. 2 **Broad Liberalization Based on Fundamentals: A Framework for Canadian Commercial Policy**, Randy Wigle, Wilfrid Laurier University, under contract with Industry Canada, 1998.
- No. 3 **North American Economic Integration: 25 Years Backward and Forward**, Gary C. Hufbauer and Jeffrey J. Schott, Institute for International Economics, Washington (DC), under contract with Industry Canada, 1998.
- No. 4 Demographic Trends in Canada, 1996-2006: Implications for the Public and Private Sectors, David K. Foot, Richard A. Loreto and Thomas W. McCormack, Madison Avenue Demographics Group, under contract with Industry Canada, 1998.
- No. 5 **Capital Investment Challenges in Canada**, Ronald P. M. Giammarino, University of British Columbia, under contract with Industry Canada, 1998.
- No. 6 Looking to the 21st Century Infrastructure Investments for Economic Growth and for the Welfare and Well-Being of Canadians, Christian DeBresson, Université du Québec à Montréal, and Stéphanie Barker, Université de Montréal, under contract with Industry Canada, 1998.
- No. 7 **The Implications of Technological Change for Human Resource Policy**, Julian R. Betts, University of California, San Diego, under contract with Industry Canada, 1998.
- No. 8 **Economics and the Environment: The Recent Canadian Experience and Prospects for the Future**, Brian R. Copeland, University of British Columbia, under contract with Industry Canada, 1998.
- No. 9 **Individual Responses to Changes in the Canadian Labour Market**, Paul Beaudry and David A. Green, University of British Columbia, under contract with Industry Canada, 1998.
- No. 10 **The Corporate Response Innovation in the Information Age**, Randall Morck, University of Alberta, and Bernard Yeung, University of Michigan, under contract with Industry Canada, 1998.
- No. 11 **Institutions and Growth: Framework Policy as a Tool of Competitive Advantage for Canada**, Ronald J. Daniels, University of Toronto, under contract with Industry Canada, 1998.

# PERSPECTIVES ON NORTH AMERICAN FREE TRADE SERIES

- No. 1 Can Small-Country Manufacturing Survive Trade Liberalization? Evidence from the Canada–U.S. Free Trade Agreement, Keith Head and John Ries, University of British Columbia, under contract with Industry Canada, 1999.
- No. 2 **Modelling Links Between Canadian Trade and Foreign Direct Investment,** W. Hejazi and A. E. Safarian, University of Toronto, under contract with Industry Canada, 1999.
- No. 3 **Trade Liberalisation and the Migration of Skilled Workers,** Steven Globerman, Western Washington University and Simon Fraser University, under contract with Industry Canada, 1999.

# JOINT PUBLICATIONS

**Capital Budgeting in the Public Sector**, in collaboration with the John Deutsch Institute, Jack Mintz and Ross S. Preston eds., 1994.

**Infrastructure and Competitiveness**, in collaboration with the John Deutsch Institute, Jack Mintz and Ross S. Preston eds., 1994.

Getting the Green Light: Environmental Regulation and Investment in Canada, in collaboration with the C.D. Howe Institute, Jamie Benidickson, G. Bruce Doern and Nancy Olewiler, 1994.

To obtain copies of documents published under the Research Publications Program, please contact:

Publications Officer Micro-Economic Policy Analysis Industry Canada 5th Floor, West Tower 235 Queen Street Ottawa, Ontario, K1A 0H5

Tel.: (613) 952-5704 Fax: (613) 991-1261

E-mail: mepa.apme@ic.gc.ca