FOREIGN DIRECT INVESTMENT AND ITS SPATIAL ECONOMIC IMPACTS IN CANADA: SOME FURTHER EVIDENCE
FOREIGN DIRECT INVESTMENT AND ITS SPATIAL ECONOMIC IMPACTS IN CANADA: SOME FURTHER EVIDENCE

BY

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A Thesis
Submitted to the School of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree
Master of Arts

McMaster University
March 1992
MASTER OF ARTS (1992)
McMaster University
(Geography)

Hamilton, Ontario

TITLE: FOREIGN DIRECT INVESTMENT AND ITS SPATIAL ECONOMIC IMPACTS IN CANADA: SOME FURTHER EVIDENCE

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NUMBER OF PAGES: xi, 128
Abstracts

The purpose of this thesis is to examine foreign firms' spatial economic impacts on Canada with particular emphasis on the industrial linkage and spatial employment effects. The thesis focuses on the recent characteristics and strategies of foreign firms, which include rationalization and restructuring, in Canada.

FDI in Canada is decreasing in a relative sense, while the share of foreign control and ownership in Canadian industry have remained almost constant for last twenty years: about sixty per cent and fifty per cent in the manufacturing sector, respectively. Furthermore, foreign firms recently increases acquisitions of Canadian firms, disinvestment from Canada, and remittance to the home countries in the form of royalties and license fees. Foreign firms seem to have contributed to the deficit of international balance of payments in Canada. Also foreign control over the Canadian economy is increasing without a corresponding increase in new capacity, income and employment.

The linkage analysis and Spearman's rank correlation analysis reveal that foreign investments in Canada prefer to concentrate in industries with lower backward linkages and higher forward linkages. Foreign firms in Canada heavily depend upon foreign sources of material inputs and are directed to Canadian market for their outputs. This indicates that foreign firms' role in Canadian international balance could be negative.

Along with decreasing rate of growth of FDI in Canada the employment of foreign firms has decreased rapidly, while their spatial concentration has increased. In addition, the rapid decrease in foreign employment in Canada's lagging regions since 1970 also contributed to regional disparity. For the locational change over the last two decades, domestic firms have been more dispersed out of Ontario and Quebec than foreign firms. Foreign firms were more stable then domestic firms implying that they specialized themselves in the plant level to cope with the changes in economic climates while domestic firms might have adjusted themselves possibly by relocation and plant closures and new set ups.

Foreign firms have positively influenced some parts of Canada's competitiveness through rapid specialization and productivity growth and have negatively influenced some parts of Canada's competitiveness, including the tendency toward importing, weak development in high-technology industries, less R & D activity and employment. The rapid specialization and productivity growth of foreign firms can contribute to enhance Canada's competitiveness at the expense of employment loss and regional disparity. In addition, considering Canada's poor performance in high-technology sectors and R&D activity in spite of the fact that foreign firms show rapid specialization, productivity growth, and growth in high-technology sectors, the spillover effects of foreign firms are not so satisfactory as expected in Canada.
ACKNOWLEDGEMENTS

I wish to thank the help of a number of people who have assisted in the completion of this project.

I would firstly like to express my appreciation for all of the assistance given to me by my two advisors, Dr. Yogos Y. Papageorgiou and Dr. William (Bill) P. Anderson. My gratitude is also extended to the other members of Committee; Dr. Glen MacDonald, Dr. Steven Reader, and Dr. Pavlos Kanaroglou.

Special thanks should go to Dr. William P. Anderson for his encouragement, kindness and scholarly insight. Despite his busy schedule, Dr. Anderson has provided academic inspiration and financial support, especially when they were most critically needed. I will never able to adequately thank him for his constant advice and help.

Finally, I would like to express my love and thanks to my family for their patience and hardship during the study over the years.
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CHAPTER I

Introduction

1.1. The Setting

For the past several decades, Canada has been suffering from a decreasing foreign trade balance, poor performance in technological capacity, scarcely improved productivity and a steadily increasing unemployment rate (Economic Council of Canada, 1990; Veltmeyer, 1987). Can the phenomena be ascribed at least in part to the presence of foreign firms (Britton and Gilmore, 1978; Hayter, 1982), especially American firms, or is it the general tendency experienced in all industrialized capitalist economies, only more severe in the Canadian case (Daly, 1979; Safarian, 1979; 1985)?

Unquestionably, Foreign Direct Investment (hereafter FDI) has had an important historical role in the Canadian economy. Even though foreign manufacturing investment in Canada has been increasing rather slowly in recent decades, the share of foreign assets has been steady at more than forty per cent and the spatial concentration of foreign capital has deepened. The presence of the foreign firms means more than simply an act of capital investment. It involves technology, trade, linkage, industrial structure and employment implications. Here it must be borne in mind that the impacts of multinational corporations

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1 Structuralists argued that modern corporations are organized not by the commodity and service linkages but by relations of competition, shared technological bases and labor relations. It is not multiplier through linkage and employment effect but industrialization that brings development, i.e. the development of human productive powers, the intensification of labor, extraction of surplus value, rate of investment and multiplication of industrial activity.
(hereafter MNCs) in the host countries varies depending on the existing structure of the latter (Dicken, 1986; Fishwick, 1982; O’hUallachain, 1986; Safarian, 1985).

It is hard to extract the net benefits or net costs of FDI in Canada. Such approaches, however, as cross sectional analysis, concentration on a specific industries or subjects and analysis of only the foreign firms without comparing with the domestic counterparts might be misleading. Because of the fragmentary and aspatial nature of analysis, there has been a long controversy on the role of FDI in the Canadian economy (for example, on benefit side: Globerman, 1979; McFetridge, 1989; on cost side: Levitt, 1970; Britton and Gilmore, 1978; Bonin and Verreault, 1987).

Foreign firms are not 'Cathedrals in the desert'. Their impacts on the host economy are diverse, long standing and interconnected. Long-term time series analysis and comparative study of the spatial dynamics of foreign firms with those of domestic firms are promising approaches which are under-researched.

in a place (Morgan and Sayer, 1988; Storper and Walker, 1989; Walker, 1989). They seem to, however, keep silent about the detrimental effects of FDIs in host regions such as economic dependence, their 'footlooseness', and distorting influence on the development of local companies, etc, only to mention: "If branch plant has a competitive advantage,... then they offer rather more favorable prospects for workers and regions than declining domestic firms" (Walker, 1989, p.49).
1.2. The Study

The thesis examines foreign firms' impacts on the Canadian economy, especially their recent impacts on the spatial economy. This study addresses two major questions. First, Is the role of foreign firms in Canada a dynamic force in economic development or distorting influence on Canadian national and local economies? In fact, the long controversial issue of foreign firms' role in host economy cannot be settled by a simple, all-embracing assessment of impact\(^2\). The study concentrates on the industrial linkage and employment effects to assess the role of FDI in Canada.

Second, Do the foreign firms contribute to spatial disparity in Canada? Modern business organizations' adjustment to economic slowdown has resulted in relocation of their production units at the international and regional scale. It includes disinvestment and regional concentration as well as loss of job opportunities in host countries. The study assesses foreign firms' adjustment strategy and their impacts on Canadian spatial economy.

The thesis seeks to shed some light on these questions through an examination of the changing characteristics and strategies of foreign firms in Canada. The thesis consists of eight chapters. The next chapter, "Conceptual Framework and Hypotheses," discusses MNCs' behavior and their restructuring in host countries, and states the research hypotheses

\(^2\) It may be impossible to arrive at a general evaluation of the MNCs, for as Dicken pointed out, what is true in one set of circumstances may be quite untrue in other circumstances.
of this study. There is a brief outline of the theory of FDI followed by issues of rationalization and adjustment of MNCs in the period of economic slowdown. Based on this framework several hypotheses are drawn.

Chapter III, "MNCs' Impacts on Host Countries: A Review of the Literature," discusses MNCs' spatial, human, and technological impacts on host countries. It centers on the impacts on Canada and other similar industrialized countries.

Chapter IV, "New Trends in Foreign Direct Investment in Canada," discusses changing characteristics of FDI in Canada. It focuses on the decline of FDI growth rate and new strategies of MNCs in Canada. It covers new statistics on foreign firms' activity and their mode of entry & exit, ownership and control, and other characteristics in Canada.

Chapter V, "Linkage Effects and Foreign Investment," discusses foreign firms' contribution to industrial linkage effects in Canada. This chapter examines the relationship between backward & forward linkage effects and the level of foreign share in manufacturing industries. It also compares the linkage effects in industries dominated by domestic and foreign firms.
Chapter VI, "Foreign Firms' Locational Change over Time," examines foreign firms' spatial concentration and their contribution to regional disparity in Canada. Focusing on employment effects, this chapter discusses foreign firms' concentration in Ontario and the decrease in employment in the period of economic slowdown in Canada.

Chapter VII, "Foreign Firms and Canada's Competitiveness," discusses foreign firms' contribution to Canada's economic competitiveness. This chapter examines foreign firms' performance in exports and imports, R & D activity, and size of business organization with respect to the concept of oligopoly.

Chapter VIII, "Summary and Conclusions," summarizes the major findings of this study, draws out the implications of MNCs' impacts on host countries, and suggests possible fruitful areas for further research on MNC impact analysis.
CHAPTER II

Conceptual Framework and Hypotheses

2.1. Multinational Corporations' Behavior in Host Countries

For the past twenty years or so, the rapid emergence of MNCs, and their global strategy and spatial behavior have been major characteristics of world economic dynamics and restructuring (Dicken, 1986; Taylor and Thrift, 1982). The behavior of MNCs is different from that of single-plant firms both qualitatively and quantitatively. Of particular importance is the international spread of FDI by MNCs which may pose a threat to the host countries' economic independence and sovereignty (Galbraith, 1967; Vernon, 1971). As McConnell points out (1982), the spatial aspects of MNCs are especially significant, for a foreign investment decision also involves a location decision at the same time.

2.1.1. Theory of Foreign Direct Investment

Theories of FDI have been derived basically from the international trade theory based on the Ricardian 'Law of Comparative Advantages.' Incorporating opportunity costs and external economies, the international trade theory has culminated in Heckscher-Ohlin's 'Factor-price Equalization Theorem'. According to Heckscher-Ohlin theorem, countries with
abundant supply of labor export labor-intensive goods while countries with abundant capital export capital-intensive goods. The factor-price (relative and absolute price) will be equalized over the countries involved by international trade. There is, however, widespread agreement that a simple two-factor (capital and labor) version of Heckscher-Ohlin theorem is inadequate. The assumptions of identical production functions among countries for identical commodities, the homogeneity of labor supplies, constant returns to scale and the international immobility of productive factors can't explain the behavior of MNCs and flows of FDI (Baldwin, et al., 1978; Davidson, 1980).

The explanation for decision to invest abroad requires an integration of international trade theory and industrial organization theory. The product cycle theory of Vernon (1966) suggest that new products are discovered and initially produced in the developed countries due to the unique characteristics, such as higher per capita income, easy access to the market, and efficient communication process. Subsequently, other developed countries' markets will be served by export and then be followed by production in these countries. The production location would ultimately move to less developed countries with lower labor and production costs. The developed countries will then import from these countries (Vernon, 1979; Wells, 1972). The product cycle theory proved deficient in some respect, partly because the theory relied almost exclusively on U.S.-based MNCs as an archetype and partly because it centered only on firm-specific advantages, such as MNCs' easy access to investment capital, technology, information, and management skills in explaining FDI.
The existence of above firm-specific advantages represents a necessary, but not a sufficient, condition for FDI. It doesn’t explain why most of the capital flows occur between developed countries possessing comparable labor cost structure and internationally integrated capital markets. Internalization theory has so far proved the most popular. A whole series of transactions are internalized within the multinational corporation rather than taking place within the market (Buckley and Casson, 1976; Caves, 1982; Rugman, 1982), *a la* Williamson (1975) hierarchies replace markets. Firms possessing monopolistic advantages tend to internalize market transactions within the firms via vertical integration and "internalization of markets across national boundaries generates multinational enterprises" (Buckley and Casson, 1976, p.33). Internalization process may absorb the functions of independent suppliers or of wholesale and retail merchants in order to reduce risk, uncertainty and production costs, and to avoid government regulation, and to protect patents and knowledge (technology), and the like. According to Buckley (1988), the main axioms of internalization theory are,

(1) *Firms choose the least cost location*

(2) *Firms grow by internalizing markets up to the point where the benefits of further internalization are outweighed by the costs.*

The problem is how to decide exactly when and where the benefits of internalization are outweighed by the costs (Taylor and Thrift, 1986).

Dunning’s eclectic theory provides us with more comprehensive understanding of the
behavior of MNCs. His OLI (ownership, location and internalization) paradigm (1979, 1988) suggests that MNCs enjoy one or a combination of the ownership, locational and internalization advantages (Table 1).

**TABLE 1  The Eclectic Paradigm of International Production**

1. *Ownership-Specific Advantages* (the *Why* of MNCs activity)
   Capital, technology, information, management and organization skills;
   Access to markets, economies of scale & scope, etc.

2. *Internalization-Incentive Advantages* (the *How* of involvement)
   To reduce transaction of information costs, control of markets;
   To protect property rights and ensure quality control,
   To control suppliers and conditions of sale of inputs, etc.

3. *Location-Specific Advantages* (the *Where* of Production)
   Material and labor costs, markets, government policy;
   Special distribution of natural and created resource endowments;
   Economies of product specialization and concentration, etc.

---

Source: Dunning, 1988  adjusted from Table 1.1 and 1.3

The eclectic theory predicts that a country's international competitive position will be the result of (1) the net ownership advantages of home firms over foreign firms, i.e., determining the extent of foreign involvement, (2) the relative location costs of home versus host-country production i.e., motivating the choice between exports and licensing, (3) the relative efficiency to the firm of internal versus external market exploitation of its ownership advantages, i.e., determining the choice between directly-owned production versus licensing (Dunning, 1979). Dunning's eclectic theory contributed to the systematic bringing together
of theoretical knowledge and the flexibility in the analysis of MNCs (e.g., different weights could be applied to different situations) as well as supported by many empirical findings (e.g., Clegg, 1987; Dunning and McQueen, 1981; Dunning and Norman, 1983). However, it still remains as a list of factors likely to be important in the explanation of the growth of the MNCs rather than the explanation itself (Taylor and thrift, 1986).

In summary, the basic motives of FDI are the development of new and existing markets, circumvention of tariffs and non-tariff barriers, and cost reduction, which can be summarized as pursuit of profits. Foreign direct investments provide the investors with a higher return in the long run compared to domestic investment. To explain the choice of FDI over alternatives such as exports and licensing, it is necessary to take account of firm specific, location specific, and internalization factors based on the condition of market imperfection. In addition, Canada provides a stable economic and political atmosphere and general public acceptance of foreign presence. Also most foreign investors aim for the U.S. market as well as the Canadian market. They take advantage of Canada's geographical proximity to the U.S. market and use production facilities located in Canada as export platforms to U.S..

2.1.2. Rationalization of Foreign Firms

MNCs operating in host countries may face numerous adverse or deteriorating
conditions, such as increased competition in domestic and foreign markets, change in the costs or availability of production inputs, militancy and resistance of labor forces, the pressure of national governments to modify their activities, as well as various internal pressures and the recent economic slowdown (Dicken, 1986). The reaction of MNCs to these conditions can be termed as rationalization, which includes adoption of production techniques and arrangements which minimize costs (McFetridge, 1989), vertical integration within MNCs' interfirm hierarchy (Prahalad and Doz, 1987), and specialization at individual firm level. The speed and range of rationalization of MNCs are different from those of indigenous firms. Since foreign branch plants are integrated globally within the corporate network and are subject to the interests of corporate headquarter, they tend to adopt new techniques and specialization strategy faster than indigenous firms, especially during downturns of economic activity.

The spatial forms of MNCs' rationalization in host countries can be characterized by poor local content, loss of employment opportunity, and locational footlooseness. MNCs can contribute to the reduced backward and forward industrial linkages and poor international trade balance in host countries through the process of rationalization. MNCs characteristically subdivide their internal operations and locate specialized units in different types of location. Thus,

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3 McFetridge (1989, p.12) defined specialization as follows:
"Specialization can be horizontal or vertical. Horizontal specialization involves a reduction in the number of product lines produced in a single plant. Horizontal specialization could also involve a reduction in the number of product lines either produced or sold by a firm. Vertical specialization involves a reduction in the number of stages of production carried out in a single plant or within a firm."
(one branch) plant can concentrate mainly or exclusively on production activities and therefore, lacks the higher-level administrative and R&D functions ... it (branch plant) will tend to inhibit or suppress the development of indigenous firms either because foreign plants create few local linkages or because indigenous firms are squeezed out by the competitive strength of foreign plants (Dicken, 1986, p.378).

Increased unemployment, concentration of firms in certain regions and sudden closures of firms may be accelerated by the presence of MNCs in this economic slowdown period.

2.2 Restructuring of Multinationals

Restructuring suggests the adoption of active strategies by organizations as decision-makers, to arrange, reorganize and redirect industrial activities; more fundamentally to create new structures and patterns (Hamilton, 1984; Bradbury, 1989). As a consequence of an industrial restructuring during the recession starting from the late 1970s, corporate organization is becoming more flexible in production arrangements in space, more intensified in systems of transactions, more technology-oriented to be more competitive in volatile environments (Harvey and Scott, 1988; Holmes, 1988). Thus, the elements of industrial restructuring embrace changes in ownership structures, industrial organizations, technology, the labor process as well as the spatial relocation of production and the changes in the organization of production (Bluestone and Harrison, 1982; Massey, 1984; Massey and Meegan, 1982).
One of the overlooked points of the recent 'Restructuring debates' is the role of multinational enterprises in shaping the spatial economic structure in the host economy. Regional and national economies have to be understood in the context of internationalization and the global economy (Amin and Robins, 1990; Lovering, 1990). MNCs, the major agents of international space-economy, play a leading part in international production, investment, trade, and innovation. They are more sensitive and swift in coping with the change in international business conditions and opportunities than indigenous firms since MNCs maintain vertically integrated decision-making structure, quick accessibility to information, and active response to the world-wide changing economic conditions. Their responses appear as the form of restructuring. The spatial manifestation of restructuring of MNCs in comparison with domestic ones can shed some light on this point, especially in Canada where there is a high level of foreign ownership.

Of all the various forms of the spatial consequences of restructuring, disinvestment by MNCs and increased regional disparity are of particular importance. Disinvestment, which can be defined as the actual closure (total or partial) of branch plants, can cause the economy as a whole to change suddenly, while spatial relocation of firms within the host country may result in regional imbalance. Disinvestment by MNCs may reflect the aging of an earlier generation of MNC investment as well as the effect of recession:

After such rapid growth abroad, multinationals are now entering upon a new era of consolidation, and the tendency now is that their growth rate will decelerate. The important part of their future strategy will be the relocation of their existing world-wide investment interests from one host
country to another. As a consequence many multinational corporations have been undertaking major structural regroupings and reorganizations (Sachdev, 1976 as cited in Dicken, 1986, pp. 213-214).

Unlike other industrialized countries' experiences, Canada has witnessed strong concentration of foreign firms on the national core region: Ontario. The tendency described above will have the most direct effect on those whose job opportunities are destroyed and on the local communities themselves.

2.3. Hypotheses

The study examines the impacts of foreign direct investment on Canadian spatial economy. Based on above framework, several hypothesis can be drawn as follows:

1. *FDIs in Canada will decrease in relative sense.*

1.1. *Canadian share of global FDI flows will decrease.*

1.2. *The growth rate of FDIs in Canada will decrease.*

Although the larger portion of FDI flows are directed to cross-investment of industrialized countries (Schoenberger, 1990), recent appearance of developing countries as host countries and disinvestment during the economic slowdown period will contribute to the relative decrease of Canadian share of FDI and of the growth rate of FDIs in Canada.
2. **FDI's impacts on Canadian economy will have many negative aspects.**

   2.1. **Foreign firms' impacts on 'industrial linkage effects' will be negative.**

   2.2. **Foreign firms will contribute to the deficit of international balance of payments in Canada.**

   2.3. **Foreign investment will concentrate in high-technology sectors.**

   2.4. **Foreign firms will do less R & D activity in Canada.**

   2.5. **Foreign firms will contribute to some parts of Canada's lack of competitiveness.**

   There has been long and unsettled controversy on the role of Foreign Direct Investment in the Canadian economy. Even though FDI has a important historical role and has contributed in shaping Canadian economy today, the very nature of MNCs' international strategy and the fact that foreign ownership of Canadian manufacturing is more than 45 per cent will play adverse impacts on Canadian economy. Moreover, foreign firms' concentration in high-technology sectors can cause the underdevelopment of Canadian indigenous high-technology firms and may deepen Canada's dependence on high-technology from foreign sources.

3. **Foreign firms will adjust themselves more rapidly than domestic firms in the period of economic slowdown.**

   3.1. **Foreign firms will contribute to spatial disparity in Canada.**

   3.2. **Foreign firms will be more prone to close their plants and cut down employment in Canada.**

   MNCs' vertically integrated decision-making structure, quick accessibility to
information, and active response to the world-wide changing economic conditions can enable them to adjust themselves very quickly in host countries. Their adjustments will appear in the form of rationalization. Changes in the organization of production, vertical integration within interfirm hierarchy, and specialization at firm level are the typical methods of rationalization. Thus MNCs' adjustment will result in relocation of their production units at the international and regional scales, which include disinvestment and regional concentration as well as loss of job opportunities in Canada.
CHAPTER III

MNCs' Impacts on Host Countries:
A Review of the Literature

The impacts of multinational enterprises on the host economy can be classified conventionally into five categories. These are inflow and outflow of capital and profits, extent and appropriateness of technology transfer, trade and linkage effects, effect on industrial structure and entrepreneurship, and employment effects (Dicken, 1986; Hood and Young, 1979). These impacts are interlocked and overlapped to result in spatial (trade and linkage), human (employment and entrepreneurship) and technological (R&D and industrial structure) outcomes in the host nation. In this review, the focus is on impacts on Canada and similar industrialized countries.

3.1. Spatial Impacts: Trade and Linkage Effects

There is an overall consensus that branch plants and foreign-owned plants possess more dispersed backward (material) linkages, whereas locally owned firms have greater local backward (material) linkages (Britton, 1976; Harris, 1990; Lever, 1974; Stewart, 1976; Watts, 1981). Also technologically sophisticated industries rely heavily on more distant, especially foreign, sources of supply (O'Farrell and O'Loughlin, 1981a; Hagey and Malecki, 1986). Some studies claim that foreign-owned firms act as an enclave sector. Their
backward and forward linkages are very weak, *i.e.*, the majority of inputs are imported and output is exported, few inter-industry linkages are developed with domestic firms (Firn, 1975; Stewart, 1976; Wheeler and Park, 1984).

Also, plant closures by multinationals may reflect either a deterioration in local production conditions or a decrease in the advantages of multinational ownership of local production or both (McFetridge, 1989) even though an OECD study concluded that "in the area of subsidiary closure, there appears to be little difference between multinational and domestic enterprises" (OECD, 1985, p. 36, cited in McFetridge, 1989). A recent study on plant closures (Howland, 1988) suggested that the likelihood of a branch plant or subsidiary closing is much higher than that of an independent plant or headquarters, is consistent with previous results (for instance, Smith, 1979; Watts, 1981). Foreign branch plants in host countries are subject to corporate headquarters' interests. Decision-makers might be expected to favor head office region which may therefore make foreign branch plants more vulnerable, especially during the down-turns of economic activity.

The literature on the Canadian case has long emphasized adverse effects of foreign investments. The foreign firms are at best 'miniature replicas' and only act as a 'export platforms' to result in 'enclave sector' in a 'truncated' Canadian economy. The pioneers of

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4 The so called Gray report (Government Canada, 1972) concluded that subsidiaries are 'truncated' through reliance on the parent abroad for many managerial and technical inputs, thus leading to important gaps in Canada's domestic capabilities, characterizing: (1) less production for the Canadian market. (2) less opportunity for innovation and entrepreneurship. (3) fewer export sales, fewer supporting services. (4) less training of Canadian personnel. (5) less specialized product development. (6) less spillover economic activity.
the line were Levitt (1970) and Creighton (1970) who argued that a high degree of continuing dependence on imported techniques has created an environment in which entrepreneurial effort is permanently dampened. The United States corporations treat Canada as a supplier of raw materials and as a market for manufactured goods and technology. The truncated manufacturing operations do little R & D, export only to the home countries and import components on a scale that contributes to a huge balance of payment deficit (Science Council of Canada, 1980).

In a series of papers and a book, Britton (1976; 1977; 1980; 1981; 1985; with Gilmore, 1978) maintained that the fragmentation of the market and the underdevelopment of Canadian industry are considerably due to the foreign firms. Moreover, foreign direct investment has generated undesirable spatial outcomes, i.e., they have widened regional economic disparity and are very loosely connected to local economies. As for high-technology industries, "There is no avoiding the implication that the indifferent performance of high-technology industry in Canada reflects the high degree of foreign ownership of these industries" (Britton and Gilmore, 1978, p.80). Britton's conclusion can be summarize by the statement, "If foreign direct investment had been less intense in Canada, domestic industry would have developed its own potential to produce and exploit new technology".

Hayter (1981; 1982) also criticize Canada's 'open door' policy to foreign investment which replaces or preempts economically viable indigenous development. According to him,
foreign ownership has increased dependency on imported goods, services and technology\(^5\) \(i.e.,\) it has caused truncation. This is unlike the conventional wisdom that says foreign direct investment fosters growth and provides scarce technical, marketing, managerial, and financial resources, as well as stimulates competition and innovation.

On the other hand, McAleese and McDonald's study on Ireland (1978) showed that the foreign firms' backward linkages are not significantly different from individual industry averages. Moreover, linkages increase over time in new enterprises and particularly in new foreign-owned enterprises. They argue that the 'enclave' hypothesis is not supported. The foreign sector has become more integrated with the domestic sector with passing of time. O'Farrell's study on Ireland (1980) also showed no difference in locational behavior between foreign manufacturing establishments and domestic ones. For the Canadian case, economists of the Economic Council of Canada consistently argued the existence of benefits from foreign direct investment. Firstly, they criticize Britton and Gilmore's (1978) style of analysis:

"Britton and Gilmore failed to prove their thesis due to a combination of technical flaws in their analysis and omission of competing views of why Canada's trade performance had declined in the 1970s." (Safarian, 1979, p.321)

"The two primary authors are both geographers and have not used economic analysis to any significant extent in this study." (Daly, 1979, p.308)

\(^5\) According to Veltmeyer (1987), 75 to 80 per cent of all imports and exports involve intra-corporate transfers by corporations that are foreign -mostly American- controlled.
Secondly, Daly (1979) and Safarian (1979) criticized the use and interpretation of data in Britton and Gilmore’s (1978) study. They pointed out that real GNP has increased more rapidly in Canada than in the United States and the productivity gaps have been narrowing. What is important is they argued that there was not a statistically significant difference between subsidiaries and independent firms with regard to exports and research expenditure based on almost the same data base as Britton and Gilmore’s (1978).

Thirdly, Daly (1979) and Safarian (1979) named Britton and Gilmore as 'inward looking approachers' and protectionists. They warned, "Interventionist policies ... have contributed to --rather than solved-- Canada’s problems of fragmented, high-cost, foreign controlled industry."(Daly,1979, p.315)

Allegedly, Britton and Gilmore place too much responsibility on the MNCs for Canada’s industrial problems and do not take sufficient account of other explanations. O’hUallachain (1986) also suggested to compare Canada with individual states in US, arguing that truncation may reflect local comparative advantage rather than adverse consequences of the organizational structure of MNCs. He warns that protectionist policies might discourage the achievement of threshold levels of the centers of innovation.

Reuber(1974) argued that the ‘gains’ from foreign direct investment can be (1) net

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6 Britton replied(1985, pp.90-91): "... They(Daly, Rugman, and Safarian) are all blinded by a paradigm that seeks efficiency of the firm(or within the firm) yet which has nothing progressive to say about Canada’s industrial performance, structure, or policy. ... Their mixture of theory and reality is not creative in the Canadian situation since it does not have roots in a political-economic conception of Canada’s difficulties.
tax payment and dividends on shares held, (2) increased earnings, lower prices, improved quality, higher productivity and increased employment opportunities, (3) increase in capital stock. He concluded that "Canada continues to reap substantial economic benefits from foreign investment" (p.34). In a similar vein, Globerman (1979) found that there is strong evidence for the existence of spillover efficiency benefits associated with foreign direct investment to labor productivity.\footnote{Globerman (1979) listed the benefits from FDI. 
(1) Greater efficiency throughout the economy by increasing competition levels in domestic economy. 
(2) human capital investment made by foreigners 
(3) faster adoption of new technology by domestically owned firms 
(4) improved management practices 
(5) increased mobility of domestic resources}

As for the export performance of foreign firms, Safarian (1969; 1973; 1985) consistently suggested that the average export performance is not significantly different for domestic and foreign-owned firms, even though foreign-owned firms did have longer distance imports. On the other hand, Handel and Palda (1981) found that firms under Canadian control tended to export more than foreign ones.

In summary, the issue of the impacts of FDI on Canadian economy is still controversial and much room for further study remains. It, however, must be emphasized that existing theories of FDI implicitly suggest that foreign investment will be directed towards the firms' most important markets rather than being guided by strict cost-minimizing criteria, especially in Canadian experience. Also, exports and direct investment are complementary rather than substitute strategies (Schoenberger, 1985). Thus, in this
rather small, fragmented Canadian market and technologically inferior Canadian situation, study would focus on the negative effects such as intracompany trade, outflows of dividends, management fees, royalties, and the like, and the poor technology transfer effects, even though the balance of payment effect might be positive for foreign firms. Strangely enough, little attention has been paid to the empirical analysis on spatial change of foreign firms⁸. Regional disparity in Canada is a mounting issue. Have the foreign firms contributed or alleviated in deepening regional disparity?

\[ \text{Employment Effects} \]

3.2. Human Impacts: Employment and Entrepreneurship Effects

Employment effects of foreign firms include the number of job created or lost, wages and stability. They are highly affected by the mode of entry: acquisition and greenfield investment. In a sense, the qualitative aspects of employment effects such as compensation, location, non-wage benefit, spill-over of management styles to domestic firms, unionization ratio, collective bargaining agreements, which are usually unmeasurable, are more important (see Table 2). In one study on value-added per worker in Canadian industry, relative to the comparable US industry, it fell as foreign ownership in Canada rose (Saunders, 1980).

Also, the indirect employment effect of foreign firms in quantitative terms may be greater than the direct one. When a new plant is built, for example, the investment creates

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⁸ Exceptions are Bonin and Verreault (1987) and Semple (1987).
construction jobs in the short term. Once in operation, it creates demand through vertical linkages both in a 'forward', the distribution and transportation network required to move the product to market, and in a 'backward' via the variety of parts and supplies required for production (Campbell and McElrath, 1990). The direct employment effects such as number of jobs, wages, and working conditions by foreign firms are easier to assess than the indirect employment effects such as number of jobs, wages, and working conditions in supply industries for foreign firms.

**TABLE 2  The Range of employment effects of Foreign Firms**

<table>
<thead>
<tr>
<th></th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct (+)</td>
<td>The number of employees directly employed by foreign firms</td>
<td>Improved wages, job conditions and employment security of direct employment</td>
</tr>
<tr>
<td></td>
<td>(-) Few (or no) job created by FDI in Canada</td>
<td>Wages and working conditions inferior to those in domestic firms, and difficulties faced by trade unions</td>
</tr>
<tr>
<td>Indirect (+)</td>
<td>The number domestically employed because of commercial links with foreign subsidiaries in Canada</td>
<td>Improved employment conditions of those of those in competition with or supplying foreign affiliates</td>
</tr>
<tr>
<td></td>
<td>(-) Reduced multiplier effect because of increased imported parts &amp; supplies and jobs lost from foreign competitors</td>
<td>Worsened wages and working conditions from increased competition in supply industries</td>
</tr>
</tbody>
</table>

Source: Campbell and McElrath, 1990, p.58.
McAleese and McDonald's (1978) classic study on Ireland suggested that new foreign-owned enterprises have generated a significant degree of employment growth. Also they argued that there was no statistically significant correlation between closure rate and nationality of enterprise.

Most studies relate the employment effects to the mode of entry. Mode of entry is the method of starting business in the host counties, such as acquisition, greenfield investment, and joint venture. Post-acquisition changes usually result in a loss of local decision-making power and a loss to the region of services formerly purchased by the local firms (Leigh and North, 1978). Greenfield investments tend to begin as exporters to overseas market (although large portion of export is intracompany trade), whereas acquiring companies have frequently had no former supply links with the market (Young, 1984). When foreign firms acquire existing Canadian assets, employment is merely transferred to foreign ownership, rather than 'created'. It is important to make the distinction between jobs created by foreign firms and existing jobs transferred to foreign ownership. Moreover, foreign takeover may decrease employment status quo ante as the acquired firm is restructuring and rationalizing (Glickman and Woodward, 1989; Young, 1984). Also, in the case of joint ventures, the other form of FDI, job instability may be higher than domestic firms if foreign partners hold the majority of voting shares of the firms.

In summary, there can be no doubt that MNCs employ very large number of workers in host countries. Also the wages and salaries of MNCs employees and of those in linked
firms can increase employment elsewhere in the domestic economy. However domestic enterprises may be squeezed out by the size and strength of foreign branch plants while new firm formation may be inhibited (Dicken, 1986, p.372). Britton and Gilmore (1978) mentioned that foreign firms have made the Canadian economy suffer from insufficient development of large plants. Employment in foreign-owned subsidiaries is a large and significant factor in Canada (ILO, 1981). Moreover, as mentioned above, MNCs' vertically integrated decision-making structure, quick accessibility to information, and active response to the world-wide changing economic conditions can enable them to adjust themselves very quickly in host countries. The adjustments will appear as the form of rationalization. Changes in the organization of production, vertical integration within interfirm hierarchy, and specialization at firm level are the typical methods of rationalization. Their adjustments can be more extensive and faster than those of domestic firms. Thus MNCs' adjustments will accelerate relocation of their production units, which include closing down, divesting operations, and regional concentration as well as loss of job opportunities in host countries.

3.3. Technological Impacts: R&D and Industrial Structure Effects

R&D is of critical importance for MNCs and for the countries in which they operate in an increasing competitive global economy. R&D is the main source of innovation of new products and new processes and then creates employment and ultimately leads the economic
development. In general, MNCs spend more than other firms on R&D as part of their drive to remain competitive and profitable on a world scale (Dicken, 1986, p.197). However, evidence suggests limited R&D activity among foreign firms in Europe. Even where it is present, little of the R&D undertaken could be regarded as contributing anything to fundamental product and process innovation (Harris, 1990; Hood and Young, 1982; Young, 1984).

The Canadian subsidiaries experience truncation of its R&D capacity. Foreign firms have contributed to the low level of innovative capability in Canadian manufacturing (Britton and Gilmore, 1978). A study of firms on five Canadian research-intensive industries concluded that Canadian-owned firms had higher ratios of research spending to sales than foreign-owned firms (McFetridge, 1977). The branch plants avoid redundancies and specialize and often emphasize flexibility. As the R&D director of one large Canadian subsidiary commented:

_We won't start research on an approach to solving a particular problem if we know it's already underway in another part of the company. ... we just have too many demands on our R & D facilities to duplicate something being done elsewhere_ (White and Poynter, 1984).

On the other hand, Palda and Pazderka (1982) argued that they could find no relationship between foreign ownership and R&D expenditures in the seven industries in Canada. Also, Safarian (1973) could not find any difference in R&D expenditure between resident and non-resident firms in the early 1960s. However, given shortcomings of his
statistical method his findings cannot be regarded as definitive (Rugman, 1981). Caves' (1980) econometric study shows that there exists positive but week relationship between foreign ownership and technical efficiency in Canadian industry. Thus some researchers have argued that the spread of innovation to Canada may be speeded up via subsidiaries (Safarian, 1985; O’hUallachain, 1986).

Moreover, Bones’ (1980) study indicated that more than 80 per cent of R&D generated in Canada took place in the manufacturing industries which experience the highest degree of foreign control. However, as Rugman (1981) points out, this does not imply that the subsidiaries of multinational firms active in Canada are responsible for original R&D or that they are conduits for the innovations of the parent multinationals. Rugman (1981) found that less R&D is done in the branch plants of multinational enterprises in Canada than in either their parent MNCs, or in independent Canadian firms of similar size. The problem lies in strategy of foreign-owned corporations. Larger branches may undertake R&D for trouble shooting purpose or to ensure integration with the parent company (Hayter, 1982).

There seems to be a trade-off relationship between the speed of technology transfer and R&D employment effects in host countries. Through licensing or joint-venture agreements domestic firms can increase technological capabilities and thereby enhance their competitiveness. What is more, licensing can increase domestic R&D activity and employment significantly. The domestic employment implications of licensing and joint-
venture are positive to the extent that licensing and joint-venture agreements substitute for FDI or exports. On the other hand, FDI is the direct and fast channel through which the largest amount of technology is transferred to host countries. Since MNCs are more likely to internalize the transfer of technology to ensure the necessary return on their R&D investment and MNCs’ main purpose is to adapt products and process to local needs, growth in R&D activity and employment in host countries is limited.

If we look at recent data closely, much of R&D activity carried out by foreign firms in Canada is more than offset by royalties and license fees, etc (see Chapter IV). Moreover, Canadian endogenous innovative activity could not reach threshold size because of the presence of large foreign firms and its industrial structure was distorted largely by the influence of foreign firms’ strategy (Britton and Gilmore, 1978; Britton, 1985). Further studies on the impacts of multinational corporations are needed to unravel the hidden dimensions of their spatial and structural influence through more systematic and empirical method.
CHAPTER IV

New Trends in Foreign Direct Investment in Canada

In a small open economy like Canada, financial capital arising from outside of the borders has long had a very important role in the economic development of the country. MNCs and their FDI have had an important historical role in shaping Canadian economy. In particular, the predominant role of MNCs from U.S. is critical in this era of Free Trade Agreement.

A detailed review of historical trends of FDI in Canada and the public policy responses to these trends is beyond the scope of the thesis, but have been discussed elsewhere (Borodayevsky, 1987; Dow and Kumar, 1990; Laxer, 1989). In this section, we will confine the analysis to the most recent trends in FDI in Canada under the framework of MNCs’ response to recession and adjustments.

4.1. Decline in FDI Growth Rate

4.1.1. FDI and Canadian Policies on Foreign Investment

Canada has long been considered as a stable and profitable place for foreign investment and its economic progress has been made possible to a large extent by a sustained inflow of foreign capital. Although foreign capital has contributed to form and develop the
Canadian economy since the beginning of the century, Canadians gradually have become worried about the rapid expansion of American ownership in key industrial sectors and Canada's dependence on foreign sources of capital.

In response to the concerns of FDI in Canada, the Canadian Government launched the 'Foreign Investment Review Agency (FIRA)' in 1973 to screen all the new foreign direct investment and MNCs' expansion to unrelated lines of activity by the criteria of 'significant benefit to Canada'\(^9\). In 1980, the Government also introduced the 'National Energy Plan (NEP)' to protect energy-related industries against foreign-controlled competitors. As a result of these government policies and the recent global economic recession, the rate of growth of FDI in Canada decreased gradually. The average annual growth rate fell from 10.8 per cent in the period of 1956-60 via 7.5 per cent in the 1960s and 8.9 per cent in the 1970s to 6.8 per cent in the 1980s. The decline of growth rate is even deeper in the manufacturing sector. What is more, U.S. investment decreased rapidly. The average annual rate of U.S. FDI fell from 10.2 per cent in the period of 1956-60 down to 4.6 per cent in the 1980s. There also can be witnessed the decrease of U.S. share of total FDI from 82.0 per cent in 1960 and 81.1 per cent in 1970 to 64.0 per cent in 1989. In the 1980s, the net investment from U.S. was almost zero, only reinvestment from their earnings in Canada contributed the increase of book value.

\(^9\) The main criteria in deciding 'significant benefit to Canada' were job creation, technical innovation and export performance(Dow and Kumar, 1990, p.5).
<table>
<thead>
<tr>
<th>Year</th>
<th>Manufacturing</th>
<th>% to Total FDI</th>
<th>Total US FDI</th>
<th>% to Total FDI</th>
<th>Total FDI</th>
<th>Growth Rate</th>
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<td>7.39</td>
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<td>64.0</td>
<td>118.50</td>
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</table>

It deserves special attention that there has been remarkable change in sectoral distribution of FDI in Canada. First of all, FDI in service sector, especially financial services, has increased significantly during the last two decades. The share of financial services in FDI in Canada has grown considerably from 11 per cent in 1970 to 20 per cent in 1987, while that of the manufacturing sector remained almost unchanged from 41 per cent in 1970 to 43 per cent in 1987. During the same period the energy sector’s (petroleum & natural gas) share has declined substantially from 25 per cent to 19 per cent of total FDI. These shift are generally consistent with the evolution of the Canadian economy and government policy. The proportion of GDP accounted for by the manufacturing sector has remained almost constant, while the importance of energy sector has declined and that of service sector has increased. Also the National Energy Plan (NEP) has discouraged foreign investors from participating in the energy sector in Canada.

In 1984, as the PC Government organized its cabinet, there was a significant shift in policy in favor of foreign investment\textsuperscript{10}. The Government abolished the most discriminatory components of the NEP. Also In 1985, the Investment Canada Act replace the Foreign Investment Review Act. Government policy switched from reducing foreign

\textsuperscript{10} There have been many critics on the previous policy on foreign investment by the so called 'continentalists' in Canada and U.S.: 

"... ambiguous policy guidelines ... processes of approval are too bureaucratic" (Schultz, et al.,1980)
"FIRA hindered investment plans by delays and rigidity, among other ways claimed by half of the firms" (Beckman,1984)
"... eleven percent of foreign firms that had seriously considered investment in Canada claimed to have been deterred by foreign investment control"(MacDowall, 1984)
"... in the early 1980s ... Trudeau government policies were anti-free market and anti-American(Fry,1987, p.131)
ownership and control to gaining net benefit and encouraging investment to Canada.

As the rate of FDI growth has slowly gone down (Fig.1, regression coefficient is -0.03 and t-score is -0.646 which, is not so significant), the per cent of FDI to Canadian GDP has decreased steadily from 34% in 1961 down to 18% in 1989 (Fig.2). One important feature is that the ratio of FDI to Canadian GDP decreased rapidly in the 1970s, which was characterized by a global economic slowdown. The decrease of the rate of FDI growth and the per cent of FDI to Canadian GDP, while steady maintenance of proportion of foreign control and ownership, cast the problem of economic independence and of the direction and speed of development.

![Graph showing the rate of growth of FDI from 1956 to 1989](image)

Figure 1. Rate of Growth of FDI in Canada
Source: same as Table 3.
4.1.2. The origin of FDI

In the early stage of FDI in Canada, almost all of the foreign investment capital was from U.S. and U.K., which represented 98% of FDI in 1926. Since the 1960s, the relative importance of U.S. has declined gradually and FDI from Japan and NICs increased. Since the 1980s the source of foreign capital has been diversified. The U.S., however, still is the
main source of foreign capital in Canada. In 1987 U.S. accounted for 71.1 per cent of total FDI, while U.K. for 12.1 per cent, Asian NICs for 3.0 per cent, Germany for 2.6 per cent, and Japan for 2.5 per cent. It is noticeable that the average annual rate of growth of Japanese investment was 12.1 per cent during the period 1983-87, compared to 5.4 per cent for U.S. investment. The decline of U.S. share of FDI in Canada was partly related to the Canadian government policy of "Canadianization" (Bellon and Niosi, 1988, p.156) and partly related to the redirection of U.S. multinational capital (Peet, 1983, p.134).

Figure 3. FDI in Canada by Country of Origin
Japanese investment in Canada needs attention not only because of the increase of its share of FDI in Canada but also because of its transplants of production and management:

"Japanese companies have made several large 'greenfield' investments in Canadian forestry and mining sectors and have purchased significant shares of existing operations ... (transplants by Japanese automobiles have made) implementation of Japanese technology, production methods and human resource management styles."(Dow and Kumar, 1990)

4.1.3. Decline in Canadian Share of U.S. Investment Abroad

One of the characteristics of restructuring of MNCs in response to economic crises or recession is 'hypermobility of capital' (Susman and Schutz, 1983). To avoid the adverse consequences of crises, MNCs rapidly shift investment to more desirable locations. The destination of U.S. outward investment has been diversified during the last two decades (Peet, 1983). Canada is still the largest recipient country of U.S. investment capital because of geographical proximity and economic homogeneity. The Canadian share of U.S. investment capital, however, has fallen by half in 25 years. In 1990, the share is 16% compared to 30% in 1966 (Fig.4).
Along with circumventing tariff and non-tariff barriers one of the basic motives of FDI is cheap labor costs, *i.e.*, lower production costs. One of the reasons of decline of U.S. investment in Canada may be ascribed to the increasing labor cost in Canada. Table 4-5 show the trend. In terms of relative labor cost index, U.S. was 167.7 and Canada was 135.1 in 1970. The difference of labor cost index between the two countries has diminished

---

Baranson (1986, cited in Fry, 1987) estimate that wages in Canada are about one-third less than in the U.S., electricity is about one-half U.S. rates, and natural gas about three-quarters of U.S. rates.
recently, 113.5 for U.S. and 112.3 for Canada in 1983. The costs of labor in U.S. and Canada are almost same\(^2\).

<table>
<thead>
<tr>
<th>TABLE 4 Relative Labor Cost Index (Germany = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>U.S.</td>
</tr>
<tr>
<td>Canada</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>TABLE 5 Labor Cost Structure in Mfg. in 1983 (hourly pay in DM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost</td>
</tr>
<tr>
<td>U.S.</td>
</tr>
<tr>
<td>Canada</td>
</tr>
</tbody>
</table>

Source: same as table 4.

In the manufacturing sector, Canadian direct wage was higher than that of U.S. The hourly pay was 22.64 Deutsche Mark (DM) in Canada and 22.56 DM in U.S. in 1983, in spite of the fact that U.S. total labor cost was higher than that of Canada. Canada's lower productivity and higher labor costs than those of U.S. may contribute to the decline of its competitiveness and adaptability.

\(^2\) Of course the over-representation of Canadian dollar was in part affected by exchange rates between Canada and U.S..
4.1.4. Foreign Ownership in Canada

There are two measures used in evaluating 'degree of foreign presence': foreign control and foreign ownership. According to Statistics Canada's definition (Statistics Canada, 1990), foreign control is the result of owning more than 50 per cent of the voting shares. This is referred to as majority voting ownership, while foreign ownership is measured by the long-term capital employed by foreign interests\textsuperscript{13}. Thus foreign investors can increase their share of control and/or ownership of Canadian industry without corresponding capital inflows to Canada. It also implies that the book value of FDI and current capital flows are not necessarily a good indication of real foreign control and/or ownership of Canadian industry.

In terms of foreign control of the Canadian manufacturing industry, the ratio of foreign control remains, almost unchanged, at 60 per cent. Of particular interest is the U.S. share of foreign control of Canadian manufacturing industry. It has steadily retained about 80 per cent of foreign control in Canada.

Beyond the manufacturing sector the U.S. share of foreign control in the all industry in Canada is almost 80 per cent. It is interesting to point out that although the U.S. share of FDI in Canada has declined, its control of Canadian economy is still very high. The

\textsuperscript{13} Thus, the value of foreign ownership is the aggregation of long-term capital employed by foreign interests in both Canadian-and foreign-controlled firms. On the other hand, the value of foreign control is long-term capital employed of only those corporations that are controlled by foreign interests, even that portion owned by Canadian resident non-controlling interests.
Figure 5. Foreign Control of Canadian Manufacturing Industry

benefits of FDI stem basically from its contribution to increase investment capital in host countries, on the other hand the costs of FDI come from the fact that foreign control of host countries' industry has detrimental effects, such as underdevelopment of domestic firms and increase import dependency on goods, services and technology (Hood and Young, 1981; Hayter and Watts, 1983). What is more, the beneficial effect of FDI or capital inflow is once-and-for-all effect, while the adverse effects will continue to the life of foreign firms.
The fact that U.S. FDI's share of capital investment has decreased to 64 per cent of total investment in Canada while U.S. control of Canadian industry remains at about 80 per cent of total foreign control raised serious question on Canadian economy in the future. The rosy future of 'North American Economic Bloc' by way of free trade and other possible methods of economic integration between Canada and U.S. against ever intense EEC and Pacific Rim competition may intensify Canadian dependence on the U.S.. It can result in even stronger U.S. control of Canadian industry without corresponding capital investment from U.S.. Moreover, it can be conjectured that a considerable portion of U.S. capital in Canada will be withdrawn to the U.S. with the implementation of Free Trade Agreement (FTA), Goods and Services Tax (GST), and higher labor costs, while U.S. control of Canadian industry will retain its portion. If U.S. firms retreat from Canada because of reduction of tariffs and non-tariff barriers and skyrocketing taxes in Canada, the consequences could be even worse. Sudden plant closures of U.S. firms can cause unemployment and a chain reaction whereby the formerly related firms such as subcontractors or suppliers to U.S. firms go bankrupt even though they have the potential to contribute to the decrease in the foreign share of control of Canadian industry.

The ratio of foreign ownership of Canadian industry has changed slightly. The figure has stepped down little by little to 31 per cent in 1986 from 35 per cent in 1966. As shown in Fig.6, there is an apparent tendency for the ratio of foreign ownership in industrial sectors to converge to 30 per cent. Downward convergence sectors are manufacturing, petroleum & natural gas, and mining & smelting sectors. For these sector the role of
government policy in screening foreign investment, especially National Energy Plan has been very important to draw down the ratio of foreign ownership. Upward convergence sectors are railways and other utilities. In railways sector foreign ownership has risen up to 42 per cent in 1986 from 20 per cent in 1966.

Figure 6. Foreign Ownership of Canadian Industry

Control of a corporation is the potential to make the strategic decisions of a corporation. Even though most of control comes from holding majority ownership, control
can result from owning less than a majority of voting shares. For example, the owner of a block of equity which has at least 33 percent of the voting rights and which exceeds the sum of the next two largest blocks is assumed to have effective control. The difference between the ratios of foreign control and ownership indicates that foreign investors are interested in *real* control of Canadian industry as the forms of majority and minority control. In other words, the relative high figure of foreign control over foreign ownership result from the fact that foreign investors tend to invest largely to control corporations rather than just to hold long-term capital such as shares, warrants, bonds, and the like.

![Figure 7. U.S. Share of Foreign Ownership in Canadian Industry](image)

*Source: Statistics Canada, Canada's International Investment Positions, various issues, Cat. No. 67-202.*
Fig. 7 presents U.S. share of foreign ownership in Canadian industry. U.S. share as a whole has fallen from 83 per cent in 1966 to 68 per cent in 1986. Almost all sectors have experienced decline of U.S. share except railways sector. It is noticeable that U.S. share in mining and smelting sector has decreased very rapidly from 87 per cent in 1966 to 49 per cent in 1986, while railways sector is the only sector which has experienced increase in U.S. share of foreign ownership. The Canadianization policy, especially of energy sector, is one of the reasons why the ratio of foreign ownership has declined and why the railways sector shares rapid upward convergence in foreign ownership, U.S. firms seem to be very sensitive to the changes in government policy and business climate. U.S. share of foreign ownership has declined very rapidly in the sector where foreign ownership in Canada has decreased very fast (mining and smelting sector), while U.S. share has increased in the sector where foreign ownership has risen fast (railways sector).

4.2. Strategy of MNCs

4.2.1. Rapid Increase in Acquisition

The last six years' trend in the method of foreign investment in Canada is characterized by rapid increase in acquisition and decrease in new investment & expansions. In the period of 1985-1990, the growth rate of FDI is 21 per cent where 55 per cent increase in the
number of foreign acquisitions is offset by 28 per cent decrease in the number of foreign new investment & expansions. During 1989 - 1990, the number of acquisitions is more than three times greater than that of new investment & expansions. In terms of the amount of investment acquisitions has increased rapidly in recent decade, rising more than seven-fold up to 52.5 per cent of total investment in 1989 from 7.5 per cent of total investment in 1983. Foreign acquisition activity has been predominantly in the manufacturing sector (34 per cent) and the wholesale and retail trade sector (27 per cent).

Figure 8. Foreign Acquisitions and New Investments & Expansions
Source: Investment Canada, Annual Report, various issues.
Along with the fact that the long investment experiences of foreign firms in Canada make it possible for them to get acquainted with the Canadian business climate, the strategy of MNCs to minimize risk and to bring down costs in the period of economic slowdown forced them to increase acquisition of Canadian firms (c.f. Smith, 1985). Foreign acquisitions didn’t take place only among foreign firms. According to Investment Canada (1991), almost half of all foreign acquisitions involved domestic-owned firms, as well as in many cases, foreign acquisitions of formally domestic-owned firms were the result of Canadian overtures.

Acquisition means change of ownership or control of firms. It doesn’t entail increase in capacity of industry as a whole. When foreign firms acquire existing Canadian assets, employment is merely transferred to foreign ownership, rather than 'created'. It is important to distinguish between jobs created by foreign firms and existing jobs transferred to foreign ownership. Moreover, foreign takeover may decrease employment status quo ante as the acquired firm is restructuring and rationalizing (Glickman and Woodward, 1989; Young, 1984). Often it is advantageous for foreign investors to maintain the existing economic linkages of the acquired Canadian firms. However, acquisition may alter economic linkages by requiring the acquired establishment to purchase material inputs from suppliers of the foreign parent company. In such cases, local multiplier effects are diminished and local suppliers incur retrenchment of their businesses. In addition, the acquisition of unprofitable business has resulted in employment retrenchment (Herr, 1987).

Thus the recent increase in foreign acquisition activity raises serious questions about
Canadian economic independence. Canadian firms continue to be taken over by foreign firms without increase in new capacity, which result in steady increase of the share of foreign control with decreasing rate of foreign investment growth. The main beneficial effects of foreign capital argued by the foreign investment-advocates is its role in income and employment increase (c.f. Barrados, 1986, p.393). Recent foreign investors' behavior of increased acquisitions of Canadian firms can be a counter-example to the advocates' argument.

4.2.2. Increase in Disinvestment

One of the major characteristics of MNCs' adjustment to the volatile environment is disinvestment (Hood and Young, 1981). There is big difference between MNCs' or multi-plant and single plant closure. Bluestone and Harrison (1982, p.34) pointed out the distinction:

"Corporate and especially a conglomerate closing is ... likely to be the result of a planned strategy to increase campaigned profit ... (while) the closing of an independently owned business is more likely to be the result of a truly involuntary failure."

Also it is reported that there is an increasing tendency for global enterprises to reallocate their investment on a global scale through spatially selective closures and openings (Peet, 1983; Taylor and Thrift, 1982; Watts and Stafford, 1986). Their sudden closure of plants
and cutdown of the number of employment cast a serious problem in many host countries.

Table 6 shows the U.S. disinvestment\textsuperscript{14} from Canada. The number of disinvestment rose more than six-fold from 26 cases in 1951-55 period to 175 cases in 1971-75 period. The per cent of disinvestment to new investment has also been skyrocketing from 6.6 per cent in 1951-55 period to 21.6 per cent in 1971-75 period. The average per cent of disinvestment in Canada between 1951-75 was 10.2. Because of paucity of data it is impossible to trace recent disinvestment trend of U.S. firms in Canada, we can easily conjecture that the number of disinvestment and per cent of disinvestment has increased over the economic slowdown period of late 1970s and 1980s.

<table>
<thead>
<tr>
<th>TABLE 6</th>
<th>Disinvestment from Canada by U.S. MNEs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1951-55</td>
</tr>
<tr>
<td># of New Investment*</td>
<td>396</td>
</tr>
<tr>
<td># of Disinvestment</td>
<td>26</td>
</tr>
<tr>
<td>Per cent of Disinvestment</td>
<td>6.6</td>
</tr>
</tbody>
</table>

* estimates


\textsuperscript{14} Disinvestment includes liquidations, expropriations and the sale of foreign affiliates to independent parties but excludes mergers.
The plant closures are the outcome of complex decision-making processes which interact with each other and with other influences both inside and outside the firm is essential (Stafford and Watts, 1991). Considering the decrease in growth rate of U.S. investment and the increase in U.S. disinvestment in Canada without losing its proportion of control in Canadian industry, U.S. firms' strategy appears to withdraw or redirect its investment capital form Canada while still holding its control over Canadian economy.

4.3. Concentration in High-Technology Related Industries

If we disaggregate the degree of foreign ownership into individual manufacturing sector, it shows an apparent pattern that FDIs are concentrated in high-technology sectors\textsuperscript{15}. Fig. 9-1 and 9-2 depict the trend.

The average ratio of foreign ownership in manufacturing industries has declined slightly during the last two decades, from 53 per cent in 1966 to 46 per cent in 1986. The above average sectors are auto & parts, rubber, chemicals, electrical apparatus, and aluminum industries. These sectors can roughly be classified as 'high-technology' industrial sectors. Auto & parts industry has been more than 90 per cent of foreign ownership which is the highest of all industries. It is related to the bigness of 'big three' U.S. motor vehicle

\textsuperscript{15} The definition of high-technology industries adopted here is "the percentage of an industry's labor force is in technical occupations" (Hall et al., 1987). The definition of high-technology industries and foreign high-technology investment in Canada will be discussed in detail in Chapter VII.
companies. GM (100% foreign-owned), Ford (89% foreign-owned), and Chrysler (100% foreign-owned) were ranked first, second, and seventh, respectively, in 'the largest non-U.S. industrials' in Canada (Fortune, 1991). The below average sectors are beverage, textiles, pulp & paper, iron & steel mills, and other manufacturing industries. These sectors are characterized by consumer goods industries except iron & steel mills.

It is worthwhile to point out the decreasing trend of pulp & paper sector. The share of foreign ownership in pulp & paper sector declined from 'above average sector (about 60 per cent in the early 1970s)' to 'below average sector (about 35 per cent in late 1980s)'. It may be due in part to diminishing importance of the sector in the manufacturing industry. The big difference between aluminum and iron & steel mills (64 per cent of foreign ownership for aluminum and 12 per cent for iron & steel mills in 1986) in spite of their similarity as to resource-based industry can imply the importance of indigenous growth of firms. Iron & steel industry has long been the 'trade mark' of Canadian industry. STELCO (100% Canadian-owned) and DOFASCO (100% Canadian-owned) were ranked twelfth and twenty second, respectively (Fortune, 1991), while Alcan Aluminum (61% foreign-owned) was ranked fifth in 'the largest non-U.S. industrials' in Canada. The presence of big domestic firms can prevent foreign investors from controlling the industry.
(1) Above Average (Selected Sectors)

(2) Below Average (Selected Sectors)

Figure 9. Foreign Ownership of Canadian Manufacturing Industry:
4.4. Royalties, License fees and Charges

Table 7 shows the amount of U.S. MNCs' royalties, license fees and charges for other services as well as their percentage to U.S. net investment in Canada. The total charges has grown up almost twice from a level of 923 U.S. millions dollars in 1967 to 1,783 U.S. millions dollars in 1990 (in current dollar term, it has grown almost ten-fold). The amount of total charges has approached to the amount of U.S. net investment in Canada. In 1966 the ratio of U.S. total charges to net investment was 27 per cent. The rapid increase of the ratio culminated in 1985 as 695 per cent and stayed more than 70 per cent in 1990. The ratio implies that U.S. MNCs' drawing of money in Canada tends to increase relative to net investment (Fig.10).

The figure in table 7 shows only the U.S. MNCs' royalties, license fees and charges for other services paid to their parent companies. The total amount of royalties, license fees and charges for other services paid to U.S. and other countries will be greater. Even though existing theories of FDI conventionally suggest that licensing is the previous step to FDI (Daniels, et al., 1983), MNCs operating in host countries commonly remit their to parent companies by way of royalty and license as well as dividends, interest, and transfer pricing in intra-firm trade. These remittance continuously have adverse impact on the current account balance of payments in Canada.
<table>
<thead>
<tr>
<th>Year</th>
<th>Royalties &amp; License fees (US parents' receipts)</th>
<th>Charges for other Services (US parents' receipts)</th>
<th>Total Charges</th>
<th>US net Investment in Canada</th>
<th>% of Total Charges to net inv't</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>n.a.</td>
<td>n.a.</td>
<td>923</td>
<td>3434</td>
<td>27</td>
</tr>
<tr>
<td>1968</td>
<td>n.a.</td>
<td>n.a.</td>
<td>954</td>
<td>4181</td>
<td>23</td>
</tr>
<tr>
<td>1969</td>
<td>n.a.</td>
<td>n.a.</td>
<td>916</td>
<td>5181</td>
<td>18</td>
</tr>
<tr>
<td>1970</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1033</td>
<td>4416</td>
<td>23</td>
</tr>
<tr>
<td>1971</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1057</td>
<td>2391</td>
<td>44</td>
</tr>
<tr>
<td>1972</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1055</td>
<td>3267</td>
<td>32</td>
</tr>
<tr>
<td>1973</td>
<td>365</td>
<td>704</td>
<td>1069</td>
<td>6563</td>
<td>16</td>
</tr>
<tr>
<td>1974</td>
<td>338</td>
<td>530</td>
<td>868</td>
<td>6402</td>
<td>14</td>
</tr>
<tr>
<td>1975</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1157</td>
<td>5384</td>
<td>21</td>
</tr>
<tr>
<td>1976</td>
<td>428</td>
<td>757</td>
<td>1185</td>
<td>5435</td>
<td>22</td>
</tr>
<tr>
<td>1977</td>
<td>445</td>
<td>745</td>
<td>1190</td>
<td>1991</td>
<td>60</td>
</tr>
<tr>
<td>1978</td>
<td>435</td>
<td>777</td>
<td>1212</td>
<td>2240</td>
<td>54</td>
</tr>
<tr>
<td>1979</td>
<td>533</td>
<td>823</td>
<td>1356</td>
<td>6464</td>
<td>21</td>
</tr>
<tr>
<td>1980</td>
<td>503</td>
<td>773</td>
<td>1276</td>
<td>6110</td>
<td>21</td>
</tr>
<tr>
<td>1981</td>
<td>532</td>
<td>681</td>
<td>1213</td>
<td>2148</td>
<td>50</td>
</tr>
<tr>
<td>1982</td>
<td>467</td>
<td>629</td>
<td>1096</td>
<td>-1014</td>
<td>-108</td>
</tr>
<tr>
<td>1983</td>
<td>477</td>
<td>603</td>
<td>1080</td>
<td>1476</td>
<td>73</td>
</tr>
<tr>
<td>1984</td>
<td>514</td>
<td>759</td>
<td>1273</td>
<td>-851</td>
<td>-149</td>
</tr>
<tr>
<td>1985</td>
<td>489</td>
<td>787</td>
<td>1276</td>
<td>184</td>
<td>695</td>
</tr>
<tr>
<td>1986</td>
<td>587</td>
<td>849</td>
<td>1436</td>
<td>3720</td>
<td>39</td>
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<tr>
<td>1987</td>
<td>561</td>
<td>915</td>
<td>1476</td>
<td>6865</td>
<td>22</td>
</tr>
<tr>
<td>1988</td>
<td>624</td>
<td>941</td>
<td>1565</td>
<td>4452</td>
<td>35</td>
</tr>
<tr>
<td>1989</td>
<td>692</td>
<td>949</td>
<td>1641</td>
<td>2503</td>
<td>66</td>
</tr>
<tr>
<td>1990</td>
<td>797</td>
<td>985</td>
<td>1783</td>
<td>2410</td>
<td>74</td>
</tr>
</tbody>
</table>

Source: United States, Department of Commerce, various issues, Survey of Current Business.
Figure 10. Per cent of U.S. MNCs’ Royalty, License fees, and Other Charges to Net Investment in Canada
CHAPTER V

Linkage Effects and Foreign Investment

5.1. Measurement of Linkage Effects

One of the most important questions surrounding the impacts of MNCs on host economies is the extent to which they are integrated into the local economy through linkages with domestic firms. The forging of direct links with indigenous firms is significant means by which technology is transferred, additional employment created and opportunities increased for the formation of new local enterprises (Dicken, 1986, p.365). Also the sourcing of materials locally may lead to the emergence of local domestic firms to meet the demand created, thus increasing the pool of local entrepreneurs. But such beneficial spin-off effects will only occur if the foreign firms do become linked to local firms.

Integration of foreign-owned firms in a host economy may be determined by examining both their backward and forward linkages (OhUallachain, 1984). Backward linkage refers the interconnection of a particular sector to those sector from which it purchases inputs. Forward linkage refers the interconnection of a particular sector to those sector to which it sells its outputs (Miller and Blair, 1985, p.323). In input-output framework, linkage effects can be measured in a straightforward manner. However, as Hirschman pointed out (1958, p.100), 'linkages will induce attempts to supply inputs ... (and) to utilize its outputs' through numerous rounds in the future. Thus linkages refers to potential impacts on the economy.
Using the input-output table, Rasmussen and others defined the following formulation to measure backward and forward linkages (Rasmussen, 1956; Laumas, 1976; Yotopoulos and Nugent, 1973):

\[ L_j^b = \frac{\sum_i r_{ij}/n}{\sum_{ij} r_{ij}/n^2} - \frac{\sum_i r_{ij}}{\sum_{ij} r_{ij}/n} \]

\[ L_i^f = \frac{\sum_j r_{ij}/n}{\sum_{ij} r_{ij}/n^2} - \frac{\sum_j r_{ij}}{\sum_{ij} r_{ij}/n} \]

where \( L_j^b \) = index of backward linkage,

\( L_i^f \) = index of forward linkage,

\( r_{ij} \) = the \( i \)th row and \( j \)th column element of the Leontief inverse matrix \((I - A)^{-1}\)

\( n \) = number of industries

The column summation \( r_{.j} \) can be interpreted as the total increase of output of the economy to be supplied to the \( j \)th industry for its one unit increase in final demand, whereas the row summation \( r_{i.} \) may indicate the total increase of output of the \( i \)th industry caused by an increase in final demand of the economy. Thus the value of \( L_j > 1 \) means a strong dependence for \( j \)th industry on the rest of the economy. A value of \( L_i > 1 \) denotes that \( i \)th industry output tends to expand more than the rest of the economy to meet a unit increase.
in the final demand in all $j$ industries$^{16}$.

5.2. Spearman's Rank Correlation

To quantify foreign-owned firms' impacts on backward and forward linkage, Spearman's rank correlation coefficient will be employed$^{17}$. The coefficient shows the degree of association between two sets of values using rank order. The correlation between foreign-owned firms' sales, assets, and income, respectively, and backward and forward linkage indices, respectively, can imply foreign-owned firms' preference for industries which have higher or lower backward and forward linkages. It also may be inferred from the correlation coefficient whether the dominance of foreign-owned firms promotes or hinders backward and forward linkages in Canada.

The correlation coefficient can be found by the formula:

$$r_s = 1 - \frac{6 \sum d^2}{n^3 - n}$$

where $d$ is the difference in rank of each pair of values, and $n$ is the number of pairs.

$^{16}$ The Canadian I-O matrix, creating Leontief inverse matrix, and meaning of linkage effects will be discussed in Appendix 1.

$^{17}$ In this thesis Spearman's rank correlation was used instead of the correlation coefficient($r$), for the latter is a parametric test and all the necessary conditions must be satisfied before it can be used. Also importantly, since 'linkage index' is not ratio scale data but a kind of ordinal scale data of which distribution is confined around 1 and 'foreign share' is percentage form which are not real value data, the rank correlation was employed.
In this formulation, the value of \( r \) ranged from -1 to 1. If \( r > 0 \), it means the two set of values are correlated positively, *vice versa*.\(^{18}\)

### 5.3. Analysis and Results

The result for linkage analysis and foreign-owned firms’ direction to industries are shown table 8 and 9. The data presented measures the backward and forward linkage indices for twenty manufacturing industries for the years 1977 and 1987. It also shows the level of foreign direct investment, represented by their assets, sales, and profits, as a percent of total in each of those industries. Spearman's rank correlation analysis is performed to show the relationship between the backward and forward linkage indices and the level of foreign Direct Investment.

#### 5.3.1. Backward and Forward Linkages

Among the nineteen industries studied, fourteen industries had \( L_j \) values greater than unity, indicating strong backward industrial linkages with the rest of the Canadian economy in 1977. Tobacco industry had the highest backward linkage effects, followed by beverages, furniture industry, primary metals, and printing & publishing industry. On the other hand,

\(^{18}\) The Spearman's rank correlation coefficient, as shown here, has a limitation. In Spearman differences in rank are squared \((d^2)\), thereby increasing the weight of large differences (Hammond and McCullagh, 1978).
### TABLE 8  Linkage Indices and Level of FDI in Manufacturing Industries (1977)

<table>
<thead>
<tr>
<th></th>
<th>Backward Linkage Index</th>
<th>Forward Linkage Index</th>
<th>Foreign Share(%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assets</td>
</tr>
<tr>
<td>Food</td>
<td>0.9875</td>
<td>0.9816</td>
<td>38.0</td>
</tr>
<tr>
<td>Beverage</td>
<td>1.0041</td>
<td>0.7005</td>
<td>29.6</td>
</tr>
<tr>
<td>Tobacco industries</td>
<td>1.0042</td>
<td>0.7129</td>
<td>99.8</td>
</tr>
<tr>
<td>Rubber &amp; Leather</td>
<td>1.0036</td>
<td>0.9056</td>
<td>75.5</td>
</tr>
<tr>
<td>Textile industries</td>
<td>1.0034</td>
<td>1.1541</td>
<td>53.5</td>
</tr>
<tr>
<td>Clothing industries</td>
<td>1.0035</td>
<td>0.7239</td>
<td>16.2</td>
</tr>
<tr>
<td>Wood industries</td>
<td>1.0003</td>
<td>0.9052</td>
<td>22.1</td>
</tr>
<tr>
<td>Furniture industries</td>
<td>1.0040</td>
<td>0.6898</td>
<td>16.2</td>
</tr>
<tr>
<td>Paper &amp; allied industries</td>
<td>1.0033</td>
<td>1.1863</td>
<td>40.2</td>
</tr>
<tr>
<td>Printing &amp; Publishing</td>
<td>1.0038</td>
<td>0.7376</td>
<td>12.0</td>
</tr>
<tr>
<td>Primary metals</td>
<td>1.0039</td>
<td>1.6301</td>
<td>14.6</td>
</tr>
<tr>
<td>Metal fabricating</td>
<td>1.0032</td>
<td>1.1703</td>
<td>40.1</td>
</tr>
<tr>
<td>Machinery &amp; Equipments</td>
<td>0.9992</td>
<td>0.8974</td>
<td>66.6</td>
</tr>
<tr>
<td>Transportation equipments</td>
<td>1.0012</td>
<td>1.8490</td>
<td>75.5</td>
</tr>
<tr>
<td>Elec. &amp; Communication industries</td>
<td>0.9868</td>
<td>0.9469</td>
<td>68.6</td>
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<tr>
<td>Non-metallic mineral industries</td>
<td>1.0027</td>
<td>0.8719</td>
<td>68.4</td>
</tr>
<tr>
<td>Petroleum &amp; Coal industries</td>
<td>0.9953</td>
<td>0.8163</td>
<td>91.8</td>
</tr>
<tr>
<td>Chemicals</td>
<td>0.9901</td>
<td>1.3136</td>
<td>73.3</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.9999</td>
<td>0.8070</td>
<td>49.5</td>
</tr>
</tbody>
</table>

Spearman's Rank Correlation \(r_s\)

1. Backward Linkage Index

\[-0.3316^{**} \quad -0.3491^{**} \quad -0.3895^{**}\]

2. Forward Linkage Index

\[0.1842^{***} \quad 0.2509^{***} \quad 0.2246^{***}\]

* 1976 data.

** significant at .1 level.

*** significant at .25 level.

TABLE 9  Linkage Indices and Level of FDI in Manufacturing Industries (1987)

<table>
<thead>
<tr>
<th></th>
<th>Backward Linkage Index</th>
<th>Forward Linkage Index</th>
<th>Foreign Share(%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assets</td>
</tr>
<tr>
<td>Food</td>
<td>0.9961</td>
<td>0.9097</td>
<td>37.2</td>
</tr>
<tr>
<td>Beverage</td>
<td>1.0161</td>
<td>0.6873</td>
<td>27.5</td>
</tr>
<tr>
<td>Tobacco industries</td>
<td>1.0038</td>
<td>0.6745</td>
<td>99.8</td>
</tr>
<tr>
<td>Rubber &amp; Leather</td>
<td>1.0028</td>
<td>0.9034</td>
<td>73.6</td>
</tr>
<tr>
<td>Textile industries</td>
<td>1.0030</td>
<td>1.0127</td>
<td>40.2</td>
</tr>
<tr>
<td>Clothing industries</td>
<td>1.0024</td>
<td>0.6928</td>
<td>12.2</td>
</tr>
<tr>
<td>Wood industries</td>
<td>0.9970</td>
<td>0.9257</td>
<td>26.1</td>
</tr>
<tr>
<td>Furniture industries</td>
<td>1.0034</td>
<td>0.6796</td>
<td>13.5</td>
</tr>
<tr>
<td>Paper &amp; allied industries</td>
<td>1.0030</td>
<td>1.2260</td>
<td>21.9</td>
</tr>
<tr>
<td>Printing &amp; Publishing</td>
<td>1.0035</td>
<td>0.7376</td>
<td>9.2</td>
</tr>
<tr>
<td>Primary metals</td>
<td>1.0029</td>
<td>1.6109</td>
<td>19.0</td>
</tr>
<tr>
<td>Metal fabricating</td>
<td>1.0026</td>
<td>1.1208</td>
<td>25.3</td>
</tr>
<tr>
<td>Machinery &amp; Equipments</td>
<td>0.9954</td>
<td>0.8843</td>
<td>51.9</td>
</tr>
<tr>
<td>Transportation equipments</td>
<td>1.0004</td>
<td>1.8860</td>
<td>75.0</td>
</tr>
<tr>
<td>Elec. &amp; Communication industries</td>
<td>0.9926</td>
<td>1.0008</td>
<td>46.1</td>
</tr>
<tr>
<td>Non-metallic mineral industries</td>
<td>1.0026</td>
<td>0.8272</td>
<td>66.9</td>
</tr>
<tr>
<td>Petroleum &amp; Coal industries</td>
<td>0.9875</td>
<td>0.9218</td>
<td>67.7</td>
</tr>
<tr>
<td>Chemicals</td>
<td>0.9854</td>
<td>1.5162</td>
<td>71.8</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>0.9994</td>
<td>0.7828</td>
<td>34.3</td>
</tr>
</tbody>
</table>

Spearman's Rank Correlation ($r_s$)

1. Backward Linkage Index  
   -0.3246*  -0.2860**  -0.2825**

2. Forward Linkage Index  
   0.1509  0.1790**  0.1491

* significant at .1 level.
** significant at .25 level.


electrical & communication industry had the lowest backward linkage effects, followed by food industry, chemicals, and petroleum & coal industry. In 1987, the highest backward linkage effects position was replaced with beverages, followed by tobacco industry, printing & publishing, furniture, textile industry. The lower backward linkage effects industries were not changed: chemicals, petroleum & coal industry, electrical & communication industry.

The backward linkage index shows the distinct characteristics of Canadian economy. High-technology sectors\(^{19}\), such as chemicals, petroleum & coal industry, electrical & communication industry, depend upon input materials from foreign sources and lower domestic material linkages, while consumer goods sectors, such as tobacco industry, beverages, furniture industry, textile, and printing & publishing industry have strong material linkages.

For the forward linkage effects, six industries had \(L_i\) values greater than unity in 1977, denoting they are heavily drawn upon by the expansion of Canadian economy. Contrary to the backward linkage effects, transportation equipment had the highest forward linkage effects, followed by primary metals, chemicals, paper and allied industry, and metal fabricating industry. Also the lower forward linkage effects part consists of furniture, beverages, tobacco industry, and clothing industry. In 1987, almost same as in 1977, transportation equipments had the highest forward linkage effects, followed by primary metals, chemicals, and paper and allied industry, and metal fabricating industry. Tobacco

\(^{19}\) The definition and list of high-technology industries in Canada will be discussed in Chapter VII.
industry, furniture industry, and beverages consist in lower forward linkage part. It is not surprising that consumer goods sectors had the lower forward linkage.

5.3.2. Spearman’s Rank Correlation Analysis

The Spearman’s rank correlation between backward linkage indices and FDI measures were all negative in 1977 and 1987. The correlation with foreign-owned firms’ assets were -0.3316 and -0.3246 in 1977 and 1987, respectively, which indicates that foreign firms’ investments are directed to the industries with relatively lower backward linkage effects. Also the correlation with sales, and profits show negative figures with meaningful statistical levels, which strongly demonstrates foreign-owned firms’ preference for industries with lower backward linkage effects. Even though the coefficients have fallen a small amount between 1977 and 1987, the negative relationship didn’t change. On the other hand, the correlation with domestic firms’ assets, sales, and profits revealed positive figures, which shows that domestic firms’ investments were directed to the industries with higher backward linkage effects. These figures indicate that foreign firms depend more upon foreign sources of inputs and provide less spillover effects in Canadian economy than domestic firms.

The correlation coefficients between forward linkage indices and FDI measures were positive, showing the extent of foreign-owned firms’ contribution in industries with the higher forward linkage effects existed. The coefficients with foreign-owned firms’ sales were
0.2509 and 0.1790 in 1977 and 1987, respectively, followed by coefficient with profits (0.2246 and 0.1491) and with assets (0.1842 and 0.1509). The coefficients with domestic firms' measures were negative, which implied that domestic firms' export performance were positive.

Thus, we can state that foreign investment in Canada is concentrated on industries with lower backward linkages and higher forward linkages implying that foreign firms' role in Canadian international balance can be negative and that domestic firms contribute to the Canadian international balance of payments positively. Foreign subsidiaries export a little and import most of their machinery and technology from their home countries, especially from the U.S. (Science Council of Canada, 1984; Britton and Gilmore, 1978). Therefore, contrary to domestic firms, the presence of foreign firms would contribute less to the development of Canadian economy at least in linkage effects sense.
CHAPTER VI

Foreign Firms' Locational Change over Time

6.1. Concentration in Ontario

In the early phase of MNCs' operation in host countries they prefer well-known accessible regions i.e., national core regions. Foreign firms have to overcome their relative disadvantage in obtaining information about markets and local production conditions to compete with domestic firms (Blackbourn, 1974; Hamilton, 1976; Vernon, 1979). In analyzing the distribution of the U.S. subsidiaries in Canada, Ray (1971) terms the phenomenon of concentration in core region as 'economic shadow process'. Recently the trend has reversed. It was witnessed in U.S. and other industrialized countries that foreign firms dispersed in response to similar behaviors by domestic manufacturers (Edgington, 1987; McConnell, 1980; O'hUallachain, 1985)

This reversal has not occurred in Canada where foreign firms still show high concentration in Ontario. In 1986 64.4 percent of foreign manufacturing firms are concentrated in Ontario. Fig. 11 compares Ontario's share of manufacturing employment of domestic firms, foreign firms, and U.S. firms. Among others, U.S. firms are sharply concentrated in Ontario. In 1981 67 percent of U.S. firms were operating in Ontario while 63 percent of foreign firms and 41 percent of domestic firms were operating in Ontario. The reason why U.S. firms are concentrating in Ontario or the national core region can be
explained by geographical proximity to U.S. and metropolitan effect. Metropolitan Toronto’s pulling power for business organizations is more effective on foreign firms. For the foreign firms, especially for foreign high-technology firms, it is important to be accessible to skilled labor, specialized services and better transportation-communication linkages (Moriarty, 1983, p.80). Also foreign firms need to be in close contact with parent corporations and
governments and firms of host countries because of lack of information and uncertainty. These factors lead foreign firms to locate national core region in host countries.

Table 10 shows regional distribution of foreign manufacturing employment. From 1961 to 1986, all the provinces have experienced an increase in their share of total foreign manufacturing employment except Quebec and Atlantic provinces. Quebec’s share of foreign manufacturing employment has fallen form 27.3 in 1961 to 20.5 in 1986. One of the main factors influencing adversely on the decision to invest in Quebec, in spite of its position of the largest size, second largest population in Canada and considerable benefits for foreign

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>3.6</td>
<td>2.8</td>
<td>3.3</td>
<td>3.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Quebec</td>
<td>27.3</td>
<td>25.4</td>
<td>23.7</td>
<td>21.9</td>
<td>20.5</td>
</tr>
<tr>
<td>Ontario</td>
<td>60.2</td>
<td>60.5</td>
<td>60.7</td>
<td>62.6</td>
<td>64.4</td>
</tr>
<tr>
<td>Prairies</td>
<td>4.2</td>
<td>4.9</td>
<td>5.9</td>
<td>6.2</td>
<td>6.4</td>
</tr>
<tr>
<td>B.C.</td>
<td>4.7</td>
<td>6.4</td>
<td>6.4</td>
<td>6.1</td>
<td>6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Canada</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Quebec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.C.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Year 1986:** Ray, M., 1990, Table 1-3.
investments, by foreign investors is its laws promoting French language in the province which may make doing business there more difficult than in other provinces. About 70 percent of FDIs in Canada are from U.S. sources.

In the Atlantic provinces, their share of foreign manufacturing employment and foreign firms’ share of provinces’ total manufacturing employment decreased from 3.6 and 23.3 per cent in 1961 to 2.7 and 17.4 percent in 1986, respectively. At the same time, the provinces’ share of domestic manufacturing employment and domestic firms’ share of provinces’ total manufacturing employment increased from 5.0 and 76.7 per cent in 1961 to 6.2 and 82.6 per cent in 1986, respectively. It implies that government’s efforts to decrease regional disparity through various types of aids and industrial incentives in the lagging regions have no effect on foreign investors. This locational bias of foreign firms has been blamed for a 20 percent loss of existing employment in Atlantic provinces (Weaver and Gunton, 1986, p.211).

Ontario retains its highest share in foreign firms’ employment of all regions. Both of the foreign share of Ontario manufacturing employment and Ontario’s share of total foreign manufacturing employment increased from 37.6 and 60.2 percent in 1961 to 41.7 and 64.4 percent in 1986, respectively. Foreign firms’ concentration in Ontario was led by the rapid increase in foreign service sectors and growth of large firms in Ontario. During the period 1978-1986, foreign service sectors’ employment grew by 30.1 per cent in Ontario compared to 4.5 per cent increase in other provinces. Also during the same period, foreign large firms’ employment increased by 2.7 per cent in Ontario while other provinces experienced 11.0 per cent decrease. Ontario’s increasing importance as a service transaction center and large
firms' selective growth only in Ontario contributed to the concentration trend of foreign firms.

Foreign firms' concentration trend in Canada is different from other countries' experience where foreign firms dispersed from old manufacturing regions to industrial hinterlands in response to similar behaviors of domestic firms. Foreign firms' concentration in Ontario seems to contribute to regional disparity in Canada. Job opportunities in manufacturing are increasingly concentrated in Ontario due to the presence of foreign firms. Canada's lagging regions have long been prevented from participating in the new high-growth industries characterized by high wages and profits. Foreign firms' concentration in the core region can widen regional disparity by relative decrease in employment opportunities and therefore lack of chance to increase income in Canada's lagging regions.

6.2. Recent Decrease in Foreign Firms' Employment

Table 11 presents foreign and domestic manufacturing employment from 1961 to 1986. During the period total employment has increased 51 percent, which included 44 percent increase in domestic firms' employment and 68 percent increase in foreign firms' employment. Foreign firms' employment has increased more than that of domestic firms' by 22 percent. However all the increase in foreign firms' employment was done during the period from 1961 to 1970, which is characterized by a world-wide economic upswing.
### TABLE 11  Regional Distribution of Foreign and Domestic Manufacturing Employment

<table>
<thead>
<tr>
<th></th>
<th>1961 (%)</th>
<th>1970 (%)</th>
<th>1976 (%)</th>
<th>1981 (%)</th>
<th>1986 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Foreign</td>
<td>14493</td>
<td>20847</td>
<td>23918</td>
<td>22414</td>
<td>18067</td>
</tr>
<tr>
<td>US</td>
<td>4249</td>
<td>10885</td>
<td>13070</td>
<td>10619</td>
<td>11.6%</td>
</tr>
<tr>
<td>Domestic</td>
<td>47796</td>
<td>55287</td>
<td>59063</td>
<td>69155</td>
<td>85481</td>
</tr>
<tr>
<td>Sub-total</td>
<td>62289</td>
<td>76134</td>
<td>82981</td>
<td>91569</td>
<td>103548</td>
</tr>
<tr>
<td>Quebec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>109063</td>
<td>185608</td>
<td>169981</td>
<td>150916</td>
<td>137631</td>
</tr>
<tr>
<td>US</td>
<td>76027</td>
<td>143962</td>
<td>124862</td>
<td>107271</td>
<td>20.4%</td>
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<tr>
<td>Domestic</td>
<td>343480</td>
<td>328542</td>
<td>354651</td>
<td>374923</td>
<td>410312</td>
</tr>
<tr>
<td>Sub-total</td>
<td>452543</td>
<td>514150</td>
<td>524632</td>
<td>525839</td>
<td>547943</td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>240173</td>
<td>442844</td>
<td>434590</td>
<td>431404</td>
<td>433080</td>
</tr>
<tr>
<td>US</td>
<td>196098</td>
<td>373473</td>
<td>373970</td>
<td>356615</td>
<td>39.1%</td>
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<tr>
<td>Domestic</td>
<td>398584</td>
<td>363794</td>
<td>419222</td>
<td>480656</td>
<td>606552</td>
</tr>
<tr>
<td>Sub-total</td>
<td>638757</td>
<td>806638</td>
<td>853812</td>
<td>912060</td>
<td>1039632</td>
</tr>
<tr>
<td>Prairies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>16832</td>
<td>35754</td>
<td>42336</td>
<td>43053</td>
<td>42764</td>
</tr>
<tr>
<td>US</td>
<td>13030</td>
<td>25586</td>
<td>30915</td>
<td>28603</td>
<td>17.3%</td>
</tr>
<tr>
<td>Domestic</td>
<td>78492</td>
<td>78987</td>
<td>98031</td>
<td>121959</td>
<td>140111</td>
</tr>
<tr>
<td>Sub-total</td>
<td>95324</td>
<td>114741</td>
<td>140367</td>
<td>165012</td>
<td>182875</td>
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<tr>
<td>BC &amp; N,Canada</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>18457</td>
<td>46686</td>
<td>45567</td>
<td>41889</td>
<td>40435</td>
</tr>
<tr>
<td>US</td>
<td>14932</td>
<td>35414</td>
<td>34132</td>
<td>28890</td>
<td>18.2%</td>
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<tr>
<td>Domestic</td>
<td>85235</td>
<td>78652</td>
<td>95688</td>
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</tr>
<tr>
<td>Sub-total</td>
<td>103692</td>
<td>125338</td>
<td>141255</td>
<td>159488</td>
<td>169175</td>
</tr>
<tr>
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<td>Foreign</td>
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<td>731739</td>
<td>716392</td>
<td>689676</td>
<td>671977</td>
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<tr>
<td>US</td>
<td>304336</td>
<td>589320</td>
<td>576949</td>
<td>532089</td>
<td>451100</td>
</tr>
<tr>
<td>Domestic</td>
<td>953587</td>
<td>905262</td>
<td>1026655</td>
<td>1164292</td>
<td>1371196</td>
</tr>
<tr>
<td>Total</td>
<td>1352605</td>
<td>1637001</td>
<td>1743047</td>
<td>1853968</td>
<td>2043173</td>
</tr>
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</table>

Year 1986, Ray, M., 1990, Table 1-3.
After 1970, which is so called the start of economic slowdown, foreign firms' employment has been falling. The figure fell from 731,739 in 1970 to 716,392 in 1976 to 689,676 in 1981, and finally to 671,977 in 1986. During the period from 1970 to 1986 foreign firms' employment dropped by 9 percent. Only domestic firms contributed to the increase in total employment.

The overall trends show that the difference between domestic and foreign firms' employment has increased since 1970. Foreign firms had a negative impact on employment increase for more than fifteen years. The decrease in foreign firms' employment may carried out by downgrading or abandonment of some operations in the process of rationalization and restructuring (see Chapter VII, Section 3). During the period of economic slowdown foreign firms have adjusted themselves by employment cut-off. Foreign firms in Canada have increased their employment very rapidly during the period of economic upswing by new investments and expansions and have decreased their employment during the period of economic slowdown by a rationalization strategy. It implies that the existence of foreign firms means more drastic change in industries especially during the period of economic up and down swings in Canada.

It is important to point out the decrease in foreign share of total employment in Atlantic provinces during the period 1961-86. Unlike other regions' experience, the share of foreign firms' employment decreased in Atlantic provinces from 23.8 per cent in 1961 to 17.4 per cent in 1986. Other regions witnessed the increase of foreign firms' share by 1 to
6 per cent. During the same period, domestic firms' employment in Atlantic provinces increased very rapidly in absolute and relative senses. The share of domestic firms' employment increased from 76.7 per cent in 1961 to 82.6 per cent in 1986 and the number of domestic firms' employment was almost doubled in Atlantic Provinces, while other regions experienced decrease in the share of domestic firms' employment and slower increase in absolute number of domestic firms' employment.

As shown in Fig. 12, growth rate of foreign manufacturing employment decreased very rapidly only in Atlantic provinces since 1970. Ontario showed steady increase in growth rate and other provinces started to increase since 1976. On the other hand, growth rate of domestic manufacturing employment increased only in Atlantic provinces since 1970. Foreign firms' decrease in Atlantic provinces may have contributed to the highest unemployment rate and the lowest per capita income of all regions.

The share of U.S. firms' employment in foreign firms' employment has gradually fallen from 80.6 per cent in 1971 and 1976 via 77.2 per cent in 1981 to 67.2 per cent in 1986, indicating that U.S. firms' employment decrease has been more severe. If we compare regional trends of the decrease in U.S. firm's employment, it reveals U.S. firms' concentration in Ontario. During the period 1971-81, the share of U.S. firms' employment in foreign firms' employment in Ontario declined just by 1.6 per cent, while other regions experienced 7 to 10 per cent decline. U.S. firms' strong concentration in Ontario led foreign
Figure 12. Growth Rate of Manufacturing Employment, 1970 - 1986
firms' concentration trend in Ontario.

6.3. Regional Development Programs and Foreign Firms

In the 1960s, Canadian regional policy to promote development in the lagging regions emphasized the growth of agriculture and forestry. The subsidy programs, such as Agricultural Rehabilitation and Development Act (ARDA, launched in 1961), Area Development Act (ADA, 1963), and Fund for Rural Economic Development (FRED, 1966) were basically designed to increase the productivity of farms and social and economic infrastructure in the lagging regions. These government subsidies and other industrial incentives have failed to concentrate resources in propulsive industries located in selected growth centers of the lagging regions (Brewis, 1969). There was no room for foreign investors to take advantage of these government subsidies in the lagging regions in Canada.

In the 1970s regional policies and incentive programs were implemented by Department of Regional Economic Expansion (DREE) which was set up in 1969 to support stronger sectors of the economy in areas with growth potential (Savoie, 1986). During the 1974-75 period the amount of DREE's subsidiaries to business were 8 dollars per capita in Atlantic Provinces, 6 in Quebec, 3 in Prairie Provinces, and 1 in Ontario, respectively (Economic Council of Canada, 1977). The common denominator of the studies on the impacts of DREE on the spatial distribution of economic activity is that DREE has been successful in redistributing economic activity from cities in more prosperous regions to cities in lagging
regions although it was unable to generate significant spread effects to their own hinterlands (Higgins, 1986, p.146).

From the year 1983, federal Department of Regional Industrial Expansion (DRIE) introduced Industrial and Regional Development Program (IRDP) to reduce regional disparities through leverage of investment. DRIE’s program was transferred from DREE’s industrial incentive program by Trudeau government. In spite of the direct federal aid to industry in economically lagging regions of Canada, foreign firms still increased their operation in national core region. The discrepancy may arise from the fact that IRDP is mainly aimed to support small and medium-sized business at the regional and local level while foreign investments are made at large scale. Average size of foreign firms is much larger than that of Canadian firms and their products are directed not to regional or local market but to national market in Canada.

Considering foreign firms’ strong concentration in Ontario and rapid decrease in Atlantic provinces, federal government policies are generally not considered as critical in foreign firms’ location choice (Economic Council of Canada, 197720, Edgington, 1987; Herrin and Pernia, 1987). Government’s efforts to boost lagging regions through industrial incentives, subsidiaries, and other programs have been effective only for domestic firms.

---

20 The Economic Council of Canada (1977) has concluded that between 32 and 61 percent of DREE’s subsidiaries to industries have no effect on location decisions. They are simply public gifts to corporations.
6.4. Analysis of Foreign Firms' Locational Change

The change of spatial distribution of industries during certain period can be measured by the index of locational change (Wilson, et al., 1977). The index can be found in a straightforward manner: the sum of differences between regions' employment share at time \( t \) and \( t-1 \) for a certain industry. Since the absolute change among regions (e.g., 0 per cent of employment share at time \( t-1 \) and 100 per cent of employment share at time \( t \) for a certain region) results in 2 for the value of index, the sum should be divided by 2 in order to the value of index be ranged 0 to 1. Thus the index is formulated as follows:

\[
C_k = \frac{1}{2} \sum_i \left| \frac{e_{i}^k}{e_k^t} - \frac{e_{i}^k}{e_k^{t-1}} \right|
\]

where \( e_{i}^k \) = employment in group \( k \) and region \( i \)

\( e^k \) = total employment in group \( k \)

The value of \( C_k \) ranges 0 to 1. If \( C_k = 1 \), absolute change over time period \( t \) and if \( C_k = 0 \), no change over time period \( t \). One of the weaknesses of the index is that the index doesn't tell us the dynamics of firms' entry and exit behavior in a region. In other words, if there are same amount of birth and death of firms with same level of employment in each region during a certain period, the index would be zero.
For the purpose of analysis and because of the data available, Canada was divided into five regions: Atlantic Provinces, Quebec, Ontario, Prairies, and British Columbia & Northern Canada (see Table 11). Table 12 shows the index of locational change of foreign and domestic firms. During the periods 1961-1970, 1970-1981, and 1981-1986, the index for foreign firms were 0.028, 0.040, and 0.020 and the index for domestic firms were 0.019, 0.043, and 0.033, respectively. The figures implies that locational change of firms in Canada are not so active and domestic firms are more volatile than foreign ones in each period. If we look at the overall trend (1961-1986), the index for foreign firms was higher than that for domestic firms, which indicated that location of foreign firms has changed more than domestic ones even though the differences are not so significant.

**TABLE 12  Index of Locational Change of Foreign and Domestic Firms**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign</td>
<td>0.028</td>
<td>0.040</td>
<td>0.020</td>
<td>0.078</td>
</tr>
<tr>
<td>Domestic</td>
<td>0.019</td>
<td>0.043</td>
<td>0.033</td>
<td>0.061</td>
</tr>
</tbody>
</table>

From the above index of locational change we can interpret the spatial change of foreign and domestic firms\(^{21}\). Firstly, the slightly higher index of domestic firms over

\(^{21}\) In a chi-square test of the difference of the index, only the index for the period of 1981-86 is significant at 0.1 level.
foreign firms implies that domestic firms have been more dispersed out of Ontario and Quebec than foreign firms during the last two and half decades. While foreign firms' tendency on the concentration in Ontario and Quebec has been almost unchanged, domestic firms have increased their share in Atlantic Provinces, Prairies Provinces, and B.C. and Northern Canada regions step by step.

Secondly, foreign firms are more stable than domestic firms in terms of their spatial change over time. The conventional view on the stability of foreign firms is that they can and do switch and reswitch their operations from one country to another, from one region to another (Sachdev, 1976; OECD, 1985). According to this view, MNCs may have advantages in collecting and transmitting technological and market information. MNCs are more responsive than domestic firms to changes in the attractiveness of local production. Thus MNCs can relocate production facilities quickly to local factor price, exchange rate and regulatory changes and that domestic firms are either less inclined or less able to do this (McFetridge, 1989). However, the index of locational change for foreign firms shows remarkable stability in Canada, even though the index can’t reveal the dynamics of firms' entry and exit behavior.

The stability of foreign firms relative to domestic firms may result from the bigness of foreign firms. As shown in Chapter VII, foreign firms are fifty-five times larger than domestic firms in size. Any shift in the location of production would require that additional set-up costs to be incurred. The set-up costs surely commensurate to the size of firms.
Because of this big sunk costs foreign firms are more stable than domestic firms. Also it may result from the fact that foreign firms specialized themselves in the plant level to cope with the changes in economic climates, while domestic firms might have adjusted themselves by relocations. Unlike the conventional view of foreign firms’ geographical flexibility, gradual shifts are more common than abrupt changes.

In summary, foreign firms have been more stable in the change of spatial distribution than domestic firms. It implies in part that domestic firms have been more dispersed out of national core region to the Maritimes than foreign firms. Canadian regional policy to promote development in the lagging regions have been more influential to the domestic firms. It also implies in part that foreign firms’ relative big size and specialization strategy in the plant level may result in their locational stability.
CHAPTER VII

Foreign Firms and Canada’s Competitiveness

7.1. Export and Import Ratio of Foreign Firms

Table 13 shows import and export performance of U.S. firms and Non-U.S. firms in Canada. In the 1980s U.S. firms’ dependence on U.S. input materials and U.S. market has steadily increased. In 1988 U.S. firms’ import from U.S./sales ratio and export to U.S./sales ratio in Canada were 35.0 and 32.2 per cent, respectively. For non-U.S. firms in Canada, the ratios were 16.3 and 22.1 per cent, respectively in the same year. The U.S. firms’ import from U.S./sales ratio was more than twice as high. This figure supports the findings in chapter V where it is argued that foreign firms in Canada so heavily depend upon foreign sources of material inputs that foreign firms’ role in Canadian international balance of payments can be negative if the amount of imports by foreign firms exceeds that of exports.

The fifth and sixth columns of table 13 also support the above argument. While U.S. firms’ import from U.S./export to U.S. ratio is bigger than 1, indicating that U.S. firms’ imports exceeded their exports, Non-U.S. firms’ import from U.S./export to U.S. ratio is about 0.7. Considering a fairly big portion of U.S. firms’ export to U.S. is made by the ‘big three’ motor vehicle industries, other U.S. firms export performance were not so satisfactory. The positive figures in recent data on the Canada’s merchandise trade balance
of payments to U.S. have to be attributed not to U.S. firms intra-firm trade but to domestic firms' export to U.S.

<table>
<thead>
<tr>
<th>Year</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>13.7</td>
<td>10.8</td>
<td>11.6</td>
<td>10.3</td>
<td>1.3</td>
<td>1.1</td>
<td>32.6</td>
<td>30.1</td>
</tr>
<tr>
<td>1971</td>
<td>--</td>
<td>20.7</td>
<td>--</td>
<td>13.9</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>42.1</td>
</tr>
<tr>
<td>1976</td>
<td>--</td>
<td>21.1</td>
<td>--</td>
<td>16.3</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>37.9</td>
</tr>
<tr>
<td>1983</td>
<td>31.6</td>
<td>30.8</td>
<td>14.4</td>
<td>21.4</td>
<td>1.0</td>
<td>0.7</td>
<td>44.7</td>
<td>34.6</td>
</tr>
<tr>
<td>1984</td>
<td>34.0</td>
<td>32.5</td>
<td>14.6</td>
<td>23.4</td>
<td>1.0</td>
<td>0.6</td>
<td>49.1</td>
<td>36.5</td>
</tr>
<tr>
<td>1985</td>
<td>35.7</td>
<td>32.5</td>
<td>14.8</td>
<td>24.4</td>
<td>1.1</td>
<td>0.6</td>
<td>49.7</td>
<td>35.4</td>
</tr>
<tr>
<td>1986</td>
<td>36.5</td>
<td>33.5</td>
<td>15.8</td>
<td>23.6</td>
<td>1.1</td>
<td>0.7</td>
<td>47.7</td>
<td>35.9</td>
</tr>
<tr>
<td>1987</td>
<td>36.5</td>
<td>31.2</td>
<td>15.5</td>
<td>24.0</td>
<td>1.2</td>
<td>0.6</td>
<td>46.5</td>
<td>32.5</td>
</tr>
<tr>
<td>1988</td>
<td>35.0</td>
<td>32.2</td>
<td>16.3</td>
<td>22.1</td>
<td>1.1</td>
<td>0.7</td>
<td>45.1</td>
<td>35.7</td>
</tr>
</tbody>
</table>

Note: (1) U.S. firms' import from U.S./sales ratio in Canada
(2) U.S. firms' export to U.S./sales ratio in Canada
(3) Non-U.S. firms' import from U.S./sales ratio in Canada
(4) Non-U.S. firms' export to U.S./sales ratio in Canada
(5) U.S. firms' import from U.S./export to U.S. ratio in Canada
(6) Non-U.S. firms' import from U.S./export to U.S. ratio in Canada
(7) U.S. firms' share in Canadian import from U.S.
(8) U.S. firms' share in Canadian export to U.S.

Source: US Department of Commerce, Survey of Current Business, various issues:
Statistics Canada, Summary of Canadian International Trade, Cat. No. 65-001, various issues.
U.S. firms have the lion's share in Canadian import from U.S. and export to U.S. In 1988 the shares were 45.1 for import and 35.7 per cent for export. Most of the import and export flows by U.S. firms may be intra-firm trade (Britton, 1976).

Fig. 13 compares U.S. MNCs' intra-firm trade as a proportion of total U.S. merchandise trade in selected countries in 1985. Intra-firm trade is typical index of the degree of vertical integration of MNCs which are under industrial restructuring. In U.S. exports to Canada

![Bar Chart]

**Figure 13.** U.S. Merchandise Trade Between U.S. Parent Companies and Foreign Affiliates as a Proportion of Total U.S. Merchandise Trade
nearly half of total exports are attributable to intra-firm trade, compared to 11 per cent in Japan, 15 per cent in Asian NICs, and 27 per cent in all countries. The degree to which intra-firm trade among U.S. MNCs accounts for U.S. imports from Canada is more than a third of U.S. imports. Most of this is in respect to the manufacturing of transportation equipment (Investment Canada, 1991). U.S. intra-firm imports from EEC is 10 per cent, from Japan is 2 per cent, and the world total is 15 per cent of U.S. import from other countries.

The vast majority of U.S. intra-firm exports to Canada and imports from Canada is accounted for by the 'big three' U.S. automobile manufacturers. The Auto Pact of 1965 facilitated the large amount of affiliated exports and imports in that sector. Auto Pact provided for generally duty-free passage of automobiles and parts between Canada and U.S. with exceptions such as tires and replacement parts. Under this Agreement, significant economies of scale became possible. Auto manufacturers in Canada could specialize in one or two models producing them for the entire North American markets. This was accompanied by considerable improvement in the productivity of the Canadian industry, increase in Canadian automobile outputs and accordingly sizable increase in employment. Also it gave a large boost to Canada's exports of assembled vehicles to U.S.. However, from the standpoint of balance of merchandise trade payments it was not so satisfactory. The huge trade deficit in parts offset a favorable balance in the exchange of assembled vehicles, resulting in trade deficit in Automotive products (Maxcy, 1981, pp.245-250).
The intra-firm trade often give rise to the issue of transfer pricing. The transfer price is "the price at which a transfer or sale of goods takes place within a firm, regardless of whether or not the firm spans different countries" (Hood and Young, 1981, p.190). The ability to set their own internal prices enables MNCs to influence the amount of tax or duties payable to host governments. For example, it would be in MNCs' interests to charge more for goods and services supplied to their subsidiaries located in countries with high tax levels like Canada. Even if the main purpose of transfer pricing is tax evasion in host counties, it can contribute to the deficit on the balance of payments in host countries because parent firms or headquarters would import goods and services below the costs while branch plants in host counties would import goods and services at such a price as to give parent firms surplus profits. It is hard to trace the degree of transfer pricing of U.S. firms in Canada because of paucity of data. It is, however, possible to conjecture that the degree of transfer pricing is commensurate to the degree of intra-firm trade.

Aside from merchandize trade balance of payments, foreign firms can contribute to the deficit in non-merchandise trade balance of payments which consists of service transactions, investment income, and transfers. The ever increasing deficit in balance of payments results not from merchandise trade balance of payments but from non-merchandise balance of payments. Foreign firms' service imports from their parent companies and remittance of their investment income can play an important role to the deficit in balance of payments.22

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22 Canada's deficit in non-merchandise trade balance of payments was 33 billion and deficit in non-
7.2. Concentration on High-Technology Sectors and Limited R&D Activity

Canada's participation in high-tech industries is relatively weak. High-tech products account for only 15 per cent of Canada's total manufacturing exports. In the U.S. and Japan, they account for 38 and 28 per cent, respectively (Economic Council of Canada, 1983). What is more, foreign firms in Canada are concentrated in high-technology sectors. Canada is losing high-tech jobs to foreign locations.

Table 14 shows the foreign share of high-tech industries\(^{23}\). The operational definition of high-tech industries adapted here: the percentage of an industry's labor force that is in technical occupations (Hall et al., 1987). Hall et al. (1987) identified 29 three-digit SIC industries in the U.S. with higher than the national average of engineers, engineering technicians, computer scientists, scientists and mathematicians. In this thesis 24 three-digit Canadian SIC industries were selected which were transferred from 29 three-digit U.S. SIC industries.

\[^{23}\text{The unsettled debate on the definition and selection of high-technology industries still makes authors to use their own. Also the difference in official classification of industries among countries hinders general application of the definition. In this thesis U.S. definition of high-technology industries is employed. So we choose to specify high-technology industries on the basis of "the degree of sophistication and competence embodied in technical occupations" (Markusen, A., P. Hall, and A. Glasmeier, 1986, pp.10-11).}\]

merchandise trade balance of payments to U.S. was 16 billion in 1990.
<table>
<thead>
<tr>
<th>SIC</th>
<th>Industry Name</th>
<th>1970</th>
<th>1981</th>
</tr>
</thead>
<tbody>
<tr>
<td>302</td>
<td>Fabricated structural metal industries</td>
<td>14.4</td>
<td>3.4</td>
</tr>
<tr>
<td>315</td>
<td>Equipment industries</td>
<td>73.2</td>
<td>53.8</td>
</tr>
<tr>
<td>318</td>
<td>Office &amp; store machinery manufacturers</td>
<td>95.8</td>
<td>70.2</td>
</tr>
<tr>
<td>321</td>
<td>Aircraft and parts</td>
<td>85.1</td>
<td>52.3</td>
</tr>
<tr>
<td>323</td>
<td>Motor vehicle</td>
<td>x</td>
<td>97.5</td>
</tr>
<tr>
<td>325</td>
<td>Motor vehicle parts</td>
<td>87.4</td>
<td>79.9</td>
</tr>
<tr>
<td>326</td>
<td>Railroad rolling stock industries</td>
<td>x</td>
<td>61.6</td>
</tr>
<tr>
<td>331</td>
<td>Small electrical appliances</td>
<td>65.9</td>
<td>76.0</td>
</tr>
<tr>
<td>332</td>
<td>Major appliances</td>
<td>56.6</td>
<td>65.3</td>
</tr>
<tr>
<td>333</td>
<td>Lighting fixture</td>
<td>56.3</td>
<td>54.7</td>
</tr>
<tr>
<td>334</td>
<td>Household radio &amp; TV</td>
<td>74.1</td>
<td>x</td>
</tr>
<tr>
<td>335</td>
<td>Communication equipments</td>
<td>47.3</td>
<td>41.2</td>
</tr>
<tr>
<td>336</td>
<td>Electrical industrial equipments</td>
<td>88.4</td>
<td>82.7</td>
</tr>
<tr>
<td>338</td>
<td>Electric wire &amp; cable</td>
<td>x</td>
<td>34.0</td>
</tr>
<tr>
<td>339</td>
<td>Misc. electrical products</td>
<td>99.0</td>
<td>81.4</td>
</tr>
<tr>
<td>365</td>
<td>Pet. refining &amp; lubricating oils</td>
<td>89.3</td>
<td>87.4</td>
</tr>
<tr>
<td>372</td>
<td>Mixed fertilizer</td>
<td>79.2</td>
<td>55.4</td>
</tr>
<tr>
<td>373</td>
<td>Plastics &amp; synthetic resins</td>
<td>92.3</td>
<td>78.3</td>
</tr>
<tr>
<td>374</td>
<td>Pharmaceutical &amp; medicines</td>
<td>80.2</td>
<td>82.2</td>
</tr>
<tr>
<td>375</td>
<td>Paint &amp; varnish</td>
<td>77.7</td>
<td>63.4</td>
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<td>376</td>
<td>Soap &amp; cleaning compounds</td>
<td>81.1</td>
<td>71.5</td>
</tr>
<tr>
<td>378</td>
<td>Industrial chemical NES</td>
<td>81.2</td>
<td>72.5</td>
</tr>
<tr>
<td>379</td>
<td>Misc. chemical industries</td>
<td>73.8</td>
<td>57.3</td>
</tr>
<tr>
<td>391</td>
<td>Instrument &amp; medical appliances</td>
<td>86.4</td>
<td>72.5</td>
</tr>
</tbody>
</table>

**Total High-Technology industries**

| 74.6 | 65.6 |

**Total manufacturing industries**

| 44.7 | 37.2 |

Source: Statistics Canada, 1985, Domestic and Foreign Control of Manufacturing, Mining, and Logging Establishments in Canada, Cat. No. 31-401.
Motor vehicle industry stands the highest, 97.5 per cent of foreign firms' employment followed by petroleum refining & lubricating oils (87.4%), electrical industrial equipments (82.7%), Pharmaceutical & medicines (82.2%), and miscellaneous electrical products (81.4%) in 1981. The foreign share of all high-tech industries were 74.6 and 65.6 per cent in 1970 and 1981, respectively. The foreign share of all manufacturing industries were 44.7 and 37.2 per cent in the same years. Foreign firms are more concentrated in high-technology sectors by 30 per cent.

Even though some researchers stressed the benefits that foreign firms bring to Canada in terms of technology transfer and diffusion of that technology (Economic Council of Canada, 1983), the performance of foreign firms R & D activity was relatively low. It has long been stressed that the very nature of MNCs may well inhibit the spread of their technology beyond their organizational boundaries. MNCs always tend to internalize technology creating activities (R & D function) across international boundaries (Hood and Young, 1981).

In Canada, as far as U.S. firms are concerned, the share of R & D expenditure by MNCs has steadily declined, while the share of the amount of capital investment has always been the largest. In 1975 Canadian share of U.S. overseas R & D activities was 13.1 per cent. U.K.’s and Germany’s share were 18.8 per cent and 29.9 per cent in same year, respectively (Table 15). Moreover, most of the Canadian R & D laboratories of U.S. companies are concerned mainly with adapting and modifying U.S.-originated products and
TABLE 15  Distribution of Estimated R&D Abroad Sponsored by U.S.-Based Firms, by Country, Selected years, 1966-75

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>22.2</td>
<td>16.4</td>
<td>14.3</td>
<td>12.0</td>
<td>13.1</td>
</tr>
<tr>
<td>Britain</td>
<td>24.4</td>
<td>18.7</td>
<td>18.5</td>
<td>19.2</td>
<td>18.8</td>
</tr>
<tr>
<td>Germany</td>
<td>22.3</td>
<td>30.9</td>
<td>30.5</td>
<td>32.3</td>
<td>29.9</td>
</tr>
<tr>
<td>France</td>
<td>9.1</td>
<td>7.3</td>
<td>8.2</td>
<td>8.4</td>
<td>8.1</td>
</tr>
<tr>
<td>Belgium</td>
<td>3.2</td>
<td>3.4</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Italy</td>
<td>2.6</td>
<td>4.9</td>
<td>5.0</td>
<td>4.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Others</td>
<td>16.2</td>
<td>18.4</td>
<td>20.0</td>
<td>20.4</td>
<td>20.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>


According to the study of R & D intensities for employment size groups for Canadian and foreign-controlled firms (de Melto, 1980), both small and large domestic firms have higher R & D intensities than foreign firms. For more than 500 employment firms the R & D/sales ratio for domestic firms was 10.3, while the R & D/sales ratio for foreign firms was 2.0 in 1978.
Recent data reveals the strong tendency of foreign firms’ reluctance in participating in R & D activity. According to The Financial Post (Dec.4, 1989) among top 20 R & D spenders in Canada, foreign firms spending on R & D activity was less than half that of domestic firms in 1989: foreign firms spent 811.8 millions dollars and domestic firms spent 1,618.7 millions dollars. On the contrary, the sales of foreign firms was more than 110 percent of domestic firms’ sales in top 25 leading firms in 1987: foreign firms sales was 78,107 millions dollars while domestic firms sales was 70,958 millions dollars (Statistics Canada, 1990). Foreign participation may accompany the restructuring of Canadian economy. Foreign control of high-tech firms blocks Canada from participation in knowledge-based employment opportunities and contribute to the low level of industrial R & D and high-technology in Canada. Foreign firms have contributed to not so much 'spillover' of technology and entrepreneurship (cf. Globerman, 1979) as deepening frailty in domestic firms.

Table 16 shows the balance of high-technology industries. Among the ten industrial categories only two industries (motor vehicles and aircraft & parts) are classified as 'net export' industries and the deficit of balance of high-tech trade was more than two billions dollars in 1970. In 1980, the 'net export' industries moved to chemicals and petroleum & coal industries and the trade deficit reduced to 1.3 billions dollars. In 1990 the trade deficit was as much as fourteen billions dollars. The 'net import' industries were chemicals, industrial machinery, agricultural machinery, other transportation equipment, TV & communication equipment, office machines & equipment, and other equipment & tools industries. The 'net export' industries were petroleum & coal, motor vehicles, and aircraft
& parts industries.

### TABLE 16  Balance of Trade in High-Technology Industries

(Mil.$)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net</td>
<td>Net</td>
<td>Net</td>
</tr>
<tr>
<td></td>
<td>Export</td>
<td>Import</td>
<td>Export</td>
</tr>
<tr>
<td>Chemicals</td>
<td>--</td>
<td>175</td>
<td>69</td>
</tr>
<tr>
<td>Petroleum &amp; Coal Products</td>
<td>--</td>
<td>115</td>
<td>180</td>
</tr>
<tr>
<td>Industrial Machinery</td>
<td>--</td>
<td>993</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural Machinery</td>
<td>--</td>
<td>132</td>
<td>--</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>295</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Aircraft &amp; Parts</td>
<td>46</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Other Transportation Equipment</td>
<td>--</td>
<td>20</td>
<td>--</td>
</tr>
<tr>
<td>TV &amp; Com. Equipment</td>
<td>--</td>
<td>129</td>
<td>--</td>
</tr>
<tr>
<td>Office Machines &amp; Equipment</td>
<td>--</td>
<td>182</td>
<td>--</td>
</tr>
<tr>
<td>Other Equipment &amp; Tools</td>
<td>--</td>
<td>633</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>2038</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


These 'net export' industries need explanations. Almost all exports of the 'net export' industries might be performed by foreign firms. In petroleum & coal industry the 'Seven

---

24 The selection of high-tech industries in table 17 if different from that of table 16 because of the inconsistency of Statistics Canada's industrial classification. However, table 17 embraces broad category of high-technology industries.
Sisters' command an overwhelming majority of the industry's exports. The exports in motor vehicles industry are in part due to 'big three's intra-firm trade and in part due to Japanese and Korean firms' exports to U.S. in order to evade U.S. quota limit. Lastly the exports in aircraft & parts industry are also due to U.S. subsidiaries' intra-firm trade to U.S.. Canadian firms play little role in high-tech exports.

7.3. Specialization of Foreign Firms and Domestic Firms' Competitiveness

It is generally believed that the core of the country's capital is formed by 500 leading firms (Borodayevsky, 1987, p.110). Constituting only 0.1 per cent of the total number of Canada's non-financial corporations, they have nevertheless accounted for 46.4 per cent of the sales and 56.7 per cent of the assets (Table 17). In 1987 there were 243 firms controlled by foreign capital among them. Even though their share in the total number of firms was 0.05 per cent, they secured 23 per cent of the sales and assets. It is significant that foreign leading firms have advantages over domestic firms in the sales/assets ratio as well as profits/assets ratio (Statistics Canada, 1990).

The average firm size can be measured by sales/number of firms or assets/number of firms. Overall, foreign firms are fifty five times larger than domestic firms in terms of assets/number of firms and sales/number of firms. The reason why domestic firms are small in size than foreign firms can be explained in several ways. Firstly, In most of the industry
<table>
<thead>
<tr>
<th>Number of Enterprises</th>
<th>Foreign</th>
<th>Private Canadian</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 leading enterprise</td>
<td>10 78107</td>
<td>11 70958</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>52977</td>
<td>92176</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>7810.7</td>
<td>6450.7</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>5297.7</td>
<td>8379.6</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td>781.0</td>
<td>645.1</td>
</tr>
<tr>
<td>50 leading enterprises</td>
<td>19 97726</td>
<td>25 103170</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>72201</td>
<td>123349</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>5143.5</td>
<td>4126.8</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>3800.1</td>
<td>4934.0</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td>972.0</td>
<td>722.0</td>
</tr>
<tr>
<td>100 leading enterprises</td>
<td>41 126169</td>
<td>51 136862</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>97272</td>
<td>164982</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>3077.3</td>
<td>2683.6</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>2372.5</td>
<td>3234.9</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td>972.7</td>
<td>1649.8</td>
</tr>
<tr>
<td>500 leading enterprises</td>
<td>243 201442</td>
<td>245 202184</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>156805</td>
<td>229193</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>829.0</td>
<td>825.2</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>645.3</td>
<td>935.5</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td>1568.0</td>
<td>2292.0</td>
</tr>
<tr>
<td>1000 leading enterprises</td>
<td>444 222354</td>
<td>543 232825</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>172813</td>
<td>251869</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>500.8</td>
<td>428.8</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>389.2</td>
<td>463.8</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td>1728.1</td>
<td>2518.6</td>
</tr>
</tbody>
</table>

All Non-financial enterprises
<table>
<thead>
<tr>
<th>Foreign</th>
<th>Private Canadian</th>
</tr>
</thead>
<tbody>
<tr>
<td>3302</td>
<td>430458</td>
</tr>
<tr>
<td>Sales (Mil$)</td>
<td>252152</td>
</tr>
<tr>
<td>201214</td>
<td>479825</td>
</tr>
<tr>
<td>Sales/ firm</td>
<td>76.4</td>
</tr>
<tr>
<td>Assets (Mil$)</td>
<td>60.9</td>
</tr>
<tr>
<td>Assets/ firm</td>
<td></td>
</tr>
</tbody>
</table>

the vast majority of firms are small in size employing not more than 10 workers. Secondly, firms who can invest abroad surely have sufficient assets and enjoy economies of scale. Their foreign branches then must be big in size enough to compete their counterparts in host countries. Thus the comparison of size of firms as a whole has a limited meaning. If we compare 500 leading enterprises, where the number of foreign and domestic firms are almost same (243 v.s. 245), they are almost same in terms of sales/number of firms (829.0 for foreign v.s. 825.2 for domestic) and foreign firms are smaller than domestic firms in terms of assets/number of firms (645.3 v.s. 935.5). This may imply that foreign firms are more directed to be efficient.

Another characteristic of Foreign firms is their share of profits. In 1987, foreign firms accounted for more than 50 per cent of manufacturing profits in Canada, while their share of manufacturing assets was 45 per cent. In non-financial industries, foreign firms' share of profits was 32 per cent compared to 26 per cent of their share of assets. Foreign firms' efficiency and profit-directed characteristic can be explained in part by their specialization productivity growth trend.

Specialization, one of the changes in the organization of production taking place in individual firm level, involves a reduction in the number of production lines (horizontal specialization) and a reduction in the number of stages of production (vertical specialization) (McFetridge, 1989, p.12). With horizontal specialization, firms produce a much smaller subset of the former product lines rather than produce wide range of products
for sale, which can improve efficiency of production and raise the ratio of shipments/employment. Thus horizontal specialization can be measured by the ratio of shipments/employment. With vertical specialization, firms receive intermediate goods from other suppliers and ship their outputs directly to customers, which can be measured by ratio of shipment/value-added since "rising shipments concurrent with constant or falling value-added occurs if an establishment's share of the entire production process has diminished" (Dow and Kumar, 1990, p.35). Also labor productivity is commonly measured by value-added/employment.

Table 18 shows the trends of specialization and productivity of foreign and domestic firms. The discrepancy between foreign and domestic firms' shipment/employment ratio has been deepened over the period 1970-1981. From 8.6 in 1970 and 23 in 1976 the difference in the ratio grew to 38.8 in 1981 which was calculated from foreign firms' ratio (127.5) and domestic firms' ratio (88.7). It is interesting to trace the change in shipments/value-added ratio. In 1970 and 1976 the ratios of domestic firms were higher than those of foreign firms (2.19 vs. 2.15 and 2.23 vs. 1.92). However, since 1976 the ratio has increased for foreign firms faster than for domestic firms, over a period characterized by economic slowdown. In 1985 the ratio of foreign firms was 3.47 compared with domestic firms' ratio: 2.94. It is also important to point out the change in value-added/employment ratio. It reveals the rapid increase in productivity of foreign firms. Foreign firms have raised the ratio from 15.4 in 1970 to 73.3 in 1985, while domestic firms have increased the ratio not so much as that of foreign firms: from 11.2 in 1970 to 48.6 in 1985.
<table>
<thead>
<tr>
<th>Year</th>
<th>Shipments Employment*</th>
<th>Value added Employment**</th>
<th>Shipments Value added</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domestic</td>
<td>Foreign</td>
<td>Domestic</td>
</tr>
<tr>
<td>1970</td>
<td>24.5</td>
<td>33.1</td>
<td>11.2</td>
</tr>
<tr>
<td>1976</td>
<td>46.9</td>
<td>69.9</td>
<td>21.0</td>
</tr>
<tr>
<td>1981</td>
<td>88.7</td>
<td>127.5</td>
<td>37.6</td>
</tr>
<tr>
<td>1985</td>
<td>--</td>
<td>--</td>
<td>48.6</td>
</tr>
</tbody>
</table>

* Shipments (thousand dollars) per one employee.
** Value added (thousand dollars) per one employee.

Year 1985: Calculated from Dow and Kumar (1990), Table 3-5.

These figures indicate that foreign firms adapted themselves and specialized faster than domestic firms. In a normative sense, completion of specialization implies exclusive access to a product and some degree of autonomy, particularly in R&D, both of which should result in a sharply improved balance of payments within the firm (Science Council of Canada, 1980, pp.11-12). Also the impulse to specialize lies in the need for such activities as research and development, to take advantage of a reservoir of labor power found in low-wage countries, and generally to improve allocative and technical efficiency (Atkinson, 1985, p.125). Thus foreign firms rapid specialization and increase in productivity can enhance Canada's competitiveness as a whole by contributing to R & D activity, skilled employment
boost and wage raise, while they can reduce employment by downgrading or abandonment of some operations and contribute to the deficit on balance of payments if the value of specialized product exports do not exceed the value of imports of goods supplied by intra-firm trade.

According to International Management Development Institute (1990), Canada's competitiveness appears to regressing. Canada has slipped from fourth to fifth place in the overall ranking of international competitiveness of the OECD countries. Japan ranked first with score of 77, followed by Switzerland (59), USA (49), Germany (40), and Canada (26)25. Also the distance between Canada and the leaders among developed countries in competitiveness has increased.

The general cost and benefit relationship between the presence of foreign firms and Canada's competitiveness is beyond the scope of the thesis. It is, however, apparent from above analysis that foreign firms have positively influenced some parts of Canada's competitiveness through rapid specialization and productivity growth and have negatively influenced some parts of Canada's competitiveness, including the tendency toward importing, weak development in high-technology industries, less R & D activity and employment.

25 The international ranking in the report constructed from a set of 326 criteria on competitiveness covering a wide range of factors. The criteria include an immediate bearing on current competitiveness (labor costs, for example), a more long-term impact (such as R&D spending), natural endowments (the quantity and quality of country's natural resources), and other criteria which have been developed over time by the business community and the public sector (such as labor productivity). Taken together, these 326 criteria provide broad and comprehensive coverage of the overall competitiveness of each country.
CHAPTER VIII

Summary and Conclusions

The purpose of this thesis is to examine foreign firms' spatial economic impacts on Canada with particular emphasis on the industrial linkage and spatial employment effects. The thesis focuses on the recent characteristics and strategies of foreign firms in Canada. Based on a conceptual framework for analyzing foreign firms' behavior in host countries, several hypotheses on FDI in Canada are drawn. The main body of the thesis is devoted to test the hypotheses through the examination of changing characteristics of foreign firms, backward and forward linkage effects of foreign firms, locational change over time, and foreign firms' contribution to the competitiveness of the Canadian economy.

The conceptual framework for foreign firms' behavior in host countries emphasizes the rationalization and restructuring of MNCs in the period of economic slowdown. The components of rationalization include adoption of production techniques and arrangements which minimize costs, vertical integration within MNCs' inter-firm hierarchy, and specialization at individual plant level. The spatial consequences of restructuring of MNCs consist of disinvestment and increased spatial relocation. Disinvestment which can be defined as the actual closure (total or partial) of branch plants can cause the economy as a whole to change suddenly, while spatial relocation of firms within the host country may result in regional imbalance.
FDI in Canada is decreasing in a relative sense. The Canadian share of FDI flows and the rate of growth of FDI in Canada have decreased. By the same token, the share of FDI in Canadian GDP has decreased, especially in the 1970s. On the other hand, the percentages of foreign control and ownership of Canadian industry have remained almost constant for the last twenty years: about sixty per cent and fifty per cent in the manufacturing sector, respectively. Furthermore, acquisitions of Canadian firms by foreign firms have recently increased, as have increased disinvestment from Canada, and remittance to the home countries in the form of royalties and license fees. These trends of foreign firms raise serious questions for the Canadian economy. Foreign firms seem to have contributed to the deficit of international balance of payments in Canada. Also foreign control over the Canadian economy is increasing without a corresponding increase in new capacity, income and employment.

The linkage analysis and Spearman's rank correlation analysis reveal that high-technology sectors have a tendency to depend upon input materials from foreign sources and seem to have lower domestic material linkages, while consumer goods sectors have strong domestic material linkages. Foreign investments in Canada prefer to concentrate in industries with lower backward linkages and higher forward linkages. It implies that foreign firms in Canada heavily depend upon foreign sources of material inputs and are directed to Canadian market for their outputs. It also indicates that foreign firms' role in Canadian international balance of payments could be negative. Thus the presence of foreign firms would contribute less to the development of the Canadian economy at least in linkage.
Along with decreasing rate of growth of FDI in Canada the employment of foreign firms has decreased rapidly, while their spatial concentration has increased. Foreign firms’ concentration in core region (Ontario) has deepened over time. In 1986 about sixty-five percent of foreign firms’ employment were concentrated in Ontario, whereas the ratio of domestic firms’ was about forty-five. Job opportunities in manufacturing are more concentrated in Ontario by the presence of foreign firms. For the locational change over the last two decades, domestic firms have been more dispersed out of Ontario and Quebec than foreign firms. Foreign firms were more stable than domestic firms implying that they specialized themselves in the plant level to cope with the changes in economic climates while domestic firms might have adjusted themselves possibly by relocation and plant closures or/and new set ups.

For employment effects, foreign firms increased employment rapidly during the period 1961-1970, but have not contributed to the increase of employment since 1970. The difference between domestic and foreign firms’ employment has increased, especially in the manufacturing sector. Foreign firms in Canada have increased their employment very rapidly during the period of economic upswing by new investments and expansions and have decreased their employment during the period of economic slowdown. This implies that the existence of foreign firms means more drastic change in industries especially during the period of economic up and down swings in Canada. In addition, the rapid decrease in
foreign employment in Canada's lagging regions since 1970 also contributed to regional disparity.

Foreign firms have positively influenced some parts of Canada's competitiveness through rapid specialization and productivity growth and have negatively influenced some parts of Canada's competitiveness, including the tendency toward importing, weak development in high-technology industries, less R & D activity and employment. They are concentrated in high-technology sectors, while their participation in R&D activity was very limited. The ratio of foreign firms' employment in high-technology manufacturing sectors was 65.6 per cent compared to 37.2 per cent in total manufacturing industry in 1981. For R&D activity, among top 20 R & D spenders in Canada, foreign firms spent on R & D activity less than half that of domestic firms in 1989. On the contrary, the sales of foreign firms was more than 110 per cent of domestic firms' sales in top 25 leading firms in 1987. Foreign control of Canada's high-tech firms blocks participation in knowledge-based employment opportunities and contribute to the low level of industrial R & D and high-technology in Canada.

Overall, the findings from the empirical studies support almost all research hypotheses developed in Chapter two. The hypotheses 1 and 3 were supported by empirical data and analysis, while hypothesis 2 was not confirmed as a whole. Hypothesis 1 is that FDIs in Canada will decrease in relative sense. The sub-hypotheses are (1.1) Canadian share of global FDI flows will decrease and (1.2) The growth rate of FDIs in Canada will decrease.
As a result of these government policies of Canadianization and recent global economic recession, Canadian share of global FDI flows have decreased by half in last 25 years, from 30% in 1966 to 16% in 1990. Also the rate of growth of FDI in Canada decreased gradually. The average annual growth rate fell from 10.8 per cent in the period of 1956-60 to 6.8 per cent in the 1980s. The staggering growth rate decline in FDI is even deeper in manufacturing sector. What is more, U.S. investment decreased rapidly.

Hypothesis 2 is about the effects of FDI on Canadian economy: FDI's impacts on Canadian economy will have many negative aspects. The sub-hypotheses are (2.1) Foreign firms' impacts on 'industrial linkage effects' will be negative. (2.2) Foreign firms will contribute to the deficit of international balance of payments in Canada. (2.3) Foreign investment will concentrate in high-technology sectors to the expense of domestic participation. (2.4) Foreign firms will do less R & D activities in Canada. (2.5) Foreign firms will influence on some parts of Canada's lack of competitiveness.

It is not possible to conclude unambiguously that the 'net effects' of FDI in Canada is positive or negative. Different indicators of the effects are moving in different directions. However, it is possible at this juncture to address some positive and negative aspects of the FDI's impacts on national and local economies. Firstly, foreign firms in Canada depend upon foreign sources of material inputs and are directed to Canadian market for their outputs. Foreign firms' impacts on 'industrial linkage effects' was negative. Thus the
presence of foreign firms would contribute less to the development of Canadian economy at least in linkage effects sense(hypothesis 2.1). It also indicates that foreign firms’ role in Canadian international balance of payments could be negative as we have seen U.S. firms’ import/export ratio(ranged 1.3 to 1.1 during the last two decades)(hypothesis 2.2).

Another negative aspects are foreign firms’ concentration in high-technology sectors which may have prevented domestic firms from participating in those sectors and has deepen Canada’s dependence on high-technology of foreign sources(hypothesis 2.3). Also comparing domestic firms’ R & D spending foreign firms’ participation in R & D activity was very limited(hypothesis 2.4). Thus these negative aspects of FDI in Canada may have contributed to Canada’s lack of competitiveness. On the other hand, their fast specialization, productivity growth and high-technology outputs may have contributed to enhance competitiveness(hypothesis 2.5).

Hypothesis 3 is the question about the speed and extent of adjustment of foreign firms: Foreign firms will adjust themselves more rapidly than domestic firms in the period of economic slowdown. The sub-hypotheses are (3.1) Foreign firms will contribute to spatial disparity in Canada and (3.2) Foreign firms will be more prone to close their plants and cut down employment in Canada. Foreign firms’ geographical concentration in national core region is greater than that of domestic firms and the trend has deepened over time. At the same time, the growth rate of foreign employment has declined very rapidly only in Atlantic provinces during the last two decades. This tends to widen the spatial disparity between the
core and the periphery of Canadian economy (hypothesis 3.1). Foreign firms have not contributed to the increase of employment in Canada since 1970. They are more prone to cut down employment than domestic firms during the period of economic slowdown (hypothesis 3.2).

On the other hand, foreign firms have been more stable in the change of spatial distribution than domestic firms implying that domestic firms have been more prone to relocate their plants while foreign firms have specialized in the plant level to cope with the changes in economic climate. The rapid specialization and productivity growth of foreign firms can contribute to enhance Canada’s competitiveness at the expense of employment loss and regional disparity.

Table 19 summarizes the results of the analysis. Foreign firms’ impacts was negative in almost all categories of Canadian economy with two exceptions. The exceptions are spatial stability and specialization and productivity growth. Foreign firms’ spatial stability indicates that the conventional view of geographical flexibility of MNCs was not adequate in Canadian case. In addition, considering Canada’s poor performance in high-technology sectors and R&D activity in spite of the fact that foreign firms show rapid specialization, productivity growth, and growth in high-technology sectors, the spillover effects of foreign firms are not so satisfactory as expected in Canada.

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<table>
<thead>
<tr>
<th>Impacts of foreign firms</th>
<th>Analysis Results (Positive or Negative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Spatial Impacts</td>
<td></td>
</tr>
<tr>
<td>1.1 Industrial linkage effects (Hypothesis 2.1)</td>
<td>Negative</td>
</tr>
<tr>
<td>1.2 Trade balance of payments (Hypothesis 2.2)</td>
<td>Negative</td>
</tr>
<tr>
<td>1.3 Regional balance (Hypothesis 3.1)</td>
<td>Negative</td>
</tr>
<tr>
<td>1.4 Spatial Stability</td>
<td>Positive</td>
</tr>
<tr>
<td>2. Human Impacts</td>
<td></td>
</tr>
<tr>
<td>2.1 Employment effects (Hypothesis 3.2)</td>
<td>Negative</td>
</tr>
<tr>
<td>2.2 Growth of investment (Hypothesis 1.1 and 1.2)</td>
<td>Negative</td>
</tr>
<tr>
<td>3. Technological Impacts</td>
<td></td>
</tr>
<tr>
<td>3.1 Development in high-tech sectors (Hypothesis 2.3)</td>
<td>Negative</td>
</tr>
<tr>
<td>3.2 R&amp;D activity and employment (Hypothesis 2.4)</td>
<td>Negative</td>
</tr>
<tr>
<td>3.3 Specialization and Productivity growth</td>
<td>Positive</td>
</tr>
</tbody>
</table>

In this thesis, statistical analysis didn't seem to be fully confirmed in a strict statistical meaning. Some of the t-scores of Spearman's rank correlation were lower than 0.2 significant level. More refined and detailed statistical analysis are needed to evaluate foreign firms' contribution to linkage effects. Also the analysis employed in this thesis is based on aggregated data. Firm-level study of foreign firms' behavior will reveal more exact results on the costs and benefits of foreign firms in Canadian economy.

The empirical studies in this thesis were not intended to verify every portion of
conceptual aspects discussed in Chapter two: rather they emphasized several negative effects of foreign firms. To answer the questions of 'Does the presence of foreign firms mean net cost or net benefit in Canadian economy?' and 'What kind of government policies on FDI can be useful for Canadian economy?' requires a more explicit analysis set in the wider context of the dynamics of industrial and spatial systems.
Appendix
1. Creating Leontief Inverse Matrix from Commodity-by-Industry

Input-Output Tables

The data for Canadian input-output tables are compiled in terms of characteristic products (commodity) of the Canadian SIC code, where some matrix manipulations are needed to create the Leonfief inverse matrix.

(1) Data \((m\) commodities and \(n\) industries)

* Make matrix \((V = [v_{ij}]):\) matrix of production outputs
  
The rows describe the commodities produced by industries in the economy and columns describe the industry sources of commodity production \((n \times m)\).

* Use matrix \((U = [u_{ij}]):\) matrix of production inputs
  
The matrix records the commodity inputs to an industrial production process \((m \times n)\).

* Final Demand matrix \((F = [F_i]):\) The matrix records the vector of commodities delivered to final demand \((m \times 1)\)

(2) Direct Requirements

The total production of a commodity \((Q)\) is the sum of all amounts of that commodity

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1 Miller and Blair (1985) elucidated the procedure in detail.
consumed by industries in the economy plus any sales of that commodity to final demand:

$$Q_i = \sum_j u_{ij} + F_i \quad (1)$$

where $i$ represents industry and $j$ represents commodity.

And the technical coefficient($b_{ij}$) is:

$$b_{ij} = \frac{u_{ij}}{X_j}, \quad \therefore u_{ij} = b_{ij} \cdot X_j \quad (2)$$

where $X_j$ is the vector of industry total output.

Thus the commodity output identity is:

$$Q_i = \sum_j b_{ij} \cdot X_j + F_i \quad (3)$$

In matrix terms, this can be written as:

$$Q = BX + F \quad (4)$$
Total Requirements Matrices (the Leontief inverse)

The row sums of the make matrix define the vector outputs of industries:

\[ X = v_{11} + v_{12} + \cdots + v_{1m} = HxV_i \]  \hspace{1cm} (5)

If we divide an element of the make matrix by the total production of commodity \( j \), we determine the fraction of total production of commodity \( j \) produced by industry \( i \). That is:

\[ d_{ij} = \frac{v_{ij}}{Q_j} \]  \hspace{1cm} (6)

\[ D = V(\hat{Q})^{-1} \]  \hspace{1cm} (7)

where \( d_{ij} \) is referred to as the commodity output proportion.

Substituting Eq. 7 into Eq. 5, we have:

\[ X = D\hat{Q}_i - DQ \]  \hspace{1cm} (8)

Finally, if we substitute Eq. 4 into the expression for \( X \):

\[ X = D(BX + F) \]
\[ - [I - DB]^{-1}DF \]  \hspace{1cm} (9)
where the bracketed quantity is the industry-by-industry total requirements matrix, that is Leontief inverse matrix.
2. Linkage Effects

In the framework of an input-output model, production by a particular sector has two kinds of economic effects on other sectors in the economy. If sector \( j \) increases its output, this means there will be increased demands from sector \( j \) on the sectors whose products are used as inputs to production in \( j \). The term **backward linkage** is used to indicate this kind of interconnection. On the other hand, increased output in sector \( j \) means that there will be increased supplies from sector \( j \) for the sectors which use good \( j \) in their production. The term **forward linkage** is used to indicate this kind of interconnection. Thus the intensity of interindustrial linkages is taken as an indicator of a sector's basic ability to spread growth impulses to its economic environment.

In defining linkage measures, Rasmussen(1952) suggested two indices, the power of dispersion and the sensitivity of dispersion. Later, Hazari(1970) suggested weighting scheme\(^2\) for Washington State economy for 1963. Laumas(1975) also adopted similar weighting scheme. He attempted to refine linkage measures on the basis of Hirschman's demand approach to economic development. This scheme, however, has met serious critics. It is regarded as arbitrary and lack of efficacy (Diamond,1974; Hewings,1974). Also it deal with linkages in an *ex post* manner whereas investment decisions will be taken on the basis

\[
V_j = \frac{w_j}{a_j}, \quad V_i = \frac{w_i}{a_i}
\]

where, \( a_j \) and \( a_i \) are the column and row means of Leontief inverse, \( w_j \) and \( w_i \) are the standard deviations of the column entries in \( j \) and the row entries in \( i \).
of anticipated opportunities (McGivray, 1977). Diamond (1974), on the other hand, proposed three conflicting development objectives related to employment, income, and foreign exchange. Using Turkey as a case study, he revealed the inconsistency of identification when the measures are related directly to specific policy targets rather than technological interrelationships.

The confusion arises over the interpretation of linkages as potential or actual (Bulmer-Thomas, 1978). Also it is said that linkage analysis pays no attention to comparative advantage and implies policies contradicted by international trade theory (Riedel, 1975). It is still controversial whether the sectors with highest backward and forward indices are growth sectors or not. Bulmer-Thomas (1978) found little strong causal relationship between them.

In this thesis the straightforward and commonly agreed upon linkage measures are adopted. If the economy is divided into \( n \) sectors, and if we denote by \( X \), the total output of the sector \( i \) and by \( Y_i \) the total final demand for sector \( i \)'s product, we can write:

\[
X = z_{i1} + z_{i2} + \cdots + z_{in} + Y_i
\]

where \( z \) represents the interindustry sales by sector \( i \).

And the technical coefficient, denoted \( a_i \):

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\(^3\) Diamond ranked sectors with reference to matrix \( A \) (Leontief inverse: direct & indirect effects), to matrix \( A'(=A-I) \): indirect effects), and with reference to \( A^\times(=A-A^\times) \), where \( A^\times \) is diagonal matrix with entries \( a_n \); net & feedback effects)
\[ a_{ij} = \frac{z_{ij}}{X_j} \]

Then the complete \( n \times n \) system is:

\[
[I - A]X = Y \\
X = [I - A]^{-1}Y
\]

where \([I-A]^{-1}\) is called Leontief inverse matrix.

Now, the backward and forward linkage effects are defined as:

\[
L_j^b = \frac{\sum_i x_{ij} / n}{\sum_{ij} x_{ij} / n^2} - \frac{\sum_i x_{ij}}{\sum_{ij} x_{ij} / n}
\]

\[
L_i^f = \frac{\sum_j x_{ij} / n}{\sum_{ij} x_{ij} / n^2} - \frac{\sum_j x_{ij}}{\sum_{ij} x_{ij} / n}
\]

where \(L_j^b\) = index of backward linkage,

\(L_i^f\) = index of forward linkage,

\(r_{ij}\) = the \(i\)th row and \(j\)th column element of the Leontief inverse matrix \((I - A)^{-1}\)

\(n\) = number of industries

The column summation \(r_j\) can be interpreted as the total increase of output of the economy to be supplied to the \(j\)th industry for its one unit increase in final demand, whereas the row summation \(r_i\) may indicate the total increase of output of the \(i\)th industry caused by an increase in final demand of the economy. Thus the value of \(L_j > 1\) means a strong
dependence for $j$th industry on the rest of the economy. A value of $L_i > 1$ denotes that $i$th industry output tends to expand more than the rest of the economy to meet a unit increase in the final demand in all $j$ industries.
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