Canadian Foreign Direct Investment in the United States: A Discrete Choice Analysis Approach
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By

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A Thesis

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In Partial Fulfillment of the Requirements

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Abstract

Today, nations of the world are economically interdependent of one another. Nowhere is this linkage of domestic economies more evident than between the United States and Canada. Trade and investment between the two countries is the largest in the world. Many Canadians are aware of the importance of the trade that flows between the two countries. Many Canadian are also aware of the huge presence of American multinational enterprises within Canada. However, few appreciate the extent of investment by Canadian firms in the United States.

To understand the importance of Canadian investment in the United States, it is essential to understand where Canadian parent companies invest. Or put another way, it is important to know the spatial distribution of Canadian subsidiaries throughout the United States. After examining the dispersal of subsidiaries, further questions can follow. The main focus of this thesis is to determine why Canadians invest where they do.

Through the use of a discrete choice analysis it was concluded that Canadian investment in the United States was attracted to the larger American market, accessibility to international inputs and markets, a skilled labor force, and regions with a greater and expanding work force. On the other hand, as unionization, distance, and corporate tax rates increased, the probability of FDI decreased.

FDI in the United States was also separated into large investments and small investments. It was concluded that large investments were attracted to labour with higher skills compared to small investments while poverty and average pay were deemed less important. On the other hand, there was a greater attraction by small investments to states with greater populations and shoreline. As distance increased, small investments experienced a greater decrease when compared to large investments.
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Canadian interest in foreign direct investment (FDI) has traditionally been concerned with incoming FDI. This preoccupation goes as far back as the National Policy of 1879, which raised tariffs and led to an inflow of foreign investment in Canada. Since the 1970's though, outward FDI by Canadian firms has increased so drastically that Canada is now a net exporter of investment. To better understand the cause of this phenomenon, research on Canadian FDI has expanded.

The main goal of this thesis is to analyse the spatial distribution of Canadian FDI in the United States from 1974 to 1994. This is accomplished by addressing two major questions. First, where do Canadians invest in the United States and second, why do Canadians invest where they do? Do Canadian firms invest in the United States to gain greater access to large regional markets? Is it for tax purposes? Is it for skilled labour? Is it for low cost labour? Analysing where and why Canadian firms invest in the United States allows for interesting questions such as these to be answered.

The first chapter summarises the existing literature. The sources were selected for two reasons. First, the literature introduces the reader to basic definitions and concepts of FDI. Second, it provides the reader with more detailed information on Canadian FDI.

The second chapter is broken into three parts. First, a brief overview of Canadian investment in a global context is provided. Canadian investment is examined over time,
by sector, and by geographic area. The second part of the chapter examines similar questions on a study area limited to the United States. The third component of chapter 3 focuses on the source of Canadian FDI.

Chapter 3 explores the sources and destinations of Canadian FDI in the United States. Chapter 4 takes this association one step further by exploring why Canadians invest where they do. Using a logit model, those factors that attract Canadian FDI are determined. Difference of means tests are also used to explore the differences between large and small investments.

Chapter 5 is the concluding chapter. Meaningful results of the analysis are summarised with impacts on the public sector supplied. Chapter 5 also suggests possible further areas of research on Canadian FDI to follow this study.
CHAPTER 2
A REVIEW OF THE LITERATURE

Interest in foreign direct investment (FDI) has surged due to spectacular growth and a need to better understand international production. Compared to those in other industrialised countries, Canadian firms are relatively recent entrants in the field of multinational business. Nonetheless, their numbers are growing. In particular, the past two decades have witnessed enormous growth in FDI by Canadian firms. Improvements in transportation and communication, rapid changes in product and process technology, new trends in the world economy, shorter product cycles, increased convergence of consumer tastes across countries, the liberalisation of trade, the increased need for research and development, and increased international competition account for this development.

As the level of FDI has increased, so has the amount of research. There have been many attempts to explain why and where FDI takes place. Literature in this chapter was carefully chosen to establish a foundation of research on FDI in general and Canadian investment in particular. Authors highlighted have contributed substantially to the understanding of both inward and outward Canadian FDI. However, it will be argued in the context of this study that a lack of research on certain aspects of FDI still exists. Specifically, there is a limited amount of statistical research on Canadian FDI in the United States.
Before presenting the literature review, FDI is defined to provide the reader with an appropriate understanding of the concept. Next is a summary explanation from the literature on why FDI occurs, including push and pull factors. This is followed by a chronological review of FDI explanations from Stephen Hymer to John Dunning to Michael Porter. Finally, evidence of FDI is explored through a review of survey and statistical approaches.

2.1 Defining the Terms

A FDI is an activity owned, organised, and controlled by a firm (or group of firms) outside its (or their) national boundaries. Specifically, the International Monetary Fund (IMF) defines FDI as “an investment that is made to acquire a lasting interest and an effective voice in the management of an enterprise operating in an economy other than that of the investor” (Statistics Canada, 1997, 29). Having a lasting interest and power in the control of a company is what separates FDI from portfolio investment. The IMF suggests that to obtain control, a direct investor must possess at least ten percent of the equity of an enterprise (Statistics Canada, 1997). Otherwise, the venture is considered portfolio investment. With portfolio investment, there is no intention of playing a major role in the management of the company. This suggests that the investor is only attracted to tax savings, favourable exchange rates, and increasing income.

There are numerous ways FDI can take place. The construction of a new plant is referred to as a greenfield venture. Previously this was the most popular type of investment. However, the importance of greenfield ventures has diminished over time. Conversely, mergers and acquisitions have become more common. A merger refers to the
combining of assets of two or more companies into a single, larger firm. An acquisition usually occurs when a company purchases enough shares to exercise control over another company. A joint venture is also an investment that affects two or more firms. It often takes place if one firm is too small to carry out a project itself or if the various partners have complementary skills or technologies. With respect to foreign investment, joint ventures usually occur because a foreign firm possesses the technological know-how while the local firm understands the domestic business environment. Finally, equity increases and plant expansions are additional investments to an already existing plant.

The concept of competition should also be introduced. In his book *The Competitive Advantage of Nations*, Michael Porter (1990) points out that there is no accepted definition of competitiveness. To the government, competitiveness means that the nation maintain a positive trade balance. To firms, competitiveness means competing against rival firms. Porter agrees that the national environment plays a central role in the competitive success of firms. But explaining competitiveness at the national level is to answer the wrong question. Determining why some firms based in particular nations are able to create and sustain advantages against the world's best competitors in a particular field is more appropriate.

2.2 Motivations for FDI

The mechanisms by which firms invest in a foreign country are well understood but the reasons are not. Incentives differ because of the conflicting approaches adopted by scholars. This section reviews a firm's motives for engaging in foreign investment.
In her article, *Who Does What After NAFTA? Location Strategies of US Multinationals*, Lorraine Eden (1994) presents a list of reasons why a company invests in a foreign country. Her six reasons include: search for raw materials, search for new markets, search for low cost factors of production, strategic motivations for offshore locations, financial reasons, and fluctuations in exchange rates (in the 1980's Japanese companies began investing in their Asian neighbours to take advantage of the high yen). Since FDI should be considered an economic decision and not a financial decision, it should be pointed out that Eden's first four reasons are stronger than her last two motivations.

Steven Globerman (1994) argues that a firm will invest in a foreign country only to lower costs and/or increase revenues. Lowering costs is necessary because additional expenses are imposed on a firm entering a foreign market. Lower costs are associated with access to cheaper inputs, avoidance of transaction costs such as tariffs and transportation, improved efficiency associated with the exploitation of economies of scale and scope, and the faster adoption of foreign developed technology and related factors.

Opportunities to increase revenue are less apparent. The clearest example of increasing revenue is locating FDI in order to take advantage of larger markets. Opportunities to increase revenue are also associated with reducing risk. Globerman (1994) recognises systematic and non-systematic risk. Systematic risk is related to fluctuating business cycles. By diversifying assets an enterprise can avoid uncertainty due to changes in the economic environment. Non-systematic risk is characterised by a
specific investment. Globerman offers the example of expropriation. If potential for expropriation becomes dangerous in the domestic market, investing in a foreign country would be worthwhile to investors.

Somewhat similar to Globerman, C.P. Kindleberger (1969) suggests two broad conditions that are essential before FDI can occur. First, a firm must expect greater profit abroad than at home. Second, a firm must expect a higher return in the foreign environment than local firms. He points out that in order to compete with local firms, a company must overcome the disadvantage of obtaining information about markets and local production conditions by internalising monopolistic advantages.

Push and Pull Factors

Various studies differentiate between the push and pull factors of FDI. Pull factors are the aspects of a foreign country that seem attractive to a firm. They encourage companies to make direct investments in that country. On the other hand, push factors acknowledge elements of a home country that drive companies to seek investment opportunities elsewhere.

Pull factors may include: the greater size and diversity of the market, non-tariff barriers to trade (encouraging firms to substitute direct investment for exports), political risk perceived to be lower in the foreign country, investment incentives either through tax breaks or subsidies, the opportunity to specialise in certain products, and higher productivity in the foreign environment (Rugman, 1987; Gandhi, 1990).

Previous studies (Rugman, 1987; Gandhi 1990) demonstrate how push factors encourage firms to make investments to maintain or enhance their competitive position.
They may include: relative differences in cost of production at home and abroad, the tax system and related policies affecting the investment climate, and government regulations.

To the list of push factors Raymond Vernon (1966) added saturation of the home market and product maturity. In his “product life cycle” approach Vernon explained that initial demand for a new product is high. Over time though, demand decreases as the home market becomes saturated. To secure additional profit, the company may exploit foreign markets through exports or FDI.

Studies (Rugman, 1987; Gandhi, 1990; Knubley, Krause, and Sadeque, 1991; Litvak and Maule, 1981) repeatedly conclude that pull factors of foreign markets are more important relative to push factors in Canada. In many cases this is true. However, Canadian conditions should not always be perceived as negatively forcing investment elsewhere. For example, Michael Porter (1990) indicates that positive home country characteristics can act as important catalysts to FDI.

2.3 History of FDI

Early studies suggest FDI was beneficial because it took advantage of monopoly power. Soon afterward models of FDI stressed the role of imperfect markets in promoting FDI. Later models examined MNEs ability to increase earnings by exploiting market power in international markets.

How we perceive FDI began with Steven Hymer’s pioneering contribution. It transferred concentration on neo-classical trade and investment theory towards analysis of the MNE. Hymer (1970) argued that MNEs exist in cases where economies of interdependent activities cannot be achieved. Hymer emphasised that advantages could
be realised by the common control of activities across national borders. In particular, he noted the increase in a company’s market power.

Although Hymer was aware why firms established foreign subsidiaries (as compared to selling or licensing the rights to a product-internalisation), it appears that he only partially adopted the full meaning of market imperfection. He failed to make the distinction between structural and transaction cost market imperfections. Structural imperfections occur where barriers to competition exist, or where economies of interdependent activities cannot be entirely realised. Conversely, transaction cost imperfections arise wherever information about the product or service being marketed is unavailable, or is costly to acquire. Hymer dedicated his entire research to examining only structural imperfections. “Unfortunately, by concentrating on structural imperfections and ignoring transaction cost market imperfections, he excluded one of the main driving forces for growth of firms” (Dunning and Rugman, 1975, 42). In today’s international business environment, structural imperfections are less significant than they were during Hymer’s days. Instead, transaction cost market imperfections have become increasingly vital in the international production of today.

2.3.1 John Dunning-Explaining International Production

Hymer’s work initiated a shift in emphasis on research from the act of investing to the individual firm making the investment. In the 1970’s, research centred on explaining why FDI was beneficial to the individual company. The major approach that arose from this period was John Dunning’s Eclectic Paradigm.
In his book, *Explaining International Production*, John Dunning (1991) examined significant conditions that influence foreign production by a firm. Where does FDI take place? How does FDI occur? Why do firms invest in another country? Earlier studies had addressed these questions, but never concurrently. In 1976, at a symposium on the International Allocation of Economic Activity, Dunning first presented a model that satisfied these questions. He called it the Eclectic Paradigm.

The principle hypothesis on which the eclectic paradigm is based suggests that a firm will engage in FDI if and when three conditions are satisfied. These conditions are:

1. The firm possesses organisational advantages vis-à-vis firms of other nationalities in serving particular markets. These organisational advantages largely take the form of the possession of intangible assets or of the common ownership, which are, at least for a period of time, exclusive or specific to the firm possessing them.

2. Assuming condition one is satisfied, it must be more beneficial to the enterprise possessing these advantages to use them (or their output) rather than to sell or lease them to foreign firms. These advantages are called internalisation advantages.

3. Assuming conditions one and two are satisfied, it must be in the global interest of the enterprise to utilise these advantages in conjunction with at least some factor inputs (including natural resources) outside its home country; otherwise foreign markets would be served entirely by exports and domestic markets by domestic production. These advantages are termed the locational advantages of countries.

(Dunning, 1991, 26)

1) *Ownership Advantages*

Ownership advantages of MNEs represent the first building blocks of the Eclectic Paradigm. For a firm to invest in another country, it must possess advantages that make it competitive in the foreign market because the unfamiliar environment will increase risk
in legal, business, and cultural matters. Ownership advantages allow the firm to overcome these barriers.

There are three types of ownership advantages. The first is the advantage a firm enjoys over a rival in the same location. Access to markets or raw materials not available to competitors, the size of the firm (may generate scale economies), or the exclusive possession of intangible assets (management skills, marketing skills, and patents) are advantages a firm enjoys over a rival in the same location. The second ownership advantage results from the firm being a branch of a national enterprise. Cheaper inputs, knowledge of markets, and low research and development expenses are associated with belonging to a larger organisation. The third advantage arises from the multinationality of a company. These advantages occur when a firm is able to exploit superior resources associated with different countries.

2) Internalisation

A firm's competitive situation depends not only on its ownership advantages, but also on the desire and ability of an enterprise to internalise these ownership advantages. Internalisation is the procedure by which MNEs preserve their ownership advantages by establishing a foreign subsidiary rather than leasing or selling firm organisational advantages (Dunning, 1991). By using markets internal to the firm, the MNE can reduce uncertainty and transaction costs and generate knowledge more efficiently.

Transactions may be carried out through markets (horizontal, arm's length) and hierarchies (vertical, relying on ongoing relationships). Some transactions are well suited to being carried out through markets. Others are not. The latter include ones with high
information content for which property rights may be difficult to establish, or for which close relationships are needed to communicate practices which may be difficult to codify, or ones where there is a danger of opportunism (a purchaser may be vulnerable to manipulation by a supplier of a critical component). In such cases a firm obtains an advantage by internalising transactions which might otherwise be carried out in arm's length markets.

The incentive to internalise occurs when market imperfections provide benefits to internal markets as compared to external ones. Examples of internalisation might include the transfer of management expertise by sending managers overseas to work in foreign offices of a corporation (an internalised operation) rather than writing down the management expertise and selling it in the market in the form of how-to-manuals. A second example may be the purchasing by an aluminium company of a bauxite firm (internalising the transaction that moved bauxite) to avoid opportunism on the part of the bauxite firm.

3) Locational Advantages

Locational advantages determine which countries are hosts to MNE production. Lorraine Eden (1993) groups locational advantages into three classes: economic, social and political. Economic advantages are based on a country’s possession of labour, capital, technology, management skills, and natural resources. Market size and transportation and communications also make a host country economically attractive. Social advantages involve psychic distance between countries. Language, culture, and business customs can have important implications on the decision to invest in a country.
Political advantages are defined as the host nation's approach to FDI. Attitudes toward FDI can significantly affect the attractiveness of a region or country. Barriers to entry, tax differences, and investment regulations significantly affect decisions made by multinational enterprises (Eden 1993).

**Dunning further analysed**

Although individual elements of the Eclectic Paradigm were previously studied, never before had they been incorporated into one model. This constitutes a great strength in Dunning's theory. He took it a step further by explaining that all three sets of advantages are to be taken into account simultaneously. Therefore, organisational, locational and internalisation advantages must interact with each other for FDI to occur. For example, locational advantages and country differences may create incentives to internalise. At the same time internalisation creates further organisational advantages.

**Empirical Evidence of Dunning**

Dunning derived much of his theoretical framework from surveys and interviews. His work has primarily concentrated on manufacturing, but recently has included services in the examination of FDI. This section summarises three of his studies.

In 1958, Dunning surveyed one hundred and fifty American subsidiaries in the UK. The survey covered all aspects of their operations e.g. organisational form and patterns of decision making. From this study Dunning revealed ownership, internalisation, and benefits of investing in UK (country specific advantages). Ownership advantages of US firms in 1958 were: the ability to innovate goods and services, superior management skills, and the capacity to exploit large scale and homogeneous markets.
Dunning concluded that a vast majority of these US firms internalised these organisational advantages to exploit economies of scope. This occurs when a firm producing more than one product is likely to enjoy production or cost advantages when it produces two or more products. These advantages could result from the joint use of inputs or production facilities, joint-marketing programs, or savings realised from common administration. Economies of scope are important because they allow the firm to take advantage of the segmented industries that are prominent in today’s business.

American firms invested specifically in UK for two main reasons. First, UK labour commanded lower wages than US workers at the time. Second, UK possessed a growing market for US products. Together these benefits outweighed the scepticism of investing in an unfamiliar business environment. Geographically, US investment was in Southeast UK (especially the suburbs of London) with the pharmaceutical and vehicle sectors accounting for a large percentage of this investment.

Dunning undertook a similar study on Japanese investment in the UK in 1983. Japan was chosen because Japanese firms were just beginning to make their presence felt in the UK. Dunning’s survey included 22 of the 26 Japanese subsidiaries in UK. Again Dunning looked at this investment in the context of ownership, internalisation, and country specific factors. Ownership advantages of Japanese firms included: efficient work organisation, use of latest equipment, ability to differentiate products from rivals, and a comprehensive system of quality control. These advantages, coupled with aggressive marketing, allowed Japanese firms to compete with Western rivals in the UK. Dunning concluded that Japanese firms engaged in FDI as compared to contractual work
(internalise their ownership advantages) with UK firms to ensure full quality control over intermediate and final products, rationalise markets (and eventually production) in Europe, benefit from co-ordinating activities, and protect property rights. Again country specific advantages centred on lower wage rates in the UK and a growing market for Japanese products. Unlike US in 1950, Dunning found that Japanese investment was spread out across UK. Wales was particularly favoured by Japanese affiliates with consumer electronics and vehicle sectors being important.

Dunning also completed a case study on the hotel industry in 1978. He undertook the study because he wanted to examine competitive advantage in the international hotel industry. He found a number of ownership advantages that supported the hotel’s decision to invest abroad. Most importantly were the intangible assets and logistical skills (management skills, marketing skills, etc.) learned from previous involvement in the hotel business. These skills and assets can be used by a newly associated hotel at a smaller transaction cost than a new entry into the hotel business. Dunning also found that management of staff and foodstuffs was usually superior. When added to the advantage of scale economies, these services can often be supplied at lower costs. Finally, Dunning determined that superior organisational expertise led to a number of benefits.

Given the relative organisational advantages, location specific advantages for investing a hotel in a particular area include: factors determining the volume, kind, and rate of growth of tourism; availability of appropriate infrastructure for tourism e.g. transport and communication; availability and quality of hotel inputs; government policy towards FDI; and political, social, and economic stability of a country.
The final aspect of the Eclectic Paradigm that Dunning looked at was internalisation advantages. He found two main reasons why a hotel would retain control of influence over its resources as compared to selling the rights to someone else. Most importantly, goals of the parent company seeking to maximise world-wide profits or growth may not always agree with those of an affiliate. In some instances an affiliate may be more interested in local needs rather than what is beneficial to the parent company. The local firm may be more interested in local needs. Secondly, it knows how to manage the resources of a hotel better than a contractual firm does.

2.3.2 Michael Porter-Competitive Advantage of Nations

Changes to the economic climate in the 1980’s, led to a new perspective on FDI. A business approach was adopted and the focus of study centred on value adding activities of MNEs. At the time, Dunning did not incorporate the idea of adding value in his paradigm. This allowed Michael Porter’s (1990) theory of the National Diamond to emerge as the generally accepted model.

Value Added and the Value Chain

Value added is commonly known as the value of a firm’s outputs minus the value of a firm’s inputs. Porter takes this traditional definition a step further by linking value added to competitive advantage. Similar to productivity, value added is based on the ability of firms to raise product quality, add more desirable features, improve product technology or raise production efficiency. Productivity is a measure of the effectiveness of combining materials and forces (inputs, factors, resources, or productive services) in the creation of a good or service. In other words, higher productivity and higher value
added can lead to competitive advantage. Higher value added and higher productivity increase a nation’s standard of living that Porter claims to be the economic goal of every nation. Porter (1990,2) suggests that “a nation’s standard of living rests on the ability of its firms to improve quality and increase efficiency”. Individual firms can improve quality and increase efficiency by altering the value chain.

The introduction of the just in time (JIT) inventory management system, popularised by Japanese automakers, is an example of how a firm can increase efficiency by altering the value chain. The concept behind JIT is that raw materials must be delivered to the production process just in time to be used. As a result, firms do not carry large inventories, thereby saving financing and storage costs. These savings may be passed on to the buyer or redistributed to a separate component of the value chain. For example, a warranty could be granted for a certain period of time. This after sale service improves the quality of the product.

The concept of the value chain (figure 2.1) may be used to explain why firms set up plants in foreign countries. Lorraine Eden (1994) suggests the reasons may be internally driven (either by product requirement or the nature of overall firm requirements) or externally motivated (by strategic interactions with rival firms or by government regulations). The value chain groups activities performed by a firm into two categories: those involved in ongoing production, marketing, delivery, and customer servicing of the product (primary activities), and those providing purchased inputs, technology development, human resources, or overall infrastructure functions to support other activities (support activities).
Porter believed that the competitive advantage of a firm grows out of the way firms link the independent activities of the value chain. To gain competitive advantage over its rivals, a firm must either provide comparable buyer value but perform activities in the value chain more efficiently than its competitors (lower cost), or perform activities in a unique way that creates greater buyer value and commands premium price (differentiation). The final good or service, or the value created for the consumer, depends on those activities that the firm incorporates into their value chain. Perhaps an example will clarify this point. There are two lumberyards in the town of Walkerton. Both Home Hardware and Walkerton Building Products sell similar goods. But Walkerton Building Products decided to provide a service of free delivery for purchases greater than 50 dollars. In other words, Walkerton Building Products incorporated free
delivery into their value chain. Savings realised by purchasing raw materials at a lower
cost could absorb the added expense of free delivery. Since customers valued this
service, Walkerton Building Products enjoyed a competitive advantage when compared
to Home Hardware. This allowed greater control over the local lumber market.

2.3.3 Competitive Advantage and the National Diamond

In his book *Competitive Advantage of Nations*, Michael Porter concluded that
outward FDI is a source of national competitive advantage. He argued that FDI allows the
home nation to boost domestic productivity provided it shifts least productive activities
abroad. If a nation’s firms can specialise in more productive industries and export
products to their subsidiaries, FDI can boost national income. An example is the move of
less sophisticated electronics assembly from Japanese firms to Thailand and Malaysia.

FDI is a source of competitive advantage for nations. FDI can strengthen the national
diamond by teaching skills not present in the home market. Serving the foreign market
will keep domestic firms familiar with global needs. This in turn will stimulate the
development of better products and services. However, Porter advises against the over­
reliance on foreign technology. Constantly accepting important foreign inputs may hinder
innovation in the home country.

Porter attempted to understand the factors that explain why certain countries
become world leaders in certain activities, or put another way, “why firms based in some
nations are able to create and sustain competitive advantage against the world’s best
competitors in a particular field” (Porter, 1990, 2). Central to Porter’s theory of national
advantage was the firm. Firms that have flourished globally are those that were able to compete in the domestic market and able to extend their home base advantages into the global market.

According to Porter, there are four determinants of a nation that shape the environment in which local firms compete. “The four determinants, individually and as a system, create the context in which a nation’s firms are born and compete: the availability of resources and skills necessary for competitive advantage in an industry; the information that shapes what opportunities are perceived and the directions in which resources and skills are deployed; the goals of the owners, managers, and employees that are involved in or carry out competition; and more importantly, the pressures on firms to invest and innovate” (Porter, 1990, 71). They are:

1) **Factor Conditions**

   Factors of production are the possessions of a nation. Porter defined them as inputs (labour, arable land, natural resources, capital, and infrastructure) necessary to compete in an industry. Existence of factors of production does not necessarily lead to competitive success. A country must utilise the resources it possesses to innovate and improve. This will allow the firm to eventually attain higher order factors.
Porter made the important distinction between factors of production inherited and factors of production created. "Those factors most important in achieving higher order and more sustainable competitive advantage, the more advanced and specialised ones, are created" (Porter, 1990, 73). Unskilled labour and natural resources are basic factors inherited. Advanced factors, which are created, include communications, infrastructure, and highly educated personnel. Since advanced factors are not easily replicated, they are more likely to produce sustainable competitive advantage than basic factors.

A deficit in certain factors does not necessarily mean that a firm will not be competitive. In fact, a lack of basic factors may force a firm to create factors of production. The result is a firm's competitive advantage upgrading to become more sustainable. Porter provides the example of the Italian steel industry in the Brescia region to prove his point. He showed how steel producers were faced with high capital, energy, and transportation costs, as well as a lack of raw materials. The result has been the creation of mini-mills, in which Brescia steel producers have emerged as global leaders. Modest capital investment, less energy, and scrap metal as input are required for mini-mills. This has allowed producers to locate production closer to markets and sources of scrap (Porter, 1990).

2) Demand Conditions

The second determinant of the national diamond is home demand for the industry's product or service. Porter believed this is essential for a firm to sustain competitive advantage because home demand can pressure domestic firms to innovate and improve. Three characteristics of home demand are significant. The first is the nature
of buyers needs. To clarify this point Porter compared Japanese consumers to American consumers. Japanese consumers are difficult to please which gives Japanese companies an edge investing abroad in high quality goods. The US market on the other hand demands convenience, and that has transferred into American dominance in multinational business in services such as fast food. The second is the size and pattern of growth of home demand. This can lead to competitive advantage in industries where there are economies of scale. The final characteristic, which describes the significance of home demand, is how domestic preferences are transmitted to foreign markets. It is advantageous for a firm if homebuyers anticipate the needs of other nations.

3) Related and Supporting Industries

Related and supporting industries provide important advantages as well. Competitive advantage emerges from close working relationships between world class suppliers and buyers. Flow of information between industries allows both sides additional information to make better decisions. Porter believed that efficient and rapid information from related or supplying industries provide a greater opportunity to upgrade and innovate.

This point of the diamond is vital to creating industry clusters. A cluster is a group of competing, related or supporting industries conducting business in the same area. The nature of the diamond promotes the clustering of a nation’s competitive industries. As stated earlier, a nation’s successful industries are frequently linked, either through vertical(buyer/seller) or horizontal(common clusters, technology, channels) integration.
Concentration of internationally successful industries often occurs because geographic proximity increases the influence of individual elements of the National Diamond. Suppliers and related industries often surround domestic rivals. They help firms perceive new methods and new technology necessary to be competitive domestically and internationally. Ideas flowing back and forth increase the chance for innovation. Local suppliers are also best positioned for co-operation with industry research and development. As evidence, Porter explained how Sweden is internationally competitive in many products associated with the pulp and paper industry. Pulp machines, paper machines, drying machines, and wood-handling machines are examples of supporting industries that invested internationally and have emerged to become globally competitive. The same holds true for German industries associated with iron and steel.

4) Firm Strategy, Structure, and Rivalry

The final point of the diamond, firm strategy, structure, and rivalry, is perhaps the most important. Firm advantages result from a good match between the goals, strategies, and the ways of organising a firm. Rivalry also plays a significant role for the international success of domestic firms. Intense rivalry breaks the dependence on basic factor advantages because local rivals have them as well. Firms are forced to create higher order advantages. If these firms engage in FDI, their advanced factors will make them competitive against their foreign rivals. This returns to the earlier point that if a firm is to sustain competitive advantage, it is better to possess advanced factors rather than rely on basic factors.
Geographically, competitors of internationally successful industries are often located close to each other. "The information flow, visibility, and mutual reinforcement within such a locale" force firms to improve and innovate (Porter, 1990, 156). Proximity decides the speed of information flow within the industry. At the same time, it limits information spread outside the region because communication takes forms (face to face contact) that diffuse slowly. Proximity raises the visibility of competitor behaviour. Pressure to remain competitive provides the incentive to innovate. The result is a number of domestic firms that would be competitive if they invest abroad. As evidence, Porter provides a few examples. Many of America's leading advertising agencies are concentrated on Madison Avenue in New York City. The headquarters of computer manufacturers Control Data, Cray Research, and Honeywell are all located in Minneapolis, Minnesota. Leading facsimile makers such as Canon, Ricoh, Minolta, Konica, Matsushita, Sharp, Toshiba, NEC, Oki, and Fujitsu call Japan home.

The Role of Government and Chance

Porter completed his model with the addition of two variables that will affect the diamond but are outside the control of the firm: the role of government and chance. He described chance events as technological breakthroughs, wars, or major shifts in foreign market demand. Also outside the power of the individual firm is the political climate. It is argued that specific government policies can greatly improve or inhibit the national advantage. For example, governments can use tariffs as an entry barrier, or it can use subsidies as an indirect method of penalising foreign firms. In both cases, domestic firms benefit in terms of competitive advantage.
John Dunning and Michael Porter

It is important to note that Dunning’s Eclectic Paradigm and Porter’s National Diamond are still the most dominant models with respect to FDI. Porter seeks to understand why some industries based in particular nations are able to create and sustain competitive advantage in foreign markets. He does this by analysing the home nation. On the other hand, Dunning concentrates on how FDI occurs. To do this, he uses characteristics from both home and host nations. While the two models are similar in many respects, they are still quite distinct. Taken together, Dunning’s and Porter’s paradigms could be even more powerful than they already are.

Dunning’s approach starts with the assumption that the firm must possess an organisational advantage that provides the incentive for FDI. Porter’s National Diamond explains how these organisational advantages originate. Thus, the two paradigms used as complementary paradigms come closer to providing a complete conceptual geographical model of FDI than does either one separately. The Canadian financial industry centred in Toronto provides an example. First the National Diamond could explain how regional factors, related and supporting industries, and rivalry of the Toronto area explain this phenomenon. Next, Dunning’s Eclectic Paradigm summarises the advantages why Canadian firms should invest in a foreign country (internalise Porter’s advantages) as compared to selling or leasing to foreign firms. Diversifying assets and achieving economies of scale are reasons why Canadian financial institutions decide to invest abroad. Finally, the Canadian companies must decide where to invest. Put another way, what makes New York, Tokyo, and London attractive to Canadian financial institutions?
Examining the geographic distribution of outgoing FDI can test Porter’s National Diamond. Do spatial patterns exist, especially with respect to the standard industrial classification of Canadian investments? Rivalry would suggest that firms in the area have been forced to create higher order advantages making them competitive in the global market. If the firms have remained dependent upon factors of production inherited from the region for competitive advantage, maybe a better explanation for the abundance of an industry is the result of factor conditions. Similarly, related and supporting industries can be empirically tested. By examining the type of investment, related firms originating from a specific Canadian region would support Porter’s hypothesis that close association with related and supporting industries leads to competitive advantage.

Dunning’s Eclectic Paradigm can be tested by examining the geographic distribution of outgoing FDI as well as the geographic distribution of the destination of investment in the United States. Is FDI in a particular industry primarily bound for one or two cities? Does one region appear less attractive to Canadian investors? Why does this occur? Dunning’s locational advantages would suggest that FDI is primarily due to the socio-economic advantages of the region. The logit model of chapter 4 empirically tests the locational advantages of Dunning’s Eclectic Paradigm.

2.4 Evidence for FDI

Evidence on motives for undertaking FDI takes two main forms: surveys in which managers are asked to explain their motivations for FDI, and statistical studies of FDI from which motives for investment are hypothesised from available data. The following section summarises previous research that utilises these forms of data collection.
2.4.1 Survey Evidence of FDI

A majority of studies that focus on the geography of Canadian investment use a survey approach. A survey allows specific questions to be addressed. Why Canadian firms are motivated to invest abroad can then be deduced.

Knubley, Krause, and Sadeque (1991) surveyed twenty-three Canadian firms with direct investments. Seventeen factors that influence foreign investment were rated in order of importance. The need for expansion, trade barriers, and transportation costs were particularly important. Factors that appeared unimportant in the survey included supplementing exports, forward and backward integration, and Canadian taxes and regulations. Knubley, Krause, and Sadeque conclude that their findings support previous studies, particularly with respect to pull factors in the foreign environment rather than to push factors in Canada.

Prem Gandhi (1990) examined Canadian owned subsidiaries in northern New York state. His survey grouped motives to invest in northern New York into: locational factors; market considerations; and production/cost considerations. Gandhi concluded that Canadian companies invest in New York state because it is considered a gateway to the rich US market. Furthermore, Canadian companies can locate between the economic heartland of the two countries while still remaining close to their parent companies in Ontario or Quebec. Pulling factors of little importance included: availability of cheap, trainable labour (because the companies involved in this study employ small number of people); availability of industrial space at reasonable costs for initial investment but also for future expansion; and incentives by the New York government.
Ilan Vertinsky and Rachana Raizada (1994) completed a case study of FDI by MacMillan Bloedel. This case study summarised how MacMillan Bloedel has evolved from a company dependent upon large export markets, to a multinational firm with subsidiaries world-wide. Through an examination of MacMillan Bloedel's FDI, they found three reoccurring themes: securing resources through backward integration; securing markets through forward integration in order to gain the benefits of economies of scale; and risk reduction.

In many cases, survey methods are used to determine why Canadian direct investment occurs. The most significant reason for undertaking a survey approach to determine motivations for FDI is the level of detail. For instance, Knubley, Krause, and Sadeque were able to select twenty-three relevant firms that provided useful information for the study. At the same time the researchers were able to ask specific questions why the firm decided to invest in a foreign country.

Unfortunately, there are numerous reasons why the survey method is not the best practice when determining the object of FDI. Most importantly, carrying out a survey is expensive. This procedure is usually uneconomical for a Masters student. Secondly, firms may be less than candid in their responses, which obviously affects conclusions. Third, it is difficult to obtain a sufficient sample size for statistical inference.

As Meyer and Green (1996) point out, there are other dominant reasons that make the survey method inadequate. A large company bias is difficult to avoid when conducting surveys. The case study on MacMillan Bloedel by Ilan Vertinsky and Rachana Raizada is a good example. MacMillan Bloedel is one of Canada's most
established international companies. While it serves their purpose it lacks the reasoning behind small firms investing abroad. Even those studies that do take into account smaller Canadian firms, lack statistical methods to confirm results (as has been done with non-Canadian studies). This thesis uses a data set provided by the United States Department of Commerce to make statistical inferences for a wide variety of Canadian firms and investors.

2.4.2 Statistical Evidence

Steven Meyer and Milford B. Green (1996) combined information from Dun and Bradstreet’s International Who Owns Whom, Foreign Direct Investment in the United States Completed Transactions provided by the United States Department of Commerce, and Dun’s Marketing Services’ America’s Corporate Families and International Affiliates to produce a data set of over 4500 examples of Canadian FDI. After determining where Canadians invested they used regression analysis to determine why Canadians invested there. They concluded that Canadian FDI is most attracted to large foreign markets, countries that are well-established trading partners with Canada, and favourable labour conditions. Furthermore, countries with strong historical ties to Canada and a positive political attitude toward foreign investment are likely to receive a disproportionate amount of Canadian direct investment. In many instances though, analysing FDI in the United States through regression is not as beneficial as other statistical methods. For example, a logit model yields the added benefit of a discrete dependent variable rather than a continuous dependent variable. By using a number of characteristics in different regions the logit model displays the probability of FDI occurring in a certain area. This
study uses the logit model and thus overcomes the shortcomings of Meyer and Green's study.

Soneshwar, Rao, Marc Legault, and Ashfaq Ahmad (1994) assessed the performance of Canadian-based multinationals from 1986 to 1991 and analyzed the effect on Canada. The study used macroeconomic data from Industry Canada and Statistics Canada. Using sales growth, asset growth, employment growth, capital productivity, R&D intensity (R&D/sales ratio), and average rate of return on assets they concluded that the growth and profitability of outward-oriented Canadian firms is significantly better than the performance of domestically oriented firms. In a majority of industries, the average growth of sales, assets, and productivity (measured by the sales to assets ratio) of outward-oriented firms was substantially higher than for domestically oriented firms. Outward-oriented firms also outperformed domestically oriented firms in terms of return on capital and research and development intensity. It is a strong summary of Canadian multinational companies from 1986 to 1991. Unfortunately, it would have been advantageous for the investigation to encompass a longer time period. The signing of the Free Trade Agreement between Canada and the United States might have affected Soneshwar, Rao, Legault, and Ahmad's conclusions. Even they acknowledge the dependence of Canada's MNEs on the United States as a destination for direct investment. Surely they would also acknowledge that their findings would be modified had they investigated Canadian MNEs over a longer period of time.

While there is a limited number of statistical analyses of Canadian investment, a number exist on FDI in the United States. Most notable to this research is the study
completed by Coughlin, Terza, and Arromdee (1991). Using a conditional logit model they analyse the location decisions of foreign investors in manufacturing firms in the United States from 1981-1983. Using state characteristics, they conclude that states with higher per capita income, higher densities of manufacturing industries, higher unemployment rates, extensive transportation infrastructures, greater expenditures on promoting foreign investment and "surprisingly" higher unionisation rates attracted a large portion of investment. On the other hand, states with higher wages, and higher taxes discouraged FDI.

Coughlin, Terza, and Arromdee (1991) used International Trade Administration data which distributes FDI in the United States into several categories: new plant, merger and acquisition, joint venture, equity increase plant expansion, real property, and other. Unfortunately the authors aggregated all seven categories into one. This is a severe limitation of the study. It is inappropriate to conclude that characteristics of a location have similar effects on the decision to invest in a new plant as on a plant expansion.

Friedman, Fung, Gerlowski, and Silberman (1996) followed by examining the aggregation bias in Coughlin, Terza, and Arromdee (1991). The similar study using a conditional logit model concluded that disaggregating the data does lead to "marked differences existing between the location preferences of those investing in new manufacturing plants and those investing in mergers and acquisitions" (Friedman, Fung, Gerlowski, and Silberman, 1996, 367). For example, unemployment rate is significant for new plants but not significant for acquisitions and mergers. This makes sense because labour availability is an issue for new plants while it is not for acquisitions.
2.5 Consequences of FDI

Certain patterns of FDI are seen as improving the ability of domestic firms to compete in international markets. In the case of a small economy like Canada’s, outward FDI is particularly important. Access to larger markets allows Canadian companies to exploit economies of scale and specialise in certain products. This yields greater profits unattainable to Canadian firms if they exclusively produce for the domestic market.

Increased employment opportunities for highly educated personnel are a spin-off of FDI. Research and development, industrial design, and marketing are activities usually associated with the home country. In 1995, Northern Telecom spent 1.75 billion dollars on research and development. This translates into a number of highly skilled Canadian jobs inconceivable if production was purely for the domestic economy.

In his book, Canada at the Crossroads, Michael Porter (1991) makes an argument for Canadian investment in the United States. He argues that foreign operators, particularly in the US market, can strengthen the Canadian national diamond by teaching skills not present in Canada. Serving a sophisticated market like the US will also keep Canadian firms familiar with global needs. This in turn will stimulate the development of better products and services. However, Porter advises against the over-reliance on foreign technology. Constantly accepting foreign information may hinder the promotion of innovation in the home country.

2.6 Conclusion

Although research on FDI has progressed a great deal, limitations still remain. Previous studies contain a lack of harmonisation among conclusions associated with FDI.
Conflicting explanations of outward FDI indicate that further studies are necessary. Methodological, geographical, and temporal inconsistencies across studies make it difficult to determine the motives for investment. For example, Vertinsky and Raizada maintain that backward and forward linkages were the most important reasons for MacMillan Bloedel investing abroad. On the other hand, Knubley, Krause, and Sadeque conclude backward and forward linkages were insignificant reasons for investing abroad. Future research is needed to address these deficiencies.

With the increase in technology and converging cultures, one may argue that geography plays a decreasing role in foreign investment. But I believe the opposite is true. Predicting or explaining FDI can only be enhanced with further concentration on geography.

This chapter has examined the previous literature on Canadian FDI. However, it has been pointed out that a large portion of this research has a study has ignored the geography of competitive industries within Canada and where they locate internationally. The following chapter addresses this by examining Canadian “clusters” as well as revealing the destination of Canadian FDI in the United States.
CHAPTER 3

AN ANALYSIS OF THE SPATIAL DISTRIBUTION OF CANADIAN FDI

It was not until the late 1970's that Canada began to establish direct investment in foreign countries on a broad scale. Figure 3.1 shows how this investment has exploded since the early 1980's. By 1997, Canadian multinationals increased their FDI to an all time high of 142 billion dollars (all totals are adjusted for 1986 dollars). On the other hand, the amount of FDI in 1987 amounted to only 79 billion dollars. This translates into an increase of 80% over ten years.

Source: Statistics Canada (1997)

note: adjusted for 1986 dollars
3.1 Sector Analysis of Canadian Direct Investment

For a long time, Canadian FDI has been associated with natural resources. Although this description is still accurate, recent figures indicate that resources account for a decreasing portion of Canadian investment. Resources and resource based manufacturing industries still account for over 35% (Statistics Canada, 1997). However, figure 3.2 reveals the increasing importance of financial services.

Deregulation of domestic financial markets, technological innovation, increased speed of capital circulation and integration of financial markets on a world scale have contributed to the dramatic increase in the importance of the financial sector in foreign investment. However, a considerable amount of international finance can not be captured because much of this service sector's data does not exist in hard copy format. This makes researching international financial investment difficult. When it becomes easier to track international financial investment, better methods of hypothesis testing will emerge to answer questions about this sector of FDI. Michael Porter has pushed conventional thinking in the right direction by examining services on a global scale. But Porter's theory still falls short because a limited portion of his evidence is devoted to the financial industry.

32% of FDI was concentrated in the financial sector at the end of 1997. The financial sector amount encompasses chartered banks and credit unions, trust companies, consumer intermediary companies, investment intermediaries, real estate, holding companies, insurance, and other (commodity brokers, stock exchange, and investment dealers). Metallic minerals and metal products were the next largest sector, accounting
for 15% of total investment. As disclosed in figure 3.2, the remaining Canadian investment was widely diversified through other industrial sectors (Statistics Canada, 1997).

![Canadain Investment Abroad by Industry 1997](image)

**figure 3.2 CANADIAN INVESTMENT ABROAD BY INDUSTRY 1997**

- financial 32%
- food aliments 5%
- energy 8%
- construction 3%
- chemical 3%
- communication 8%
- metals 16%
- other 26%

Source: Statistics Canada (1997)

3.2 Geographical Distribution of Canadian Direct Investment

The United States is a dominant destination for Canadian direct investment (figure 3.3). Canadian companies invested 76.5 billion dollars (52% of total investment) in the United States in 1997. This is an all time low, and a large decrease from a peak of 68.5% of total investment in 1980 (Statistics Canada, 1997).

Following a distant second is the European Community. The European Community’s share of FDI is 21% (more than doubled in the past ten years). The United Kingdom is the most important host country in the European Community and second most important in the world. Previous studies (Meyer and Green, 1996) link this
significant amount to historical ties. From figure 3.3, one can see that United Kingdom captured 10% of Canadian FDI.

Investment in Asia has taken off with the rapid economic growth in that region, despite a small base. As a whole, the Asia Pacific region accounts for 10% of total Canadian FDI. This has increased from 7% in only five years. Japan, Singapore, and Hong Kong continue to play major roles in this region.

The remaining "other" category encompasses mostly developing nations. While the vast majority of Canadian investment ended in industrial countries, the share directed towards developing countries has increased since 1990. In only five years the portion of Canadian FDI in developing countries rose from 14% in 1992 to 21% 1997. In dollar terms, Canadian investment in developing nations rose from 16.19 billion dollars in 1992 to 35.22 billion dollars in 1997.

![Figure 3.3: Canadian FDI by Geographic Area 1997](image)

As supported by figure 3.4, Canadian FDI has diversified into world markets. While the proportion of Canadian investment in the United States has declined since 1980, the United States is still the dominant recipient of Canadian FDI. Therefore, when
conducting research on Canadian investment, it seems logical to analyse the destination with which Canadian FDI has the greatest association.

**Figure 3.4** GEOGRAPHICAL DISTRIBUTION OF CANADIAN DIRECT INVESTMENT ABROAD 1987-1997

Source: Statistics Canada (1997)
Note: adjusted for 1986 dollars
3.3 The Study Defined, the Data Used, and the Limitations

In order to meet the objectives of the research, the study is divided into two parts. First, this chapter analyses where Canadian FDI originates in Canada and where it ends up in the United States. From this information, the following chapter seeks to determine why FDI is destined for certain areas of the United States.

The information presented here is acquired from the United States Department of Commerce’s *Foreign Direct Investment in the United States, Completed Transactions*. The Department of Commerce gathered investments over $100,000 from public sources, transaction participants, federal regulatory agencies, and miscellaneous contacts. The federal regulatory agencies include the Securities and Exchange Commission, the Federal Trade Commission, and the Federal Reserve Board. Some of the information was also acquired from secondary sources such as newspapers, magazines, and business and trade journals.

This annual publication identifies contributions of FDI in the United States made during a given year. It is a comprehensive publication listing a total of 2133 transactions of Canadian FDI in the United States from 1974 to 1994. The name of the American business entity in which the foreign investment was made, the American city and state in which the investment takes place, the standard industrial classification (SIC) of the American entity, the name of the person or business who made the investment, the value of investment, the year the foreign investment takes place, and the type of investment are commonly provided.

For a complete geographical analysis, information relating to the source of the Canadian investment is important. Unfortunately *Foreign Direct Investment in the United States, Completed Transactions* provides only the name and the country of the foreign investor. In other words, the metropolitan location of the Canadian investor was not supplied. Therefore, additional journals and CD ROMs were consulted to match the head office location with the names of Canadian firms. Journals such as *Canadian Key*

Unfortunately, a number of the 2102 transactions from Foreign Direct Investment in the United States, Completed Transactions are missing important information. While the SIC, American state, and year are always provided, the American city, value of investment, and Canadian location are not in some cases. In addition the set of 2102 transactions includes FDI in the form of new plants, acquisition/mergers, joint ventures, equity increases, plant expansion, and real estate. It was determined that plant expansions and equity increases were unnecessary for this study because they offer little insight in the determination of what attracts Canadian FDI to the United States. This type of investment is simply added to an already existing location. In addition, the samples constructed for this analysis used real estate investments only when it was apparent that the real estate purchase was intended for future industrial or commercial output.

The result is the construction of seven samples with the breakdown revealed in figure 3.5. Sample A is the largest collection of Canadian FDI in the United States. It consists of 1268 transactions. The SIC, American destination, Canadian province of origin, and year of investment are known. It is the amalgamation of FDI in the form of new plants, acquisition/mergers, joint ventures, and real estate. On the other hand, the value of investment is not always provided.

Similar to Sample A, Sample B contains the SIC, American destination, Canadian source, type, and year the investment took place. Sample B is also the amalgamation of FDI in the form of new plants, acquisition/mergers, joint ventures, and real estate. The only additional piece of information provided in Sample B is the size of investment.
Figure 2.5 A Breakdown of the Various Samples

Sample A
- includes all investments from FDI Completed Transactions 1974-1994
- where the Canadian take-off point, American destination, SIC, year, and type of investment is known
- # of observations = 1268

Sample B
- includes all investments in Sample A
- where value of investments are known
- # of observations = 601

Sample C
- includes all investments in Sample B
- with exception of 4 extreme investments
- # of observations = 597

Sample D
- large investments
- all FDI from Sample B>54 million
- # of observations = 188

Sample E
- small investments
- all FDI from Sample B<54 million
- # of observations = 407

Sample F
- all FDI from Sample B where type of investment is acquisition/merger
- # of observations = 349

Sample G
- all FDI from Sample B where type of investment is new plant/joint venture/real estate
- # of observations = 248
The result is a decrease in sample size to 601 transactions for Sample B.

Consisting of 597 observations, Sample C is exactly as Sample B except that four extreme investments have been omitted. This was completed to see how the four transactions affect the results. These transactions were selected because they were drastically different from common transactions in that industry. For example, Robert Campeau acquired two department stores for 4.3 billion dollars in 1996 and 8.8 billion dollars in 1988. When the average investment in the retail trade industry amounted to 45 million dollars, it becomes evident how distinct these two transactions are.

Sample B is further separated into large investments (Sample D) and small investments (Sample E). Sample D, consisting of 188 observations, includes all investments over and including 54 million dollars (1986 dollars). Sample E, consisting of 407 observations, includes FDI under 54 million dollars (1986 dollars). Sample B is also separated into two groups to get Sample F and Sample G. Sample F includes all FDI that is either an acquisition or merger. Sample G includes all FDI that is a new plant, joint venture, or real estate.

In the building of the samples, a number of limitations were difficult to avoid. Most significantly, identical conditions were difficult to maintain in the compilation of data over the twenty-year study period. Information provided by recent editions of Foreign Direct Investment in the United States, Completed Transactions is more comprehensive than twenty years ago. Since older transactions are missing more information, the samples are likely to assign recent years a greater portion of transactions than the preceding years.
In addition, a bias was difficult to avoid when obtaining the source of FDI. Over time many of the sources employed in the recovery of the Canadian investor have improved the quality of information they provide. Furthermore, CD ROMs used for the recovery of information are a relatively recent phenomenon. As a result, greater emphasis has been placed on recent transactions. For example, it was difficult to recover useful information for the study if a company made an investment in 1977 and has ceased operations since. On the other hand, it was possible to recover information on a similar company that made a transaction in 1994.

3.4 The Dynamics of Canadian Investment in the United States

As stated in chapter 1, Canadian FDI in the United States has only recently emerged as an important phenomenon. Due to this dramatic turn of events, interest has escalated to better understand why this has occurred. The object of this section is to understand why investment has expanded by examining when investment has taken place.

Investment between the two countries has experienced a number of highlights over the twenty-year study period. Table 3.1 reveals lofty investments in the late 1970’s and early 1980’s while a decline of investment is evident in the early 1990’s. If simply examining transactions, the 1980’s dominated with 67%. While more balance exists when examining annual FDI in dollar terms, the 1980’s were still the most important years. 1981 witnessed the greatest single year investment total over the twenty-year period with 13.62 billion dollars invested. 1988 had the second greatest FDI total with 12.17 billion dollars followed by 1986 with 6.9 billion dollars.
Table 3.1 - Annual Canadian FDI in the United States

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Transactions</th>
<th>Percentage of Total Transactions</th>
<th>Amount of Known investment (in millions)</th>
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</thead>
<tbody>
<tr>
<td>1974</td>
<td>17</td>
<td>0.8</td>
<td>588.9</td>
</tr>
<tr>
<td>1975</td>
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<td>89.6</td>
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<td>1.0</td>
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<tr>
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<tr>
<td>1980</td>
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<td>11.6</td>
<td>4746.6</td>
</tr>
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<tr>
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<td>52</td>
<td>2.5</td>
<td>924.3</td>
</tr>
<tr>
<td>1992</td>
<td>33</td>
<td>1.6</td>
<td>400.1</td>
</tr>
<tr>
<td>1993</td>
<td>42</td>
<td>2.0</td>
<td>3007.2</td>
</tr>
<tr>
<td>1994</td>
<td>61</td>
<td>2.9</td>
<td>3467.6</td>
</tr>
</tbody>
</table>

Source: FDI In the United States: Completed Transactions (1974...1995)
Note: adjusted for 1986 dollars

The early 1980’s experienced a significant number of transactions. After several years of rapid increases in transactions, table 3.1 displays a peak of 280 transactions in 1981. This year represents over 13% of transactions that took place from 1974 to 1994. After the early 1980’s, the number of transactions encountered a slow steady decline until the early 1990’s.

In contrast to the highs encountered by the 1980’s, the early 1990’s signalled a marked decline in additional contributions to Canadian FDI in the United States. Why did this occur? Probably the best explanation for this trend is the recession of the late
1980's and early 1990's. The rebound experienced by 1993 and 1994 further backs up this business cycle explanation.

Still, some experts would argue that this trend corresponds closely with the signing of the Free Trade Agreement. Relaxing trade restrictions between the United States and Canada initially reduces the need for FDI. The data displayed in table 3.1 actually supports the traditional theory of FDI. This view states that a firm will first export to a market, and if successful, FDI follows. This does not mean that exports will stop. They may only change in nature. For example, the FDI may be an assembly plant, so that instead of exporting a finished good, the parts are exported with final assembly taking place in the foreign location. This would result in an initial decrease in FDI after signing of the Free Trade Agreement but eventually cause an expansion of investment in the United States. As evidence, one can see the rebound from the sag in transactions of the early 1990's to the increased number of transactions of 1993 and 1994.

Another possible explanation of investment trends over time may be attributed to exchange rates. The common belief is that foreign firms are able to purchase foreign assets and technology cheaply when the foreign dollar is weak. On the other hand, studies completed by the likes of Kohlhagen (1977) reject a relationship between FDI and exchange rates because the price of foreign assets should not matter, only the rate of return. When a foreign country's currency depreciates, not only the price of foreign assets, but also the rate of return decreases. Figure 3.6 appears to support the argument that foreign investment and exchange rates are not related. A correlation between the number of transactions and the exchange rate over the 21-year study period is not present.
3.5 Geographic View of Destinations for Canadian Investment in the United States

The next step is to examine the destination of Canadian FDI in the United States. After determining if any spatial patterns exist, it becomes possible to hypothesise why such investment takes place. In order to carry out this experiment, geographical distribution of FDI in the United States at the state and municipal level will be analysed. Sample B will be the sample consulted to analyse the source and destination of investment. Sample B was selected because it possesses the greatest number of transactions where the Canadian source, American destination, and size of investment are known.
Table 3.2a – Distribution of Canadian FDI Across the United States

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Subsidiaries</th>
<th>% of Total Subsidiaries</th>
<th>Amount of Known Investment (millions)</th>
<th>Average Amount Invested (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>15</td>
<td>2.9</td>
<td>2077.2</td>
<td>138.5</td>
</tr>
<tr>
<td>Maine</td>
<td>4</td>
<td>0.8</td>
<td>11.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>15</td>
<td>2.9</td>
<td>903.6</td>
<td>60.2</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>2</td>
<td>0.4</td>
<td>369.9</td>
<td>18.5</td>
</tr>
<tr>
<td>Vermont</td>
<td>5</td>
<td>1.0</td>
<td>25.8</td>
<td>5.2</td>
</tr>
<tr>
<td>New England</td>
<td>41</td>
<td>8.0</td>
<td>3387.8</td>
<td>82.6</td>
</tr>
<tr>
<td>Delaware</td>
<td>6</td>
<td>1.2</td>
<td>4167.2</td>
<td>694.5</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>4</td>
<td>0.8</td>
<td>373.5</td>
<td>93.4</td>
</tr>
<tr>
<td>Maryland</td>
<td>10</td>
<td>2.0</td>
<td>169.5</td>
<td>17.0</td>
</tr>
<tr>
<td>New Jersey</td>
<td>12</td>
<td>2.3</td>
<td>591.7</td>
<td>49.3</td>
</tr>
<tr>
<td>New York</td>
<td>74</td>
<td>14.5</td>
<td>11788.5</td>
<td>159.3</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>22</td>
<td>4.3</td>
<td>1629.8</td>
<td>74.1</td>
</tr>
<tr>
<td>Mid East</td>
<td>128</td>
<td>26.0</td>
<td>18720.2</td>
<td>146.3</td>
</tr>
<tr>
<td>Illinois</td>
<td>18</td>
<td>3.5</td>
<td>1934.3</td>
<td>107.5</td>
</tr>
<tr>
<td>Indiana</td>
<td>2</td>
<td>0.4</td>
<td>26.7</td>
<td>13.4</td>
</tr>
<tr>
<td>Michigan</td>
<td>17</td>
<td>3.3</td>
<td>1473.3</td>
<td>86.7</td>
</tr>
<tr>
<td>Ohio</td>
<td>22</td>
<td>4.3</td>
<td>11444.2</td>
<td>520.2</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>6</td>
<td>1.2</td>
<td>1025.8</td>
<td>171.0</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>65</td>
<td>12.7</td>
<td>15904.3</td>
<td>244.7</td>
</tr>
<tr>
<td>Iowa</td>
<td>1</td>
<td>0.2</td>
<td>394.6</td>
<td>394.6</td>
</tr>
<tr>
<td>Kansas</td>
<td>2</td>
<td>0.4</td>
<td>427.9</td>
<td>214.0</td>
</tr>
<tr>
<td>Minnesota</td>
<td>8</td>
<td>1.6</td>
<td>1083.3</td>
<td>135.4</td>
</tr>
<tr>
<td>Missouri</td>
<td>10</td>
<td>2.0</td>
<td>1098.1</td>
<td>109.8</td>
</tr>
<tr>
<td>Nebraska</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>North Dakota</td>
<td>2</td>
<td>0.4</td>
<td>75.9</td>
<td>38.0</td>
</tr>
<tr>
<td>South Dakota</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Plains</td>
<td>23</td>
<td>4.5</td>
<td>3079.8</td>
<td>133.9</td>
</tr>
</tbody>
</table>

Note: adjusted for 1986 dollars

Tables 3.2a and 3.2b reveal the distribution of FDI across the United States. As one can see it is not a random pattern. A large portion of the investment is destined for eastern United States, especially Northeastern United States. FDI in the Mid-east region of 18.72 billion dollars and 15.9 billion dollars in the Great Lakes region indicates that
over 60% of the total are invested in these two regions. New York and Ohio are the two states behind this disproportional investment.

Table 3.2b– Distribution of Canadian FDI Across the United States

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Subsidiaries</th>
<th>% of Total Subsidiaries</th>
<th>Amount of Known Investment (millions)</th>
<th>Average Amount Invested (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>11</td>
<td>2.1</td>
<td>1016.5</td>
<td>92.4</td>
</tr>
<tr>
<td>Arkansas</td>
<td>1</td>
<td>0.2</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Florida</td>
<td>25</td>
<td>4.9</td>
<td>1961.2</td>
<td>78.4</td>
</tr>
<tr>
<td>Georgia</td>
<td>10</td>
<td>2.0</td>
<td>626.6</td>
<td>62.7</td>
</tr>
<tr>
<td>Kentucky</td>
<td>9</td>
<td>1.8</td>
<td>489.0</td>
<td>54.3</td>
</tr>
<tr>
<td>Louisiana</td>
<td>5</td>
<td>1.0</td>
<td>98.8</td>
<td>19.8</td>
</tr>
<tr>
<td>Mississippi</td>
<td>3</td>
<td>0.6</td>
<td>128.7</td>
<td>42.9</td>
</tr>
<tr>
<td>North Carolina</td>
<td>18</td>
<td>3.5</td>
<td>782.8</td>
<td>43.5</td>
</tr>
<tr>
<td>South Carolina</td>
<td>4</td>
<td>0.8</td>
<td>128.5</td>
<td>32.1</td>
</tr>
<tr>
<td>Tennessee</td>
<td>8</td>
<td>1.6</td>
<td>63.8</td>
<td>8.0</td>
</tr>
<tr>
<td>Virginia</td>
<td>10</td>
<td>2.0</td>
<td>220.8</td>
<td>22.1</td>
</tr>
<tr>
<td>West Virginia</td>
<td>2</td>
<td>0.4</td>
<td>4.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Southeast</td>
<td>106</td>
<td>20.7</td>
<td>5523.9</td>
<td>52.1</td>
</tr>
<tr>
<td>Arizona</td>
<td>6</td>
<td>1.2</td>
<td>341.1</td>
<td>56.9</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1</td>
<td>0.2</td>
<td>35.7</td>
<td>35.7</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>8</td>
<td>1.6</td>
<td>321.7</td>
<td>40.2</td>
</tr>
<tr>
<td>Texas</td>
<td>35</td>
<td>6.8</td>
<td>2392.1</td>
<td>68.3</td>
</tr>
<tr>
<td>Southwest</td>
<td>50</td>
<td>9.8</td>
<td>3090.6</td>
<td>61.8</td>
</tr>
<tr>
<td>Colorado</td>
<td>19</td>
<td>3.7</td>
<td>1884.5</td>
<td>99.2</td>
</tr>
<tr>
<td>Idaho</td>
<td>2</td>
<td>0.4</td>
<td>102.2</td>
<td>51.1</td>
</tr>
<tr>
<td>Montana</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Utah</td>
<td>4</td>
<td>0.8</td>
<td>113.5</td>
<td>28.4</td>
</tr>
<tr>
<td>Wyoming</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Rocky Mountain</td>
<td>25</td>
<td>4.9</td>
<td>2100.2</td>
<td>84.0</td>
</tr>
<tr>
<td>Alaska</td>
<td>5</td>
<td>1.0</td>
<td>157.4</td>
<td>31.5</td>
</tr>
<tr>
<td>California</td>
<td>51</td>
<td>10.0</td>
<td>3378.4</td>
<td>66.2</td>
</tr>
<tr>
<td>Hawaii</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Nevada</td>
<td>7</td>
<td>1.4</td>
<td>1396.3</td>
<td>199.5</td>
</tr>
<tr>
<td>Oregon</td>
<td>1</td>
<td>0.2</td>
<td>24.9</td>
<td>24.9</td>
</tr>
<tr>
<td>Washington</td>
<td>10</td>
<td>2.0</td>
<td>465.6</td>
<td>46.6</td>
</tr>
<tr>
<td>Far West</td>
<td>74</td>
<td>14.5</td>
<td>8422.8</td>
<td>73.3</td>
</tr>
</tbody>
</table>

Source: FDI In the United States: Completed Transactions (1974...1995)
Note: adjusted for 1986 dollars

While FDI in New York and Ohio is impressive in Sample B, it should be noted that a few abnormal investments have inflated the totals. The businessman behind two of
these large investments was Robert Campeau, a real estate tycoon from Toronto. In 1986, he acquired Allied Stores Corporation in New York City for 4.3 billion dollars. Two years later, Campeau spent 8.8 billion dollars to acquire Federated Department Stores whose headquarters were in Cincinnati. Another party behind large investments was the Bronfman family. In 1993, they purchased a portion of New York based Time-Warner for 1.5 billion dollars. While these transactions account for a large portion of Canadian FDI in New York and Ohio, much of this money will flow out of the region. For example, many of Allied Stores Corporation outlets were located throughout Northeastern U.S.A.

Inflated monetary investment in certain states is an important issue that needs explanation. Although not established by the Department of Commerce it appears that the data source recognises investments only by their head office location. Ensuing locations will not be acknowledged. For example, it may be identified that Roots Canada invests 150 million dollars in New York City. Unfortunately the data does not recognise that a considerable portion of this investment will be used to establish a number of retail stores over Northeastern United States and maybe over the entire country. This is a major limitation of the data. Policy makers attempting to lure an individual retail outlet need to be aware of those factors that attract a retail outlet and not a head office.

As displayed in table 3.3, New York City was the most popular metropolitan destination for FDI. 39 transactions gave it 53% of the state of New York’s investment while 9.5 billion dollars gave New York City over 15% of entire FDI in the United States. What may be more significant is the type of investment New York City attracts. Figure 3.7 compares municipal industry investment patterns for New York City to
national activity investment. It does this by taking the percentage of investment in a specific industry in a specific city and compares it to the percentage of investment in that same industry for the entire nation. For example, retail trade accounts for over 60% of FDI in New York City while it accounts for only 30% of FDI for the United States. This recognises the importance of New York City as a destination for FDI in retail trade. Also attracted to New York City are finance, insurance, and real estate, as well as services. Finance, insurance, and real estate accounts for over 10% of FDI in New York City while services account for over 20%.

**Table 3.3 - Top American City Destinations for Canadian FDI**

<table>
<thead>
<tr>
<th>American City</th>
<th>Number of Transactions</th>
<th>% of State Total</th>
<th>Amount Invested (in millions)</th>
<th>Average Amount invested (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York, NY</td>
<td>39</td>
<td>52.7</td>
<td>9500.2</td>
<td>243.6</td>
</tr>
<tr>
<td>Houston, Tx</td>
<td>18</td>
<td>51.4</td>
<td>1502.2</td>
<td>83.5</td>
</tr>
<tr>
<td>Denver, Co</td>
<td>14</td>
<td>73.7</td>
<td>1552.3</td>
<td>110.9</td>
</tr>
<tr>
<td>Chicago, Il</td>
<td>10</td>
<td>55.6</td>
<td>1715.5</td>
<td>171.6</td>
</tr>
<tr>
<td>Philadelphia, Pa</td>
<td>10</td>
<td>45.5</td>
<td>1144</td>
<td>114.4</td>
</tr>
<tr>
<td>Cleveland, Oh</td>
<td>10</td>
<td>45.5</td>
<td>629.9</td>
<td>63.0</td>
</tr>
<tr>
<td>Los Angeles, Ca</td>
<td>8</td>
<td>15.7</td>
<td>1602.6</td>
<td>200.3</td>
</tr>
<tr>
<td>Detroit, Mi</td>
<td>7</td>
<td>41.2</td>
<td>863.7</td>
<td>123.4</td>
</tr>
<tr>
<td>St. Louis, Mo</td>
<td>7</td>
<td>70.0</td>
<td>192.9</td>
<td>27.6</td>
</tr>
<tr>
<td>Wilmington, De</td>
<td>6</td>
<td>100.0</td>
<td>4167.2</td>
<td>694.5</td>
</tr>
<tr>
<td>Stamford, Ct</td>
<td>6</td>
<td>40.0</td>
<td>716.7</td>
<td>119.5</td>
</tr>
<tr>
<td>Atlanta, Ga</td>
<td>6</td>
<td>60.0</td>
<td>545.2</td>
<td>90.9</td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td>6</td>
<td>33.3</td>
<td>165.8</td>
<td>27.6</td>
</tr>
<tr>
<td>Niagara Falls, NY</td>
<td>6</td>
<td>8.1</td>
<td>119.5</td>
<td>19.9</td>
</tr>
<tr>
<td>Minneapolis, Mn</td>
<td>5</td>
<td>62.5</td>
<td>424.1</td>
<td>84.8</td>
</tr>
<tr>
<td>Phoenix, Az</td>
<td>5</td>
<td>83.3</td>
<td>278.4</td>
<td>55.7</td>
</tr>
<tr>
<td>Seattle, Wa</td>
<td>5</td>
<td>50.0</td>
<td>117.2</td>
<td>23.4</td>
</tr>
<tr>
<td>Dallas, Tx</td>
<td>5</td>
<td>14.3</td>
<td>93.8</td>
<td>18.8</td>
</tr>
<tr>
<td>Miami, Fl</td>
<td>4</td>
<td>16.0</td>
<td>163.8</td>
<td>41.0</td>
</tr>
<tr>
<td>San Francisco, Ca</td>
<td>4</td>
<td>7.8</td>
<td>38.9</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Note: adjusted for 1986 dollars
Where,

- 0111-0971 represents agriculture, forestry, and fishing industries;
- 1011-1499 represents the mining industry;
- 1521-1799 represents the construction industry;
- 2011-3999 represents the manufacturing industry;
- 4011-4971 represents transportation and public utilities;
- 5012-5199 represents wholesale trade;
- 5211-5999 represents retail trade;
- 6011-6799 represents finance, insurance, and real estate;
- 7011-8999 represents services;
- and 9111-9721 represents public administration.

In comparison to New York City, Sample B reveals that the rest of New York State receives a remarkable amount of FDI in the manufacturing sector. Of the 35 transactions received by the rest of the state, 24 transactions are in the manufacturing sector. Figure 3.8 reveals the disproportionate share of investment concentrating in manufacturing when compared to the nation as a whole. This type of activity is less appealing to policy makers attempting to become more competitive.
The importance of the Great Lakes region as a destination for FDI is displayed in table 3.2a. With the exception of Indiana, every state received a large quantity of FDI. Chicago was the most popular destination for investment in this region. The city received 10 of the 18 transactions for Illinois, which resulted in 1.72 of the 1.93 billion dollars invested. In other words, Chicago accounted for almost 90% of the total investment in Illinois. Figure 3.9 reveals that 66% of investment in Chicago was directed towards transport and communications. Chicago also captured a disproportional amount of finance, insurance, and real estate. Michigan received 17 transactions worth 1.47 billion dollars. Not surprisingly, Detroit led the way with 7 of these transactions worth 863.7 million dollars. Even less surprising was the fact that four of these transactions were associated with the automotive industry.
With its geographic location, it could be expected that Northeastern United States is an important location for FDI. As pointed out by Kindleberger (1969), one of the fundamental conditions of FDI is that a firm must expect a higher return in the foreign market than local firms. A firm must expect greater profit because of the additional costs imposed of locating in a foreign country. Friction of distance results in a number of additional costs. Since Northeastern United States is extremely close to the economic heartland of Canada, it is not surprising that investors find it attractive to locate in this region. A close proximity decreases the direct costs of communication and travel as well as opportunity costs of less accurate decision-making. In addition, the close proximity to a large US market has made this an ideal location for investment.

Recent research on the distribution of FDI in the United States has argued that even though investments are predominantly located in the industrial heartland of the
Mid-east and Great Lakes states, a new preference for the Southeast, Southwest, and Far West has emerged. Over a decade ago, J.S. Little (1980) pronounced that this shift had occurred in the distribution of FDI in the United States. Using only the number of transactions, figure 3.10 appears to support Little’s argument. Unfortunately by solely using number of new foreign manufacturing constructions, Little could not account for the magnitude of FDI. Using Sample B, figure 3.11 unveils Northeastern United States as the most important region when analysing monetary FDI in each region. To produce useful information, research on FDI should take into account magnitude of investments.

While the 601 transactions compiled in Sample B supports Little’s notion that the Southeast is an important region, table 3.2b uncovers how the 5.52 billion dollars invested relegates the Southeast a distant third behind the Mid-east region and the Great Lakes region. Florida was the state that received the most substantial FDI in the region attracting 25 transactions worth 1.96 billion dollars. Investment is spatially scattered throughout Florida with Miami and Jacksonville receiving the most significant investment. The two cities received 3 and 4 transactions respectively, with Miami’s accumulating to more money.

North Carolina, with 18 transactions valued at 782.8 million dollars, and Alabama with 11 transactions worth 1.01 billion dollars, play important roles in the southeastern region as well. Similar to Florida, investment in Alabama and North Carolina is evenly spread throughout the state. In fact, table 3.3 shows how Atlanta is the only city to receive a significant amount of investment in the Southeast region. Atlanta, the largest city in Georgia received 6 transactions worth 545.2 million dollars of investment.
Figure 3.10 Geographical Distribution of Transactions Across the United States - Using Sample B
Figure 3.11  Geographical Distribution of Monetary Investment Across the United States - Using Sample B
Examination of the Southwest and the Far West reveal that the two regions maintain similar characteristics. Firstly, each region has one state that acts as a magnet to investment. California and Texas are the third and fourth most important states for the entire country in attracting Canadian transactions. Secondly, as pointed out by Little, these two regions have emerged to attract a significant number of transactions in recent years.

![Diagram of Canadian Investment in Los Angeles by Industry](image)

California leads the Far West region with 51 transactions worth 3.37 billion dollars. Investment in California is the most spatially diversified in the entire sample. Los Angeles received 8 transactions worth 1.60 billion dollars, most of which figure 3.12 shows were concentrated in the manufacturing sector. Newport Beach was a surprising second most important destination in California with 6 transactions. It must be acknowledged that all investment destined for Newport Beach totalled a meagre 22.2
million dollars. With 4 transactions, table 3.3 displays that San Francisco was also a significant Californian destination for Canadian FDI.

Washington was the second most attractive state in the Far West region receiving 10 transactions worth 465.6 million dollars. 50% of these transactions ended in Seattle. Washington is a good example how FDI is attracted to a large metropolitan area not far removed from the source. A large portion of Washington’s investment originated in Alberta and British Columbia. Nevada was also an important state in the Far West region attracting 1.39 billion dollars of investment and 7 transactions. Interestingly all FDI in Nevada concentrated in minerals.

The Southwest region is dominated by the state of Texas. In the sample Texas attracted 35 transactions worth 2.39 billion dollars. Houston led Texas with 18 transactions valued at 1.5 billion dollars. As figure 3.13 reveals, a significant portion of this investment concentrated in the minerals and transport and communications sectors. Upon closer examination of the minerals sector, it becomes apparent that investment in minerals was localised in the oil and gas industry. Dallas plays an important role in Texas as well, housing 5 transactions worth 93.8 million dollars. Unlike Houston, investment in Dallas was diversified over a number of industries.

While the Southeast, Southwest, and Far West regions are significant in attracting FDI, they do not appear to be as important as Little suggests. By solely using transaction totals from the sample, the Southeast and the Far West appear to be as important as any other region in attracting investment. But when the value of the investment is incorporated, Northeastern United States emerges as a superior destination.
With the Plains region attracting only 23 transactions worth 3.08 billion dollars and the Rocky Mountain region attracting only 25 transactions valued at 2.1 billion dollars, these two regions are the least important areas for luring FDI. Colorado, with 19 transactions worth 1.88 billion dollars, is the only state in either of these two regions that receives a significant amount of FDI. A large portion of this is concentrated in the city of Denver. Figure 3.14 reveals the importance that Canadian mining companies place on Denver as a destination for FDI. In fact, mining accounts for over 90% of Denver’s investment total.

Surprisingly, with its close proximity to Canada’s economic engine, New England is unable to attract much more FDI than the Plains or the Rocky Mountain regions. Connecticut is by far the most important destination with 15 transactions valued at 2.07
billion dollars. The city of Stamford receives a large portion of this investment with 6 transactions.

3.6 Geographic View of the Origin of Canadian Investment in the United States

The spatial distribution of the sources of Canadian FDI in Sample B is much more polarised than the distribution of its destination in United States. While a few regions in the United States do attract a large portion of FDI, for the most part, it is spread throughout. In contrast, outgoing FDI is concentrated in a few regions. Ontario and Quebec are by far the most important provinces as a source of outgoing investment. The two provinces account for 77% of transactions and 87% of total money invested in the United States in the sample. Alberta and British Columbia also play a significant roles, accounting for almost 100 transactions between the two. This is almost 20% of the total
transactions. The remaining six provinces account for a limited amount of FDI. In fact, the remaining six provinces are a source of only 17 transactions that account for only 2% of monetary investment.

**Table 3.4 – Provincial Source for Canadian FDI**

<table>
<thead>
<tr>
<th>Canadian province</th>
<th>Number of transactions</th>
<th>Portion of total Canadian transactions</th>
<th>Amount invested (in millions)</th>
<th>portion of total Canadian investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>43</td>
<td>8.4</td>
<td>1133.0</td>
<td>1.98</td>
</tr>
<tr>
<td>Alberta</td>
<td>55</td>
<td>10.7</td>
<td>3634.8</td>
<td>6.35</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>2</td>
<td>0.4</td>
<td>9.1</td>
<td>0.02</td>
</tr>
<tr>
<td>Manitoba</td>
<td>9</td>
<td>1.8</td>
<td>1116.8</td>
<td>1.95</td>
</tr>
<tr>
<td>Ontario</td>
<td>240</td>
<td>46.9</td>
<td>32346.7</td>
<td>56.52</td>
</tr>
<tr>
<td>Quebec</td>
<td>157</td>
<td>30.7</td>
<td>18834.2</td>
<td>32.91</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>1</td>
<td>0.2</td>
<td>91.0</td>
<td>0.16</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>3</td>
<td>0.6</td>
<td>11.2</td>
<td>0.02</td>
</tr>
<tr>
<td>PEI</td>
<td>2</td>
<td>0.4</td>
<td>53.0</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Note: adjusted for 1986 dollars

With 240 transactions, table 3.4 indicates Ontario retaining 47% of all transactions. Table 3.4 also suggests that since the province invested 32.35 billion dollars, Ontario actually maintains 57% of Canada’s FDI. From table 3.5 it is evident that outward FDI from Ontario is spread throughout the southern part of the province. Toronto is the principal municipality with 153 transactions valued at 28.65 billion dollars over the twenty-year study period.
Table 3.5 – Metropolitan Source for Canadian FDI

<table>
<thead>
<tr>
<th>Canadian City</th>
<th>number of transactions</th>
<th>Portion of provincial total</th>
<th>amount invested (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto</td>
<td>153</td>
<td>63.8</td>
<td>28654.9</td>
</tr>
<tr>
<td>Montreal</td>
<td>135</td>
<td>86.0</td>
<td>18085.3</td>
</tr>
<tr>
<td>Calgary</td>
<td>43</td>
<td>78.2</td>
<td>2860.4</td>
</tr>
<tr>
<td>Vancouver</td>
<td>35</td>
<td>81.4</td>
<td>1040.4</td>
</tr>
<tr>
<td>Ottawa</td>
<td>15</td>
<td>6.3</td>
<td>601.5</td>
</tr>
<tr>
<td>Edmonton</td>
<td>12</td>
<td>7.5</td>
<td>774.4</td>
</tr>
<tr>
<td>Markham</td>
<td>10</td>
<td>4.2</td>
<td>681.4</td>
</tr>
<tr>
<td>Winnipeg</td>
<td>9</td>
<td>69.2</td>
<td>1116.8</td>
</tr>
<tr>
<td>Marrieville</td>
<td>8</td>
<td>5.1</td>
<td>196.9</td>
</tr>
<tr>
<td>Hamilton</td>
<td>5</td>
<td>2.1</td>
<td>479.8</td>
</tr>
<tr>
<td>North York</td>
<td>4</td>
<td>1.7</td>
<td>423.8</td>
</tr>
<tr>
<td>Whitby</td>
<td>4</td>
<td>1.7</td>
<td>336.3</td>
</tr>
<tr>
<td>Burlington</td>
<td>4</td>
<td>1.7</td>
<td>54.9</td>
</tr>
<tr>
<td>Kitchener</td>
<td>4</td>
<td>1.7</td>
<td>43.2</td>
</tr>
<tr>
<td>Kanata</td>
<td>4</td>
<td>1.7</td>
<td>19.3</td>
</tr>
</tbody>
</table>

Note: adjusted for 1986 dollars

Figure 3.15 shows how FDI originating from Toronto specialises in retail as well as finance, insurance, and real estate. The figure is similar to those indicated earlier in that it compares a city’s investment to national activity investment patterns. It does this by taking the percentage of outgoing investment in a specific industry from a specific city and compares it to the percentage of total outgoing FDI in that same industry for the entire nation. For example, finance, insurance, and real estate represents almost 15% of outgoing FDI from Toronto in Sample B. At the same time, this sector only represents 8% of total outgoing FDI for the entire country. This signals Toronto’s concentration in finance, insurance, and real estate as a source of FDI. Figure 3.15 also reveals that a considerable amount of FDI in the manufacturing industry originates in Toronto. Over 55% of all investment is in the manufacturing sector. From figure 3.15 it is also apparent that retail trade is a third industry that Toronto specialises in. Since Toronto maintains
50% of Canada's outgoing FDI, figure 3.15 somewhat masks the importance of Toronto in some sectors.

Where,
- 0111-0971 represents agriculture, forestry, and fishing industries;
- 1011-1499 represents the mining industry;
- 1521-1799 represents the construction industry;
- 2011-3999 represents the manufacturing industry;
- 4011-4971 represents transportation and public utilities;
- 5012-5199 represents wholesale trade;
- 5211-5999 represents retail trade;
- 6011-6799 represents finance, insurance, and real estate;
- 7011-8999 represents services;
- 9111-9721 represents public administration.

With 15 transactions worth 601.5 million dollars, Ottawa is Ontario's second most important source for FDI. Of the investment originating in Ottawa, 6 transactions worth 163.7 million dollars or 27% involves the computer industry. Since Ottawa is
known as Canada’s Silicon Valley these results are not unexpected. In addition, over 20% of outgoing FDI from Ottawa is concentrated in transportation and public utilities while this sector only represents 7% of total outgoing FDI for the entire country. This suggests that Ottawa specialises in related and supporting industries to the computer industry. These findings support Porter’s National Diamond theory.

The province of Quebec also plays a significant role in outward-bound FDI. The province has a total of 157 transactions, or 30% of the Canadian total. In addition, investment amounted to 18.83 billion dollars, or 33% of the national total. Unlike Ontario, almost all of Quebec’s investment is concentrated in one city. Table 3.5 denotes the importance of Montreal, which accounts for 86% of Quebec’s investment. Figure 3.17 reveals how manufacturing accounts for almost 65% of outward Montreal investment. While it does not play as significant a role as manufacturing, figure 3.17
reveals how transport and communications accounts for over 10% of Montreal's total FDI.

![Montreal Investment in the US by Industry](image)

Firms engaging in FDI in Western Canada appear to utilise the area's natural resources as basic advantages. As Porter would argue, Western Canada's endowment of basic factors plays a role in the competitive advantage of the region's firms. Alberta and British Columbia clearly take advantage of their factor endowments to provide a large quantity of FDI. Figure 3.18 reveals the importance placed on the mining industry. While mining accounts for less than 10% of the nation's FDI in the sample, it accounts for over 30% of Western Canada's outgoing investment. Figure 3.18 also reveals the importance that Western Canada places on the agricultural, forestry and fishing industries when compared to the rest of the country.
Even though the number of transactions initiated from British Columbia and Alberta are not comparable with Ontario and Quebec, they are still very important. Figure 3.18 displays the distribution of FDI among industries originating from these two provinces. Alberta secured 55 transactions worth 3.63 million dollars. Alberta is dominated by the city of Calgary with almost 80% of the provinces total transactions. The importance of the oil and gas industry is exhibited in figure 3.19. Edmonton follows a distant second, with 17% of the provinces total transactions. While the mining industry is important to Edmonton as well, figure 3.20 displays how the capital of Edmonton’s FDI in the United States is concentrated in metal mining.

British Columbia is the source of 43 transactions that totalled 1.13 billion dollars. Similar to Alberta, British Columbia is dominated by one city as a source of investment. With 35 transactions in the sample, Vancouver accounts for over 80% of outgoing British
Where,

1011-1099 represents metal mining;
1211-1241 represents coal mining;
1311-1389 represents oil and gas extraction;
and 1411-1499 represents non-metallic minerals, except fuels
Columbia FDI. Vancouver is also dependent upon basic factors to create competitive advantage. Figure 3.21 reveals how Vancouver concentrates in the mining industry when compared to the rest of Canada.

The Maritimes is the least important of all regions in Canada. Together New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island account for 155.2 million dollars. Stellarton Nova Scotia was the only city with multiple transactions in the entire sample.

3.7 Relationships

The last section of this chapter considers spatial associations between Canada and the United States. From an FDI standpoint it locates the parent company in Canada as well as the subsidiary location in the United States. It examines regional, province-state, and city to city relationships.
In addition to comprising a small percentage of the national total, Eastern Canadian investment was also highly localised in Northeastern United States. In fact, 10 of the 14 subsidiaries by the Maritimes are located in either the New England or Mid-east regions. Even more specific, 6 of the 14 found a final destination in the closest state, Maine.

Table 3.6 - Regional Relationships between Canada and the United States - As a Percentage of the Canadian Region’s Transactions

<table>
<thead>
<tr>
<th>Region</th>
<th>Western Canada</th>
<th>Ontario</th>
<th>Quebec</th>
<th>Maritimes</th>
</tr>
</thead>
<tbody>
<tr>
<td>New England</td>
<td>3.1</td>
<td>7.1</td>
<td>12.1</td>
<td>50.0</td>
</tr>
<tr>
<td>Mid East</td>
<td>15.3</td>
<td>30.8</td>
<td>24.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>5.1</td>
<td>15.4</td>
<td>13.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Plains</td>
<td>3.1</td>
<td>3.3</td>
<td>8.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Southeast</td>
<td>15.3</td>
<td>19.2</td>
<td>28.9</td>
<td>16.7</td>
</tr>
<tr>
<td>Southwest</td>
<td>15.3</td>
<td>8.3</td>
<td>8.1</td>
<td>16.7</td>
</tr>
<tr>
<td>Rocky Mountain</td>
<td>17.3</td>
<td>2.1</td>
<td>1.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Far West</td>
<td>25.5</td>
<td>13.8</td>
<td>3.4</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Note: adjusted for 1986 dollars

Western Canadian FDI in the United States follows a similar pattern. Both Alberta and British Columbia’s favourite destination for investment in Sample B was in the Far West region. In fact, the Far West region accounted for over a quarter of total transactions for these two regions. Interestingly though, only two states were dominated by FDI coming from Western Canada. Nevada received 5 of its 7 transactions from British Columbia and Alberta. Colorado is another good example. 7 transactions
originating in Alberta, 6 transactions initiated by British Columbia, 1 transaction coming from Manitoba, and 5 transactions coming from Ontario ended up in Colorado.

Ontario and Quebec's FDI appears to be more diversified; yet it favours neighbouring regions as well. Thus, the Mid-east, Southeast and Great Lakes regions receive the greatest number of transactions from Quebec and Ontario. Ontario dominated transactions ending in Michigan. In fact 16 of the 17 transactions ending in Michigan came from Ontario. Similarly, Ontario dominated transactions in New Jersey, with 9 of the 12 transactions. New York also received a large portion of transactions from Ontario with 52 of the 74 transactions coming from the province. Even more significant was the fact that 88% of transactions ending in New York state originated in Ontario or Quebec. Similarly, Illinois, Connecticut, Massachusetts, Maryland, and Ohio are dominated by transactions that originated in Ontario or Quebec.

As one can see, a number of relationships are evident between the source and destination of Canadian FDI in the United States. What role does geography play in these relationships? Are these relationships the direct result of distance between the Canadian investor and the investment? Or does the explanation go further than this? Are the relationships a result of the American destination specialising in the specific industry, or could it be that the American destination possesses advantages that are attractive to a number of industries? This section only explored where the sources and destinations for Canadian FDI in the United States are. The following chapter explores why these relationships occur.
CHAPTER 4
DATA ANALYSIS

The previous chapter summarised the destination of Canadian FDI in the United States based on a sample of 601 investments from 1974 to 1994. By comparing characteristics of individual states, this chapter attempts to explain why FDI is attracted towards certain regions and not others. In other words, this analysis explores the third aspect of Dunning’s Eclectic Paradigm, location advantages.

4.1 The discrete choice model

As pointed out in the previous chapter, the data used in this study was collected from Foreign Direct Investment in the United States, Completed Transactions. Among other benefits, this publication identifies individual transactions. This is an important consideration when researching FDI because it recognises the behaviour of specific foreign investors.

When individual transactions are known, discrete choice analysis is an excellent research method. This technique allows the researcher to consider how particular investments choose among discrete locations. Consequently, discrete choice analysis is well suited to the data provided by Foreign Direct Investment in the United States, Completed Transactions.

To properly apply a discrete choice model, the following principles must be met. First, the number of options in the choice set must be finite. Second, the options are mutually exclusive, which means each investment can end in only one state. Finally, all
potential selections must be included, in this case all fifty states and the District of Columbia.

To determine those factors that attract FDI, discrete choice analysis uses the principle of utility maximisation. This means that an investor will acquire some satisfaction or "utility" from choosing to locate in each state (Train, 1986). Mathematically, $U_{in}$ represents the utility that investor $n$ obtains from investing in state $i$ in the set of all states ($J_n$). This utility is a function of the characteristics of a state as well as the characteristics of the investor. The vector of all relevant attributes of state $i$ are identified as $x_{in}$ and the vector of all relevant attributes of investor $n$ are identified as $r_n$. Since $x_{in}$ and $r_n$ encompass all pertinent characteristics, total utility can be written as:

$$U_{in} = F(x_{in}, r_n) \text{ for all } i \text{ in } J_n$$

If it were conceivable to know all the pertinent factors ($x_{in}$, $r_n$) that make up an investor's utility, it would be possible to predict where a Canadian will invest. This is because investors are assumed to choose the alternative with the highest utility. Unfortunately, obtaining all relevant factors that explain an investor's utility is unreasonable. To account for this, $x_{in}$ is separated into all measurable characteristics of state $i$, denoted $z_{in}$, as well as all characteristics of state $i$ that can not be measured. Also, $r_n$ is divided into all measurable characteristics of investor $n$, denoted $S_n$, as well as all characteristics of investor $n$ that can not be measured. This separates the formula $F(x_{in}, r_n)$ into two parts. The first component is a combination of those factors that the researcher observes, as well as a vector of parameters to be estimated. This is called the
systematic utility and designated \( F(z_{in}, S_{in}, \beta) \). The second component denotes all factors of utility that are called random utility and labelled \( \varepsilon_{in} \). Therefore:

\[
U_{in} = F(x_{in}, r_{n}) = F(z_{in}, S_{in}, \beta) + \varepsilon_{in} = V_{in} + \varepsilon_{in}
\]

Discrete choice models provide a theoretical basis to account for the fact that the researcher cannot precisely predict the choice of a decision-maker. This imperfect estimation results because part of total utility, \( \varepsilon_{in} \), is unknown. This unobserved part, also known as the random component of utility, will vary across investors. Consequently even though two investors are known to have the same \( V_{in} \), they could choose to locate in different states because the random component of utility is different for each.

Ben-Akiva and Lerman (1985) identify four sources of randomness that contribute to uncertainty of the decision-maker. First, an attribute of a zone may not be included. Second, a variable associated with taste variation of a decision-maker may not be included. Third, variables are measured imperfectly. Fourth, the true variables are substituted by “instrumental variables” where the true variable is unavailable.

As pointed out earlier, investors are assumed to choose the alternative with the highest utility. Therefore an investor will choose to locate in state \( i \) when:

\[
P_{in} = \text{Prob} (U_{in} > U_{jn}, \text{ for all } j \text{ in } J_{n}, \text{ where } j \text{ is not equal to } i)
\]

where,

\( U_{in} \) represents the utility of a firm derives from locating in state \( i \),
\( U_{jn} \) represents the utility that an investor derives from locating in another state \( j \)

Knowing that \( U_{in} \) is a function of both a systematic component and a random component, we can use substitution to get:
\[ P_{in} = \text{Prob} \left( V_{in} + \epsilon_{in} > V_{jn} + \epsilon_{jn}, \text{ for all } j \in J_n, \text{ where } j \text{ is not equal to } i \right) \]

Rearranging,

\[ P_{in} = \text{Prob} \left( V_{in} - V_{jn} > \epsilon_{jn} - \epsilon_{in}, \text{ for all } j \in J_n, \text{ when } j \text{ is not equal to } i \right) \]

In this study, utility maximisation is regarded as synonymous with profit maximisation. Therefore, the probability of choosing to invest in a particular state depends on the observed characteristics of that state that affect profit compared to the observed characteristics of all other states. Perhaps an example will clarify this point. If a Canadian has the option of investing in either Michigan or Indiana, Michigan will be chosen if the measurable utility of locating in Michigan minus the measurable utility of locating in Indiana is greater than the unmeasurable factors of locating in Indiana minus the unmeasurable factors of locating in Michigan.

The discrete choice model used in this study is the multinomial logit model. If it is assumed that \( \epsilon_{in} \) are independently distributed, identically distributed, and Gumbel distributed, then the multinomial logit model can be written:

\[ P_{in} = \text{Pr} \left[ V_{in} + \epsilon_{in} > \max_{j = 2, 3, \ldots, J_n} (V_{jn} + \epsilon_{jn}) \right] \]

From Gumbel properties, the probability that state \( i \) is chosen can be written:

\[ P_{in} = \frac{e^{\mu V^*}}{e^{\mu V^*} + e^{\mu V^*}} \]

Where, \( \mu \) is a scale parameter because variance is a function of it; and

\[ V^* = \frac{1}{\mu} \ln \sum_{j=1}^{J} e^{\mu y_{jn}}, \mu \]
if $\varepsilon_1, \varepsilon_2, \varepsilon_3 \ldots \varepsilon_j$ are independent, Gumbel distributed random variables with parameters $(\eta_1, \mu), (\eta_2, \mu)\ldots(\eta_j, \mu)$

By substitution,

$$
P_{in} = \frac{e^{\mu V_{in}}}{e^{\mu V_{in}} + \exp(\ln \sum_{j=2}^{J} e^{\mu V_{jn}})}
$$

Is equal to,

$$
P_{in} = \frac{e^{\mu V_{in}}}{\sum_{j=1}^{J} e^{\mu V_{jn}}}
$$

If $\mu = 1$ then the multinomial logit model can be expressed,

$$
P_{in} = \frac{e^{V_{in}}}{\sum_{j=1}^{J} e^{V_{jn}}}
$$

Now $V$ is a function of estimated parameters, so $V$ can be expressed in a linear form:

$$
V_{in} = \beta_0 + \beta_1 X_{1n1} + \beta_2 X_{1n2} + \beta_3 X_{1n3} \ldots + \beta_k X_{1nk}
$$

To calculate the probability for an investor to choose each state, the value of the parameters must be estimated. These unknown parameters are estimated using the maximum likelihood method. Stated simply, “a maximum likelihood estimator is the value of the parameters for which the observed sample is most likely to have occurred” (Ben-Akiva and Lerman, 1985, 20). The probability of investor $n$ selecting the state that he actually selected for all investors can be written:

$$
\text{MaximumLikelihood} = \prod_{n \in N} \prod_{i \in J_n} P_{in}^{\delta_{in}}
$$

Where $\delta_{in}$ equals 1 if investor $n$ chooses state $i$, and 0 if he does not choose state $i$. $N$ is the set of investors in the sample.
P_in in this expression is a function of \( \beta \). Therefore, holding the observed data fixed, maximum likelihood can be considered a function of \( \beta \). The \( \beta \) that provides the highest likelihood is called the maximum likelihood estimate of \( \beta \) because it maximizes the likelihood function. The software chosen for this study, LimDep, maximizes the log of this likelihood function. The log likelihood function is written:

\[
\text{LogMaximumLikelihood} = \sum_{n \in N} \sum_{i \in J_n} \delta_{in} \log P_{in}
\]

Since \( \delta_{in} \) is zero for all states not selected, the log likelihood is the log of the predicted probability of the chosen state of each investor, summed over all sampled investors. The estimate of \( \beta \) is that which maximizes this sum.

The overall goodness of fit of a model measures how well the model, with its estimated parameters, performs compared with a model in which all the parameters are zero. The model for this study is measured by:

\[
\text{Rho-square} = 1 - \frac{LL_\beta}{LL_o},
\]

where,
- \( LL_\beta \) is the maximum log likelihood of the estimated model
- \( LL_o \) is the maximum log likelihood of the null model (the model with \( \beta \) set to 0).

4.2 Variables influencing the Location of FDI

In deciding where to locate, investors will undoubtedly investigate how their expected profit levels change from one location to the next. It makes sense that an investor’s utility is maximised at the same time that profit is maximised. The likelihood that a specific state is selected as a destination should depend on its economic
characteristics compared with those in all other states. Therefore, variables tested in this study represent the attractiveness of a state to an investor attempting to maximise profits.

Each variable was collected for the twenty-one year study period and standardised relative to the national average for that year. A full description of the independent variables tested is provided. The anticipated results are displayed in table 4.1.

4.2.1 Indicators of Market Wealth and Market Size

Market seeking investment associated with FDI is an obvious attempt to increase revenue. In the studies conducted by John Dunning that were highlighted in the literature review, a growing market for firm products was an important location advantage. Furthermore, Porter suggests that serving foreign markets will keep domestic firms familiar with global needs. Past literature suggests that the huge American market has been an attractive location advantage to investors. A host country population ten times greater than Canada provides a number of economic advantages.

Per Capita Income

State per capita income is a measure of market demand. Consequently, a large per capita income should result in greater demand for a firm’s products. If Canadian FDI is motivated to locate in the United States to sell its output, a positive association with per capita income should result. If investors want to serve more localised markets, then state per capita income should experience a stronger positive relationship with FDI. This seems logical because there is a greater dependence upon local funds when servicing local needs. State per capita income figures were obtained from the US Bureau of Economic Analysis’, Survey of Current Business.
Population

Similar to per capita income, FDI should be positively associated with population. As a state’s population increases, the demand for a firm’s output should increase as well. Thus, one would expect that if a firm carries out FDI to increase sales, it would choose a region with a large population. Data on population was obtained from US Bureau of the Census’ Census of Population and Housing, Population and Housing Unit Counts.

Population Change

Increasing population indicates an increasing number of buyers in the area. An increase in population is advantageous for a firm entering an unfamiliar environment. On the other hand, a decrease in population signifies lost customers. This may appear undesirable to FDI. Population change was calculated by comparing the size of a state’s population from one year to the next.

An explanation that exclusively embraces market demand is not sufficient. Return on investment does not exclusively rely on market size or wealth. Additional factors influence profit levels. The following section provides some insight into these factors.

4.2.2 Indicators of Labour Conditions

FDI may also attempt to take advantage of low cost factors of production. Decreasing costs can increase profitability. The higher the costs, the less desirable a state. Labour costs are generally the most important costs of production. To maximise profit, investors should choose to make FDI in states where labour costs are relatively low and labour productivity is relatively high. The following is a summary of labour indicators that could potentially affect the decision to invest in the United States.
Average Pay

The most visible labour costs are average wages. This represents the average annual wage earned by a worker in a state. As pointed out in the literature review, John Dunning concluded that access to lower wage rates was an important location advantage. The hypothesis of this study corresponds with the findings of Dunning. As average pay in a state increases, it should appear less attractive to investors. The US Bureau of Labour Statistics', Employment and Earnings provided the data on average pay.

Unionisation

International production will take place, all else being equal, where relative production costs are lower. Unionisation, which is the percentage of the state work force unionised, is expected to discourage FDI. This is anticipated because unionisation tends to reduce the return on investment by increasing production costs. If unionisation increases wages in one area, production might be attracted to other less unionised areas. Union Membership and Earnings Databook: Compilations from the Current Population Survey provided the necessary information on state unionisation.

If unionisation simply increased wages, there would be little need to test this variable. The model already controls for wages through the variable average pay. However, additional consequences of unionisation remain. William Cooke (1997) points out that there are a number of reasons why investors might prefer to avoid unionisation and, consequently, invest less in highly unionised states. First, unions may limit the ability of management to control the work force. Unless a location offers an investor some way to overcome handicaps related to unionisation, an area will appear less
attractive. Second, bargaining, strikes, and other conflicts with unions increase costs. Third, power held by unions is understood to be comparable to that of a monopoly. This allows unions to secure benefits unattainable if union representation was absent.

However, it is possible for unionisation to be positively related to FDI. A number of studies (Belman, 1992; Beeson and Husted, 1989; Emerson, 1988) have found that negative effects of unionisation can be counterbalanced by improved performance of employees. A greater voice in the company direction may increase worker productivity which offsets the higher wages associated with unionisation. In addition, job security provided by unionisation increases employee commitment, loyalty, and flexibility.

Unemployment

The unemployment rate represents the percentage of a state’s population not employed. If unemployment is perceived as an indicator of available workers, then unemployment should be positively related to FDI. High unemployment means that firms are able to hire workers at lower costs. As the labour market approaches full employment, wage rates tend to increase which, as indicated earlier, is less desirable when attempting to maximise profits. Unemployment figures were gathered from the US Bureau of Labour Statistics’ Geographic Profile of Employed and Unemployment.

Skilled labour force

Two variables were used to test access to a skilled labour force. First, the percentage of a state’s population over the age of twenty-five with a bachelor’s degree, and second, percentage of state’s population over the age of eighteen with a high school diploma were examined. To analyse the significance of skilled labour, an assumption is
made that increased education results in a more productive labour force. Therefore, if investors are motivated to locate in the United States to access skilled labour, level of education should be positively related to the amount of FDI. Porter (1990) suggests that an advantage of FDI is its ability to teach skills not present in the home market. Figures on the percentage of a state's population with a high school diploma and bachelor's degree were acquired from US Bureau of the Census.

**Size of the labour force**

A variable that may be related to market demand is the presence of activity already in an area. For example, a region with existing computer companies could attract more FDI in that activity because Canadian computer companies may seek a location close to potential suppliers, consumers, or skilled workers. To properly investigate agglomeration economies, this study should analyse firms locating in areas where related and supporting industries already exist.

Unfortunately, sample sizes would be too small if this study separated FDI into separate industries. Instead, total number of employees in a state will be used as a substitute. Information on the number of employees in a state was obtained from US Bureau of Labour Statistics' Employment and Earnings. Glickman and Woodward (1988) suggest that FDI should be attracted to locations with abundant activity already in the area because these areas offer a well-developed infrastructure, transport facilities, and agglomeration economies. Therefore, a large labour force is viewed as attractive to investors. Of course, size of the labour force is expected to be highly correlated with population.
Employment Change

Increasing employment generally means that new firms are being generated or old firms are expanding. This indicates an increasing number of suppliers or buyers in the area. An increase in employees can also be interpreted as a region with an expanding economy that would be a favourable location for a new firm locating in an unfamiliar environment. On the other hand, a decrease in employment signifies the closure of a number of firms. This may appear undesirable to FDI. Employment change was calculated by comparing the size of a state’s labour force from one year to the next.

4.2.3 Other Variables

It should be evident by now that Canadian FDI is attracted to the United States for a number of reasons. The literature suggests that several factors not yet introduced influence the location decision as well. While these variables do not fall immediately under the categories of market or labour, they do play significant roles in the location decision because they influence the potential profit that a firm can make.

Tax

As suggested by Lorraine Eden and John Dunning attitudes towards FDI can significantly affect the attractiveness of a state. Barriers to entry, investment regulations, and tax differences significantly affect the decisions made by multinational enterprises. This study exclusively examines tax differences between states.

There are a number of characteristics of a state’s tax system that may influence its ability to attract FDI. Tax incentives, corporate income tax, taxes on capital, taxes on business properties and assets, and personal income tax are a few of the more notable
ones. Tax incentives would be interesting to analyse. Unfortunately, they are difficult to quantify especially when the study period is as long as twenty-one years. In the end, it was decided to examine corporate income tax rates of individual states because this variable is directly related to the level of profit that an investor will make. Data on corporate income taxes was retrieved from Significant Features of Fiscal Federalism, a publication compiled by the US Advisory Commission on Intergovernmental Relations.

A number of authors (Hines, 1996; Friedman, Gerlowski and Silberman, 1992) have concluded that tax rates significantly influence the location of FDI in the United States. All other things being equal, Hines (1996, 1076) argues that "a difference of 1 percent in state tax rates is associated with a difference of 9-11 percent share of manufacturing FDI". Others (Carlton, 1983; Bartlik, 1985) have found that tax rates do not make a great deal of difference. Why does this discrepancy occur? Perhaps unobservable factors account for tax having little effect on FDI. For example, New York State benefits from an abundance of FDI, yet its tax rate is quite high. The high tax rate does not encourage FDI, but it does not excessively deter FDI either. New York City offers a number of economic advantages to investors that compensate for the high tax rate. Nonetheless, holding other factors equal, high corporate tax rates are expected to deter FDI.

Distance

When analysing Canadian investment in northern New York, Prem Gandhi (1990) concluded that proximity was the most important reason when investors choose a subsidiary location. Based on an examination of Canadian establishments in Western
New York, McConnell and MacPherson (1990) agree that physical proximity to the subsidiary was very important in the location decision. These findings are not totally unexpected because both studies focus exclusively on a region that lies close to the economic heartland of Canada. Will similar results occur when applied over the entire United States? It seems reasonable to hypothesise that as the distance from the corporate headquarters increases, the level of FDI will decrease.

For the purpose of this study, distance of the investment is defined as the distance from a central node in the province where the investment originates to a central node of the destination state. For example, the distance of a transaction originating in Ontario and ending in Mississippi is taken as the highway distance from the city of Toronto to the city of Jackson. The highway distance was calculated using Rand McNally’s Road Atlas of Canada and the United States - 1993 edition.

Land

The probability of FDI in a particular state depends on the number of potential sites for locating the investment. In this study, land is defined as the total land in a given state. When investigating FDI in the United States, Bartlik (1985) discovered that land area of a state has an elasticity equal to one. In other words, a state the size of Texas can expect to receive a much greater portion of FDI than the District of Columbia. Data on state size was obtained from the US Bureau of the Census.

Port and Shoreline

With global markets Robert Reich argues that international business is now a collage of global webs (instead of a pyramid as in old corporate America), with
unfinished products being traded among countries. Reich (1991, 113) provides the example of purchasing a Pontiac Lemans from General Motors to support his argument.

Of the $20,000 paid to General Motors, about $6,000 goes to South Korea for routine labour and assembly operations, $3,500 to Japan for advanced components (engines, transaxles, and electronics), $1,500 to West Germany for styling and design engineering, $800 to Taiwan, Singapore and Japan for small components, $500 to Britain for advertising and marketing services, and $100 to Ireland and Barbados for data processing. The rest, less than $8,000, goes to strategists in Detroit, lawyers and bankers in New York, lobbyists in Washington, insurance and health care workers all over the United States, and General Motors shareholders, most of whom live in the United States.

This example supports the notion that enterprises go wherever they can to make the highest profit. These enterprises then import and export raw materials and final products to each other. The variables port and shoreline were chosen to measure the effect of this integration. A positive association with both port and shoreline means that Canadian FDI is directed to states where business operations are well integrated internationally. Port represents the annual foreign tonnage entering all state ports. This information was acquired from the US Department of Defence. The US National Oceanic and Atmospheric Administration provided necessary information on shoreline. The publication, Coastline of the United States calculates the total shoreline for each state.

Poverty

Historically, the leading motive behind site selection has been to decrease costs or increase revenue. But more and more, the decision incorporates the impact that a location will have on the work force and clients. In his analysis of the international hotel industry Dunning found that the social stability of an area was an important consideration in the location decision.

Firms in some industries consider locations that lure and maintain the best workers. To determine the importance of social characteristics in the location decision, a
Qualitative factor is included. Poverty, which represents the percentage of a state’s population below the poverty level, was used. Information on poverty was obtained from US Bureau of the Census’ *Current Population Reports*.

**Table 4.1 - List of Variables**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>HYPOTHESIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MARKET INDICATORS</strong></td>
<td></td>
</tr>
<tr>
<td>per capita income</td>
<td>+</td>
</tr>
<tr>
<td>Population</td>
<td>+</td>
</tr>
<tr>
<td>population change</td>
<td>+</td>
</tr>
<tr>
<td><strong>LABOR INDICATORS</strong></td>
<td></td>
</tr>
<tr>
<td>average pay</td>
<td>-</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-</td>
</tr>
<tr>
<td>Unemployment</td>
<td>+</td>
</tr>
<tr>
<td>total employment</td>
<td>+</td>
</tr>
<tr>
<td>employment change</td>
<td>+</td>
</tr>
<tr>
<td><strong>EDUCATION INDICATORS</strong></td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td>+</td>
</tr>
<tr>
<td>high school</td>
<td>+</td>
</tr>
<tr>
<td><strong>PHYSICAL AND SOCIAL INDICATORS</strong></td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>-</td>
</tr>
<tr>
<td>Land</td>
<td>+</td>
</tr>
<tr>
<td>Poverty</td>
<td>-</td>
</tr>
<tr>
<td><strong>COMMERCE INDICATORS</strong></td>
<td></td>
</tr>
<tr>
<td>maximum tax rate</td>
<td>-</td>
</tr>
<tr>
<td>Shoreline</td>
<td>+</td>
</tr>
<tr>
<td>Port</td>
<td>+</td>
</tr>
</tbody>
</table>
4.3 Empirical Results

Now that factors affecting an investor's profit have been introduced, it is time to determine how these factors influence FDI. By analysing where investors choose to locate, the balance of this chapter attempts to determine why some states are able to attract more investment than others. It must be noted that taste variation across investors is not directly taken into account in the testing process (through assumptions and analysis of investment size $S_n$ is indirectly taken into account). Using destination specific variables, a logit model is employed to relate the amount of FDI to state characteristics.

A significant amount of information on Canadian FDI in the United States is available. Unfortunately, a large portion of this data is incomplete, making research somewhat problematic. To combat this obstacle, this chapter conducts a number of tests. Section 4.4 examines two large samples, Sample A and Sample B. Section 4.5 then breaks Sample B down even further. One group contains acquisitions and mergers while another group contains new plants, joint ventures, and real estate transactions. Sample B is again broken down in section 4.6 to determine if large and small investments react differently to state characteristics.

4.4 Results from Sample A

This section reports information obtained after testing Sample A. Referring back to figure 3.5, Sample A is the largest sample including all investments for which the SIC, American destination, Canadian source, and year of investment are known. On the other hand, it does not include the size of investment. It contains 1268 observations, with transactions ending in all 50 states and the District of Columbia.

As displayed in table 4.2 expected results were obtained for Sample A. This model was selected above other models because it includes a large number of parameter
estimates that are significant while at the same time maximising rho-square. A systematic search attempted to incorporate at least one variable from each major category in table 4.1. The model suggests that FDI is drawn towards the large regional markets, increased accessibility to international inputs and markets, skilled labour, and regions with expanding work forces. On the other hand, as unionisation, distance, and corporate tax rates increase, the probability for investment decreases.

**Table 4.2 - Best Model for Sample A**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample A</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>0.42852E-01 *</td>
</tr>
<tr>
<td>unionisation</td>
<td>-0.30506E-01 *</td>
</tr>
<tr>
<td>distance</td>
<td>-0.41513E-03 *</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-0.43443E-01 *</td>
</tr>
<tr>
<td>Average pay</td>
<td>-0.54768E-04 *</td>
</tr>
<tr>
<td>Population</td>
<td>0.12296E-06 *</td>
</tr>
<tr>
<td>per capita income</td>
<td>0.17832E-03 *</td>
</tr>
<tr>
<td>Port</td>
<td>0.21731E-08 *</td>
</tr>
<tr>
<td>Employment change</td>
<td>0.52176E-02 **</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-4265.793</td>
</tr>
<tr>
<td>Restricted Log-L</td>
<td>-4981.623</td>
</tr>
<tr>
<td>rho-square</td>
<td>0.14370</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level
** statistically significant at the .05 level

Investors were attracted to states with larger populations and higher per capita incomes. This suggests that access to the regional markets is indeed an important motivation for Canadian FDI. This may allow a firm to realise economies of scale that would otherwise be unattainable if simply producing for the domestic market.

Shoreline and port were also positively related to FDI. This information implies that access to inputs from foreign countries and access to foreign markets is an important consideration. Canadians may want to import raw materials and components to assemble at their American operations. Access to a port or shoreline also allows for smooth export of final products.
FDI appears sensitive to labour conditions. As the percentage of the state population with higher education increases, the probability of FDI also increases. This suggests that location depends on access to a skilled labour force. Also related to labour conditions are unionisation and average pay. As the level of these factors increase, the probability of FDI decreases. It appears that management invests in the United States for greater flexibility and control over operations. In addition, the threat of work stoppages is not desired. While previous studies have stated that market access is the main reason for FDI in the United States, obviously labour conditions play an important role as well.

Taxes also affect FDI. The maximum corporate tax rate was negatively associated and statistically significant. Companies may be expanding into an environment with lower taxes than Canada. Of course, if taxes were the sole consideration, then investors would likely invest in tax haven countries rather than the United States. Therefore, while taxes do deter investment, it is probable that this factor works in conjunction with a number of other factors to attract or deter FDI.

Finally, increasing employment in a state is statistically significant and positively associated with FDI. This result confirms the hypothesis that increasing employment is more desirable to investors. An increase in employment generally means that new firms are being generated and old firms expanding. Consequently, the number of suppliers and buyers in the region is increasing. In addition, more employees in a state implies a greater number of people with money to purchase a firm’s products.

4.5 Results from Sample B

It was then decided to separate Sample A further. Empirical results from Sample A provide fundamental explanations of FDI in the United States. The creation of sub-samples though, allows the researcher to ask specific questions with respect to FDI. The result was the creation of Sample B. Sample B is similar to Sample A except that the
value of investment is provided for each transaction. Sample B is composed of 601 observations locating in 46 of the 50 states and District of Columbia.

Table 4.3 - Difference of Means Test Between Sample A and Sample B Using the best Logit Model for Sample A

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample A Co-efficient</th>
<th>Std. Error</th>
<th>Sample B Co-efficient</th>
<th>Std. Error</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>per capita income</td>
<td>1.783E-04 *</td>
<td>2.809E-05</td>
<td>1.349E-04 *</td>
<td>3.985E-05</td>
<td>-0.012</td>
</tr>
<tr>
<td>Population</td>
<td>1.230E-07 *</td>
<td>5.210E-09</td>
<td>1.274E-07 *</td>
<td>7.683E-09</td>
<td>0.000</td>
</tr>
<tr>
<td>Distance</td>
<td>-4.151E-04 *</td>
<td>4.202E-05</td>
<td>-4.295E-04 *</td>
<td>6.130E-05</td>
<td>-0.003</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-3.051E-02 *</td>
<td>5.533E-03</td>
<td>-3.467E-02 *</td>
<td>8.062E-03</td>
<td>-0.082</td>
</tr>
<tr>
<td>Employment change</td>
<td>5.218E-03 **</td>
<td>2.544E-03</td>
<td>3.623E-03</td>
<td>4.219E-03</td>
<td>-0.039</td>
</tr>
<tr>
<td>Average pay</td>
<td>-5.477E-05 *</td>
<td>1.613E-05</td>
<td>-4.319E-05 ***</td>
<td>2.309E-05</td>
<td>0.004</td>
</tr>
<tr>
<td>BA</td>
<td>4.285E-02 *</td>
<td>1.232E-02</td>
<td>4.715E-02 *</td>
<td>1.730E-02</td>
<td>0.061</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-4.344E-02 *</td>
<td>1.226E-02</td>
<td>-5.712E-02 *</td>
<td>1.786E-02</td>
<td>-0.183</td>
</tr>
<tr>
<td>Port</td>
<td>2.137E-09 *</td>
<td>4.495E-10</td>
<td>9.570E-10</td>
<td>6.643E-10</td>
<td>-0.000</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level  
** statistically significant at the .05 level  
*** statistically significant at the .01 level

Table 4.4 - Difference of Means Test Between Sample A and Sample B Using the best Logit Model for Sample B

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample B Co-efficient</th>
<th>Std. Error</th>
<th>Sample A Co-efficient</th>
<th>Std. Error</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>5.911E-02 *</td>
<td>1.762E-02</td>
<td>5.812E-02 *</td>
<td>1.251E-02</td>
<td>0.014</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-2.720E-02 *</td>
<td>8.191E-03</td>
<td>-2.448E-02 *</td>
<td>5.612E-03</td>
<td>-0.053</td>
</tr>
<tr>
<td>Distance</td>
<td>-5.126E-04 *</td>
<td>6.136E-05</td>
<td>-5.371E-04 *</td>
<td>4.236E-05</td>
<td>0.006</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-7.436E-02 *</td>
<td>1.583E-02</td>
<td>-7.678E-02 *</td>
<td>1.094E-02</td>
<td>0.035</td>
</tr>
<tr>
<td>Average pay</td>
<td>-5.443E-05 **</td>
<td>2.211E-05</td>
<td>-6.604E-05 *</td>
<td>1.546E-05</td>
<td>0.005</td>
</tr>
<tr>
<td>Population</td>
<td>1.338E-07 *</td>
<td>5.734E-09</td>
<td>1.388E-07</td>
<td>3.909E-09</td>
<td>-0.000</td>
</tr>
<tr>
<td>Shore</td>
<td>6.095E-05 *</td>
<td>1.219E-05</td>
<td>7.025E-05 *</td>
<td>8.143E-06</td>
<td>-0.005</td>
</tr>
<tr>
<td>per capita income</td>
<td>1.041E-04 **</td>
<td>4.096E-05</td>
<td>1.402E-04</td>
<td>2.878E-05</td>
<td>-0.010</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level  
** statistically significant at the .05 level

To recognise the effect of changing from Sample A to Sample B a difference of means test was conducted on the best logit models for both. In order to complete this task it was necessary to apply Sample B to the best logit model for Sample A and visa-versa.
A one tail test at a significance level of level of .01 gives a critical value of 2.35. At a significance level of .10 the critical value is 1.28. After viewing the results in tables 4.3 and 4.4 it is evident that parameter estimates for all variables are not significantly different between these two samples.

Sample C is exactly as Sample B except that four extreme investments have been omitted. This was completed to see how the four transactions affect the results. Once again, after conducting a difference of means test it became evident that parameter estimates for all variables were not significantly different between these two samples with \( p=0.00 \). The fact that the best logit model for both samples uses the same variables reinforces the similarity (table 4.5).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample B</th>
<th>Sample C</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>0.59026E-01 *</td>
<td>0.59111E-01 *</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-0.26975E-01 *</td>
<td>-0.27198E-01 *</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.51413E-03 *</td>
<td>-0.51259E-03 *</td>
</tr>
<tr>
<td>Max corporate tax</td>
<td>-0.74005E-01 *</td>
<td>-0.74356E-01 *</td>
</tr>
<tr>
<td>Average pay</td>
<td>-0.53810E-04 **</td>
<td>-0.54428E-04 **</td>
</tr>
<tr>
<td>Population</td>
<td>0.13384E-06 *</td>
<td>0.13384E-06 *</td>
</tr>
<tr>
<td>Per capita income</td>
<td>0.10212E-03 **</td>
<td>0.10405E-03 **</td>
</tr>
<tr>
<td>Shoreline</td>
<td>0.60845E-04 *</td>
<td>0.60947E-04 *</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1979.993</td>
<td>-1979.993</td>
</tr>
<tr>
<td>Restricted Log-L</td>
<td>-2285.699</td>
<td>-2285.699</td>
</tr>
<tr>
<td>Rho-square</td>
<td>0.13375</td>
<td>0.13406</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level

** statistically significant at the .05 level

When simply analysing the sign of coefficients, results for Sample B and Sample C are almost exactly the same as Sample A. As displayed in table 4.5 FDI was drawn towards the large regional markets, increased accessibility to international inputs and markets, and skilled labour. At the same time, as unionisation, distance, and corporate
tax rates increased, the probability of FDI decreased. The only indicator that was omitted was employment change.

**Separating Sample B**

Conclusions presented in the previous section are a product of Sample A, Sample B, and Sample C. These samples group a number of diverse forms of FDI. It may be interesting to see what happens if they are separated into smaller samples. Will the new samples be drawn towards states possessing different characteristics? Or will the results be relatively similar? The following sections divide Sample B further to note any extreme differences. Section 4.6 separates Sample B into types of investment while section 4.7 separates Sample B into size of investment.

**4.6 Types of FDI Compared**

In Sample B a number of different types of FDI were amalgamated in the samples used. New plants, joint ventures, real estate, and acquisition/mergers were all included in the experiment. This was necessary for a suitable sample size. Unfortunately, different types of FDI could react differently to various circumstances. Friedman, Fung, Gerlowski and Silberman (1996) argue that the location characteristics of potential sites are most important when an investor is locating a new plant. After initially deciding to make a foreign investment, all characteristics of potential sites that affect profit levels are considered before locating a subsidiary. Conversely, when management decides to merge with or acquire a firm, site characteristics are unlikely to play as significant a role.

An effort is made in this section to consider the differences between types of FDI included in this study. To do this, Sample B was separated into two groups. Sample F
includes all FDI that is either an acquisition or merger. It contains 316 observations, with a transaction ending in 38 of the 51 states. Sample G includes all FDI that is a new plant, joint venture, or real estate. It consists of 285 observations ending in 42 states.

A logit model is used to relate Sample F and Sample G to state characteristics. The best model for acquisitions/mergers is presented in table 4.6 while the best model for new plant, joint venture, and real estate is displayed in table 4.7. When simply analysing the sign of the coefficients, no difference between the two samples is evident. Both are attracted to skilled labour, larger markets, as well as shoreline. On the other hand, as maximum corporate tax rates and distance increased, the probability FDI in the form of both acquisition/mergers and new plant joint ventures and real estate decreased.

For further statistical analysis, a difference of means test was completed on the best logit models of Sample F and Sample G. This test is carried out by comparing parameter estimates of the different samples. Comparing parameter estimates allows one to determine if a difference exists between the magnitude of the effect of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample F Acquisitions/Mergers</th>
<th>Sample G New Plant/Joint Venture/Real Estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>high school</td>
<td>0.31349E-01</td>
<td>0.27717E-01</td>
</tr>
<tr>
<td>Population</td>
<td>0.12463E-06</td>
<td>0.13743E-06</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.52222E-03</td>
<td>-0.39519E-03</td>
</tr>
<tr>
<td>Shore</td>
<td>0.47195E-04</td>
<td>0.60139E-04</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-0.53363E-01</td>
<td>-0.10576</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.75109E-01</td>
<td>-0.13986</td>
</tr>
</tbody>
</table>

Log likelihood          -1017.344                  -916.024
Restricted Log-L        -1138.564                  -1054.023
rho-square              0.10647                    0.13090

* statistically significant at the .01 level
** statistically significant at the .05 level
included in the model. For this reason, the sample containing new plant/joint venture/real estate investment is applied to the best model for acquisitions/mergers displayed in table 4.6 and visa-versa in table 4.7. The outcome reveals a statistically significant difference between the parameters on population and maximum corporate tax rates in the two sub-samples.

**Table 4.7 - Best Model for Sample G**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample G New Plant/Joint Venture/Real Estate</th>
<th>Sample F Acquisitions/Mergers</th>
</tr>
</thead>
<tbody>
<tr>
<td>high school</td>
<td>0.70108E-01 *</td>
<td>0.38439E-01 *</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-0.62394E-01 *</td>
<td>-0.15141E-01</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.52570E-03 *</td>
<td>-0.55401E-03 *</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-0.67289E-01 *</td>
<td>-0.39967E-01 ***</td>
</tr>
<tr>
<td>Population</td>
<td>0.14846E-06 *</td>
<td>0.12510E-06 *</td>
</tr>
<tr>
<td>Shore</td>
<td>0.60196E-04 *</td>
<td>0.40238E-04 **</td>
</tr>
<tr>
<td>Average pay</td>
<td>0.54510E-04 ***</td>
<td>0.61356E-05</td>
</tr>
</tbody>
</table>

Log likelihood    -896.954                       -1018.553
Restricted Log-L  -1054.023                       -1138.564
rho-square        0.14902                        0.10541

* statistically significant at the .01 level
** statistically significant at the .05 level
*** statistically significant at the .10 level

Since population is statistically different between the two samples, the results appear to support an argument put forth by Friedman, Fung, Gerlowski and Silberman. They maintain that “the decision to merge with, or to acquire another firm is often primarily based on market power with little emphasis on location” (Friedman, Fung, Gerlowski and Silberman, 1996, 367). Therefore, the authors contend that analysing FDI in the form of new plants should be separated from acquisition/mergers.

One final test can help determine if a significant difference exists between Sample F and Sample G. A difference of means test on a weighted average of state
characteristics is displayed in figure 4.6, where the weights depend on how often each state is chosen in the sample. This provides an informal way of recognising whether the choice of state differs between Sample F and Sample G. A one tailed t-test at a significance level of .01 gives a critical value of 2.35. After viewing the calculations in table 4.8, it becomes apparent that per capita income, average pay, and unionisation are the variables that emerge as statistically different.

Table 4.8 - Difference of Means Test between Sample F and Sample G – using raw data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample F</th>
<th></th>
<th></th>
<th>Sample G</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>Mean</td>
<td>Std. Dev.</td>
</tr>
<tr>
<td>Invest</td>
<td>87.128</td>
<td>240.030</td>
<td>70.234</td>
<td>119.470</td>
<td>1.108</td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>1.061</td>
<td>0.275</td>
<td>1.011</td>
<td>0.304</td>
<td>2.106</td>
<td></td>
</tr>
<tr>
<td>Maximum tax</td>
<td>1.074</td>
<td>0.536</td>
<td>0.973</td>
<td>0.550</td>
<td>2.275</td>
<td></td>
</tr>
<tr>
<td>Per capita income</td>
<td>1.076</td>
<td>0.140</td>
<td>1.050</td>
<td>0.114</td>
<td>2.506</td>
<td></td>
</tr>
<tr>
<td>Average pay</td>
<td>1.125</td>
<td>0.220</td>
<td>1.049</td>
<td>0.161</td>
<td>4.860</td>
<td></td>
</tr>
<tr>
<td>Market wealth</td>
<td>2.511</td>
<td>1.886</td>
<td>2.427</td>
<td>1.964</td>
<td>0.533</td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td>2.432</td>
<td>2.733</td>
<td>2.567</td>
<td>2.897</td>
<td>-0.585</td>
<td></td>
</tr>
<tr>
<td>BA</td>
<td>1.061</td>
<td>0.180</td>
<td>1.066</td>
<td>0.179</td>
<td>-0.341</td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>1.004</td>
<td>0.077</td>
<td>1.009</td>
<td>0.088</td>
<td>-0.737</td>
<td></td>
</tr>
<tr>
<td>Unionisation</td>
<td>1.094</td>
<td>0.456</td>
<td>0.943</td>
<td>0.420</td>
<td>4.220</td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>2.359</td>
<td>1.651</td>
<td>2.299</td>
<td>1.713</td>
<td>0.436</td>
<td></td>
</tr>
<tr>
<td>Poverty</td>
<td>0.979</td>
<td>0.238</td>
<td>0.993</td>
<td>0.225</td>
<td>-0.741</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>1.009</td>
<td>0.242</td>
<td>0.985</td>
<td>0.207</td>
<td>1.300</td>
<td></td>
</tr>
<tr>
<td>Land</td>
<td>1.234</td>
<td>1.208</td>
<td>1.411</td>
<td>1.147</td>
<td>-1.846</td>
<td></td>
</tr>
<tr>
<td>Shoreline</td>
<td>1.428</td>
<td>2.173</td>
<td>1.687</td>
<td>1.889</td>
<td>-1.563</td>
<td></td>
</tr>
<tr>
<td>Population change</td>
<td>0.950</td>
<td>2.27</td>
<td>1.028</td>
<td>1.713</td>
<td>-0.478</td>
<td></td>
</tr>
<tr>
<td>Employment change</td>
<td>1.329</td>
<td>6.499</td>
<td>1.923</td>
<td>0.235</td>
<td>-1.623</td>
<td></td>
</tr>
</tbody>
</table>

Since per capita income is statistically different between the two samples, the results once again appear to support an argument put forth by Friedman, Fung, Gerlowski and Silberman. But the results on population, market wealth and population change are not statistically different and do not support their argument.

A statistical difference is also apparent between the two samples when considering average pay and level of unionisation. This result is understandable because availability of low paying or unionised workers is not an issue for acquisitions while it is
for a new plant. Management acquiring an American company already knows the features of the labour force.

Previous authors have conflicting opinions whether a sample of FDI should be aggregated to include new plants, acquisition/mergers, joint ventures or real estate. Preferably, this study would categorise FDI and analyse the differences between these forms of FDI. Unfortunately, sample size restricts the ability to group investment into separate samples. The results from the difference of means tests were encouraging. Using a difference of means test on a weighted average of firm characteristics, where the weights depend on how often each state is chosen in the sample revealed a statistical difference between only three of the seventeen variables. The difference of means test on parameter values in the best logit models revealed a difference between two. While an effort has been made to dismiss a difference between Sample F and Sample G, there is no denying that a difference does exist between a few variables. The results on average pay, unionisation, and population are troublesome. Consequently, one should be cautious when analysing the results of these variables.

4.7 Size of the Investment

The results reported from Sample A and Sample B are obtained by grouping all Canadian FDI in the United States. There is no regard for size of the investment. While it is interesting to examine the number of transactions, it is important to consider the relative value of FDI. Certainly an investment of 100 million dollars will have a greater impact than an investment of 1 million dollars. To produce useful information for policy makers interested in economic growth, conclusions must measure the magnitude of FDI.
By analysing where investors choose to locate an effort is made in the following section to determine if large or small investments are drawn towards specific characteristics. In other words, is there a greater propensity of large investments to occur in states possessing specific characteristics? Are small investments attracted to states with somewhat different features? To distinguish between large and small investments, two methods were used. Initially, interacting variables were tested. Separating investments into large and small investments followed this.

4.7.1 Interacting Variables

Train (1986) points out that the logit model considers only relative utility and not absolute utility when calculating probabilities. This is an important consideration because variables that do not affect choice probabilities but are thought to affect results should be accounted for. In this study, it is suspected that size of investment may influence results. When applied properly, this factor may interact with independent variables that vary across states. An effort was made to incorporate size of investment into the model through an interacting variable. Perhaps an example will clarify the application of size of the investment. The formula for the best logit model for Sample A, exclusively including independent variables, is written as:

\[ V_g = \beta_0 \text{BA}_j + \beta_1 \text{population}_i + \beta_2 \text{union}_i + \beta_3 \text{distance}_i + \beta_4 \text{max tax}_i + \beta_5 \text{ave pay}_i + \beta_6 \text{shoreline}_i + \beta_7 \text{per cap income}_i \]

But an interacting variable determines the effect of monetary investment on an individual variable. To determine the effect of population while considering the value of investment (1) the same formula could be written as:

\[ V_g = \beta_0 \text{BA}_j + (\beta_1 + \beta_2 l)\text{population}_i + \beta_3 \text{union}_i + \beta_4 \text{distance}_i + \beta_5 \text{max tax}_i + \beta_6 \text{ave pay}_i + \beta_7 \text{shoreline}_i + \beta_8 \text{per cap inc}_i \]

When multiplied out the formula is written as:
The logic of the interacting variable maintains that if the effect of population on utility is greater for large investments, then both $\beta_1$ and $\beta_2$ are positive. On the other hand, if the effect of population on utility is greater for small investments, then $\beta_1$ is positive and $\beta_2$ is negative. Tests were completed on all variables to see the effect. Unfortunately, no interacting variables were significant at the .01 level or the .05 level. At the .10 level, only three variables were significant. Therefore, a different type of analysis was necessary to take into consideration size of the investment.

4.7.2 Large Investment Compared to Small Investment

It must be acknowledged that interacting variables were not statistically significant. But it is important to somehow consider magnitude of investments when conducting research on FDI. Since interacting variables could not supply sufficient results, an alternative strategy was necessary. It was decided to separate FDI into large investments and small investments. The two samples could then be compared through additional testing to determine if differences existed. While meaningful results were obtained when comparing small investments to large investments, one must remember that results from interacting variables suggest that a statistically significant result could not be obtained for differences in size of investment.

Considering Sample B contained the size of investment, it was decided to separate it into large investments (Sample D) and small investments (Sample E). Sample D, consisting of 192 observations, includes all investments of 54 million dollars or more (1986 dollars). Sample E, consisting of 409 observations, includes FDI under 54 million dollars. The 54 million-dollar level was preferred because both samples included
transactions that ended in a large number of states. At the same time a balance between large and small investments still existed. This strategy was necessary because LimDep was unable to accept information on alternatives not selected. At this level small investments are located in 43 states while large investments are located in 40 states.

Since classifying investment size as either large or small at 54 million dollars is somewhat arbitrary, more testing was necessary. Consequently, transactions were separated into large and small investments at 20 million dollars and 30 million dollars. At the 20 million-dollar level small investments are located in 39 states while large investments are located in 42 states. At the 20 million-dollar level small investments are located in 37 states while large investments are located in 43 states. Since these additional logit test results generally agree with those obtained at the 54 million-dollar level, they will not be presented. Only when a meaningful difference occurs will the details be discussed.

In the following analysis the terms investment and firm are used interchangeably. This is based on an assumption that small investments are made by small companies and large investments are made by large companies. This of course is not necessarily true for all cases. The limiting consideration of this assumption is that a large firm can make a small investment in the United States.

Using variables summarised in section 4.2, a logit model is employed to relate large and small investments to state characteristics. The best model for small investments is provided in table 4.10. The best model for large investments is provided in table 4.9. When simply analysing the sign of coefficients from all logit models, anticipated results
were discovered. Large investments were attracted to the large regional markets and skilled labour. On the other hand, as unionisation, distance, and corporate tax rates increased, the probability of large investments decreased. Small investments were also attracted to large regional markets and skilled labour. In addition, as the variables shoreline and port increased, small investments grew. As unionisation, distance, land, and corporate tax rates increased, the probability of small investments decreased as well.

Table 4.9 - Best Model for Sample D

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample D Large Investments</th>
<th>Sample E Small Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school</td>
<td>0.636E-01</td>
<td>0.36978E-01</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-0.54682E-01</td>
<td>-0.55202E-01</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.37529E-03</td>
<td>-0.54143E-03</td>
</tr>
<tr>
<td>Population</td>
<td>0.12056E-06</td>
<td>0.13738E-06</td>
</tr>
<tr>
<td>Per capita income</td>
<td>0.10545E-03 **</td>
<td>0.92184E-04</td>
</tr>
<tr>
<td>Max corporate tax</td>
<td>-0.60207E-01 **</td>
<td>-0.48072E-01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Sample D Large Investments</th>
<th>Sample E Small Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log likelihood</td>
<td>-614.176</td>
<td>-1326.463</td>
</tr>
<tr>
<td>Restricted Log-L</td>
<td>-688.749</td>
<td>-1511.424</td>
</tr>
<tr>
<td>Rho-square</td>
<td>0.10828</td>
<td>0.12238</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level
** statistically significant at the .05 level

An attempt is now made to determine if the magnitude of the influence of variables differs between small and large firms. This is accomplished through a difference of means test on the logit models parameter estimates. In order to do this, the small investments sample is applied to the best logit model for large investments with the results displayed in table 4.9. The large investments sample is then applied to the best logit model for small investments in table 4.10. Comparing parameter estimates allows one to determine if a difference exists between the magnitude of the effect of variables included in the model. A one tailed t-test at a significance level of .01 gives a critical
value of 2.35. The variables distance, population, and high school were statistically
different between large and small investments at the .01 significance level.

Table 4.10 - Best Model for Sample E

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample E Small Investments</th>
<th>Sample D Large Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>high school</td>
<td>0.59320E-01 *</td>
<td>0.77859E-01 *</td>
</tr>
<tr>
<td>Unionisation</td>
<td>-0.46318E-01 *</td>
<td>-0.41440E-01 *</td>
</tr>
<tr>
<td>Distance</td>
<td>-0.58202E-03 *</td>
<td>-0.39307E-03 *</td>
</tr>
<tr>
<td>max corporate tax</td>
<td>-0.64827E-01</td>
<td>-0.25205E-01</td>
</tr>
<tr>
<td>Population</td>
<td>0.14629E-06 *</td>
<td>0.10958E-06 *</td>
</tr>
<tr>
<td>Shore</td>
<td>0.95519E-04 **</td>
<td>0.17859E-04 *</td>
</tr>
<tr>
<td>Land</td>
<td>-0.31737E-05 **</td>
<td>-0.68125E-06 *</td>
</tr>
<tr>
<td>Port</td>
<td>-0.14191E-08</td>
<td>-0.17262E-08</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1311.537</td>
<td>-614.873</td>
</tr>
<tr>
<td>Restricted Log-L</td>
<td>-1511.424</td>
<td>-688.749</td>
</tr>
<tr>
<td>rho-square</td>
<td>0.13226</td>
<td>0.10727</td>
</tr>
</tbody>
</table>

* statistically significant at the .01 level
** statistically significant at the .05 level

Results from testing suggest that the effect of distance from the source of the
investment to the subsidiary on utility is greater for small firms than large firms. This
may occur because a small Canadian company may want greater control over their
American operations. A close proximity would allow the manager to travel easily
between Canadian and American operations resulting in greater information and a
decrease in transaction costs. Since the economic heartland of Canada and the United
States are relatively close, motivation for small investments could also be to access a
large market.

An alternative explanation for the difference in distance could be that large
investments experience a greater attraction to natural resources. If a firm is interested in
expanding its resource base through FDI, the location decision is extremely dependent
upon the supply of existing reserves. If a resource can only be secured at a greater
distance from headquarters, the firm is less likely to consider distance as an impediment.

An interesting result was the emphasis placed on access to skilled labour by large
companies. The difference of means test reveals a significant difference between large
and small investments for the variable high school. Through further analysis, the logit
models indicate a positive relationship for both large investments and small investments
and skilled labour. This implies that large investments were attracted to skilled labour
more than small investments. This may be explained by the fact that small investments
need less office management staff in the American office when compared to large
investments. Another explanation could be that a large number of skilled workers are of
lesser importance if small investments are based primarily on accessing large regional
markets.

Population was the final parameter statistically different between large and small
investments. As state population increased, the increase in utility was greater for small
investments than for large investments. This may be explained by the fact that start up
costs of FDI in the form of a sales office (or similar to sales offices) are relatively small
when compared to manufacturing plants. At the same time sales office reliance on the
large markets is obvious when compared to a manufacturing plants. The fact that
population is statistically different can be explained in conjunction with a number of
other variables. Its importance will be discussed further in the following section.

For additional verification, a difference of means test was completed on a
weighted average of state characteristics, where the weights depend on how often each
state is chosen by small and large firms. As stated previously, this allows for an informal way of distinguishing whether the choice of state differs between two samples. The results are provided in table 4.11. A one tailed t-test at a significance level of .01 gives a critical value of 2.35. The variable shoreline was the only statistically different variable between large and small investments at the .01 significance level. A one tailed t-test at a significance level of .05 yields a critical value of 1.65. At the .05 level distance was statistically different. Finally, a one tailed t-test at a significance level of .10 gives a critical value of 1.265. The results reveal that average pay, BA, high school, and poverty were statistically different for large and small investments at this level.

Table 4.11-Difference of Means Test between Sample D and Sample E –using raw data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample D Mean</th>
<th>Std. Dev.</th>
<th>Sample E Mean</th>
<th>Std. Dev.</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance</td>
<td>1.052</td>
<td>0.297</td>
<td>0.999</td>
<td>0.289</td>
<td>-2.057</td>
</tr>
<tr>
<td>Maximum tax</td>
<td>1.018</td>
<td>0.564</td>
<td>1.032</td>
<td>0.535</td>
<td>-0.288</td>
</tr>
<tr>
<td>Per capita income</td>
<td>1.068</td>
<td>0.125</td>
<td>1.061</td>
<td>0.131</td>
<td>0.630</td>
</tr>
<tr>
<td>Average pay</td>
<td>1.073</td>
<td>0.164</td>
<td>1.096</td>
<td>0.211</td>
<td>-1.457</td>
</tr>
<tr>
<td>Market wealth</td>
<td>2.405</td>
<td>1.962</td>
<td>2.491</td>
<td>1.905</td>
<td>-0.505</td>
</tr>
<tr>
<td>Port</td>
<td>2.418</td>
<td>2.975</td>
<td>2.520</td>
<td>2.729</td>
<td>-0.402</td>
</tr>
<tr>
<td>BA</td>
<td>1.077</td>
<td>0.182</td>
<td>1.057</td>
<td>0.178</td>
<td>1.265</td>
</tr>
<tr>
<td>High school</td>
<td>1.013</td>
<td>0.082</td>
<td>1.003</td>
<td>0.082</td>
<td>1.393</td>
</tr>
<tr>
<td>Unionisation</td>
<td>1.019</td>
<td>0.441</td>
<td>1.025</td>
<td>0.447</td>
<td>-0.154</td>
</tr>
<tr>
<td>Population</td>
<td>2.265</td>
<td>1.724</td>
<td>2.351</td>
<td>1.660</td>
<td>-0.576</td>
</tr>
<tr>
<td>Poverty</td>
<td>0.968</td>
<td>0.229</td>
<td>0.994</td>
<td>0.232</td>
<td>-1.290</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.987</td>
<td>0.207</td>
<td>1.008</td>
<td>0.233</td>
<td>-1.113</td>
</tr>
<tr>
<td>Land</td>
<td>1.338</td>
<td>1.091</td>
<td>1.308</td>
<td>1.220</td>
<td>0.302</td>
</tr>
<tr>
<td>Shoreline</td>
<td>1.228</td>
<td>1.315</td>
<td>1.688</td>
<td>2.289</td>
<td>-3.110</td>
</tr>
<tr>
<td>Population change</td>
<td>0.950</td>
<td>2.275</td>
<td>1.028</td>
<td>1.713</td>
<td>0.086</td>
</tr>
<tr>
<td>Employment change</td>
<td>1.028</td>
<td>2.010</td>
<td>1.432</td>
<td>0.456</td>
<td>-0.205</td>
</tr>
</tbody>
</table>

Results on distance and skilled labour support the findings from the difference of means tests on the best logit models. While distance is significant when p=.05, in the difference of means test that separates large investments and small investments at 54
million dollars skilled labour variables BA and high school are only significant when 
p=.10. However, the results are more conclusive for the difference of means tests that 
separate investments at 20 million and 30 million dollars. Both high school and BA 
variables are significant at the p=.01 and p=.05 level.

The remaining variables to be discussed appear significantly different in the 
difference of means test when the weighted average of state characteristics (where the 
weights depend on how often each state is chosen by small and large firms) is used. 
However, these same variables did not appear significantly different in the difference of 
means test on the best logit models.

Table 4.11 displays the significant difference between small and large 
investments with respect to the variable average pay. Applying the logit models to 
Sample B and Sample C to large and small investments reveals a negative relationship 
between investment and average pay. This suggests that as average pay increases, large 
investments are more sensitive than small investments. As pointed out earlier, labour 
conditions could play a pivotal role in the location decision of large investments while a 
large market is deemed more important to small investments.

Shoreline is another notable variable that is statistically different between large 
investments and small investments. Initially, it seems logical for large investments to 
desire these conditions more. A large investment implies a larger firm that either requires 
a greater number of inputs or a larger market. Therefore, large investments should rely on 
international inputs or an international market more than small investments. The results 
of the logit models and the difference of means test suggest that the opposite is actually
true. Small investments are attracted to areas that have greater access to foreign inputs and foreign markets. This contradiction can be explained by returning to an argument raised earlier. The decision to locate small investments in the form of sales offices (or similar to sales offices) would depend enormously on accessing the large American market relative to other variables. Shoreline would also be important because inputs or final products would need to be imported. Although large investments are also interested in accessing large regional markets, other factors such as labour play a pivotal role as well. This conclusion agrees with results surrounding the variables distance, average pay, population and skilled labour.

Table 4.11 displays a significant difference between small and large investments with respect to poverty. While poverty is only significant when \( p = 0.10 \) in the difference of means test that separates large investments and small investments at 54 million dollars, the results at 20 million (significant at .10 level) and 30 million (significant at .05 level) dollars help determine that a difference does exits. Unfortunately, the logit models for both large and small investments were unable to determine the relationship between investment and poverty. If we assume that increased poverty levels decrease the amount of FDI, results from the difference of means test would support the theory presented earlier. The data would reveal that large companies incorporate the impact that a location has on the work force more than small companies.

4.8 Conclusions

The intention of this analysis was to uncover those factors that attract Canadian FDI to different parts of the United States. A logit model was used to determine that FDI
was drawn towards large markets, increased accessibility, a skilled labour force, and regions with a greater and expanding work force. On the other hand, as unionisation, distance, and corporate tax rates increased, the probability of FDI decreased.

Since the data used for this experiment was the aggregation of different types of investment, a difference of means test was then used to see how the results were affected. The test determined if there was a notable difference between a sample which included acquisitions and mergers (Sample F) and a sample that included new plants, joint ventures, and real estate (Sample G). The outcome indicated that population, average pay, and unionisation were statistically different.

Finally FDI in the United States was separated into large investments (Sample D) and small investments (Sample E). It was concluded that large investments were attracted to the large markets and skilled labour. On the other hand, as unionisation, distance, and corporate tax rates increased, the probability of large investments decreased. Small investments were also attracted to large markets and skilled labour. In addition, as the variables shoreline, port and land increased, small investments grew as well. As unionisation, distance, and corporate tax rates increased, the probability of small investments decreased.

Two separate difference of means test were then performed to recognise any differences in motivation between large investments and small investments. Large investments were attracted to labour with higher skills compared to small investments while poverty and average pay were deemed less desirable. On the other hand, there was a greater attraction by small investments to states with greater populations and shoreline
when compared to large investments. As distance increased, small investments experienced a greater decrease when compared to large investments.
CHAPTER 5
CONCLUSION

There have been many attempts to explain why and where FDI takes place. While this has led to an increased understanding of FDI, limitations still remain. Previous studies contain a lack of harmonisation among conclusions associated with FDI. Methodological, geographical, and temporal inconsistencies across studies make it difficult to determine the motives for investment. In addition, a lack of research on certain aspects of FDI still exists. Specifically, a limited amount of statistical research on Canadian FDI in the United States has been completed. This study has attempted to fill this shortcoming.

Chapter two introduced the concepts of pull factors. Previous studies completed by Litvak and Maule (1981), Rugman (1987), and Gandhi (1990) argue that pull factors are an extremely important motive for Canadian investment in the United States. These are aspects of a foreign country that seem attractive to a firm. They encourage companies to make direct investments in that country. As a result pull factors determine which areas play host to MNE production. This is similar to the concept of locational advantages, presented by John Dunning in his Eclectic Paradigm.

The intention of this was to examine those pull factors that attracted Canadian FDI to the United States from 1974 to 1994. By comparing characteristics of individual states, an attempt was made to explain why FDI is attracted towards certain regions and
not others? In other words, this study examined Dunning’s locational advantages with respect to outward Canadian FDI.

A discrete choice analysis approach was used to test variables that summarised the economic, political, and social attractiveness of each state in the Untied States. In general, the results conformed to explanations introduced in the literature review. A number of authors (Dunning, 1991; Eden, 1994; Rugman, 1987; Gandhi, 1990; Litvak and Maule, 1981) have argued that access to a larger market is the most important consideration when investing abroad. This study also determined that a large market was an attractive location advantage. In addition, it was determined that FDI was drawn towards a skilled labour force, increased accessibility to international inputs and markets, and regions with a greater and expanding work force. On the other hand, as unionisation, distance, and corporate tax rates increased, the probability of FDI decreased.

FDI was then separated into large investments and small investments. This research was unique to the existing literature on FDI. Large investments were attracted to labour with higher skills compared to small investments while poverty and average pay were deemed less important. On the other hand, there was a greater attraction by small investments to states with greater populations and shoreline. As distance increased, small investments experienced a greater decrease when compared to large investments.

Policy makers attempting to stimulate economic development should be interested in the results of this study. While it must be acknowledged that access to large regional markets is an important motive to locate in the Untied States, this study contends that additional factors play an important role as well. The additional factors are
important to policy makers, especially when considering the results of large investments. These should be more important because large investments generally result in a greater number of employment opportunities. The results suggest that characteristics of a state’s labour play a pivotal role in the location decision. Therefore long-term policy should be directed towards increasing worker productivity while at the same time decreasing labour costs. Of course this is not a simple path. In order to remain competitive, this requires state governments to increase spending on education and training. At the same time factors affecting the cost of labour (taxes and unionisation) need to decline.

This has been an interesting topic and one where further research is limitless. An interesting avenue would be to study the link between international production to international trade. Do these two types of economic activity complement or supplant each other?

Alternatively, research could focus on the first and second aspect of Dunning’s Eclectic Paradigm. This type of analysis would acknowledge the push factors, or those elements of a home country that drive companies to seek investment opportunities elsewhere. In addition it would investigate why Canadian firms decide to internalise their operations as compared to selling or leasing to an international firm.

Unfortunately, time constraints did not allow this study to incorporate Michael Porter’s concept of the National Diamond. Of course researching push factors would closely parallel the National Diamond. By examining Canadian firms that engage in multinational business, a study could determine the business environment that allows
Canadian firms to compete at the global level. This analysis appears to be the next logical step, as it would provide a well-rounded understanding of Canadian FDI.
Bibliography


